PYE WAREHOUSE, FLEET SQUARE, LANCASTER, LANCASHIRE

Archaeological Building Recording

Client:
Lancaster and District YMCA

NGR: SD 47598 61917

September 2008

Greenlane ARCHAEOLOGY

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Non-Technical Summary

Following submission of a pre-planning application enquiry by The Lancaster and District YMCA for the refurbishment and provision of new facilities at the Pye Warehouse, Fleet Square, Lancaster, Greenlane Archaeology was commissioned to carry out an archaeological recording of the structure. The building is Grade II Listed, and as the planned refurbishment would be likely to involve alterations to some or all of the building, a building recording was recommended by the Conservation Officer for Lancaster City Council, which was to be included as supporting documentation to accompany the planning application.

An examination of the documentary sources revealed that James Bibby built the present five-storey warehouse and mill on the site of an earlier two-storey warehouse in *c*1881. Although the building was initially owned and occupied by Bibby, subsequently trading as J Bibby and Sons, who were corn merchants and millers, it was occupied by W & J Pye (latterly Pye Bibby Agriculture) for most of the time since its construction. Initially the building was used as a warehouse and mill forming part of the wider quay-scape, and has been used for offices at first utilised by W & J Pye and by the Lancaster and District YMCA, whose headquarters it now is.

The building recording identified four or possibly five phases of construction and alteration within the building, the earliest being the initial period of construction *c*1881, followed by relatively minor alterations shortly after associated with the removal and replacement of a gas powered engine and associated machinery. This was followed by the change of use of the building into offices, with the associated insertion of various partition walls, a lift, and a staircase. Other minor amendments were also made following the acquisition of the building by the YMCA, although these were mainly concerned with changes required by fire regulations and associated changes in use.

The building is an interesting example of a warehouse that incorporated its own processing facilities, in this case the milling of grain to produce animal feed and flour. It is likely to have taken advantage of modern improvements to milling machinery that were taking place in the late 19th century and was clearly part of a world-wide trade in grain that was taking place at the time. The construction of the building utilised cast iron columns supporting beams of immense span, an innovation that had developed in the late 18th century.

Acknowledgements

Greenlane Archaeology would like to thank The Lancaster and District YMCA for commissioning and supporting the project and Greg Gilding at Fisher Wrathall for providing copies of the ‘as existing’ drawings of the building and for his additional help and information. Particular thanks are due to Phil McGrath and staff at the YMCA for their help during the fieldwork. Additional thanks are due to Stephen Gardner, Conservation Officer at Lancaster City Council, and Doug Moir, Planning Officer (Archaeology) at Lancashire County Council, for their comments and information. Further thanks are also due to the staff of the Lancashire Record Office (LRO) in Preston, and the staff at Lancaster Library Local Studies (LLLS) for their help, and to the staff at Lancaster City Council Planning Department for information regarding previous planning applications.

The desk-based assessment was carried out by Tom Mace and Daniel Elsworth, who also undertook the building recording. The figures were produced by Dean Williams, Steve Clarke, and Tom Mace. The report was compiled by Tom Mace and Daniel Elsworth, and edited by Jo Dawson.

1. Introduction

1.1 Circumstances of the Project

1.1.1 In advance of the submission of a planning application by The Lancaster and District YMCA (hereafter 'the client') for the refurbishment and provision of new facilities at the Pye Warehouse, Fleet Square, Lancaster (SD 47598 61917), a requirement was made by Stephen Gardner, Senior Conservation Officer at Lancaster City Council, that the building be recorded prior to any alterations being made. Following consultation with Doug Moir, Planning Officer (Archaeology) at Lancashire County Council, the work was confirmed as a Level 3-type recording for the building to be carried out in accordance with English Heritage standards (English Heritage 2006).

1.1.2 The building is Grade II Listed (see *Appendix 1*, and is recorded as Lancashire Historic Environment Record PRN 15928) and the requirement to produce a record of it first reflects its historical and architectural importance. The record is intended to provide a detailed account of the present state of the building, its arrangement, architectural detail, and historical associations, as well as establish the phasing and significance of all aspects of it.

1.1.3 Greenlane Archaeology produced a project design (*see accompanying CD*), which was approved by Doug Moir. The on-site recording was undertaken on the 21st, 22nd, and 27th August and 5th September 2008, following the completion of the first stage of the desk-based assessment.

1.2 Location, Geology and Topography

1.2.1 The building stands at the junction of Damside Street with New Road (off Fleet Square), in Lancaster.

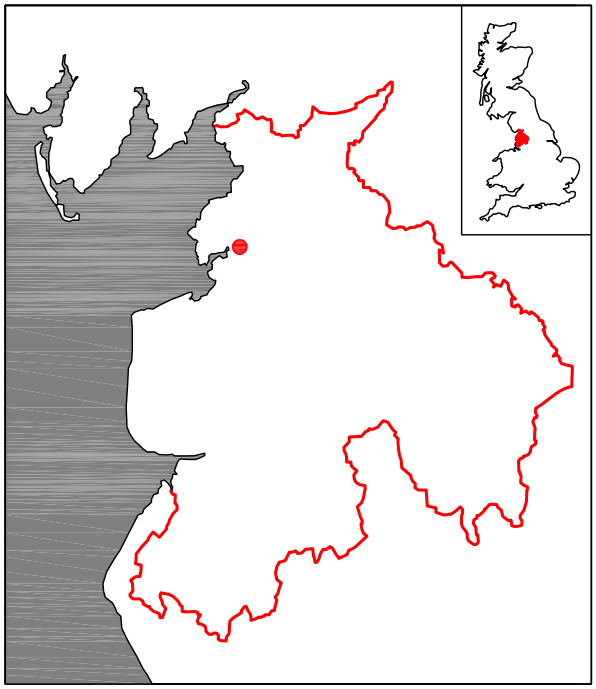
1.2.2 The local topography is urban, with Fleet Square on the west edge of Lancaster city centre close to the River Lune (Fig 1). The site is at approximately 10m above sea level.

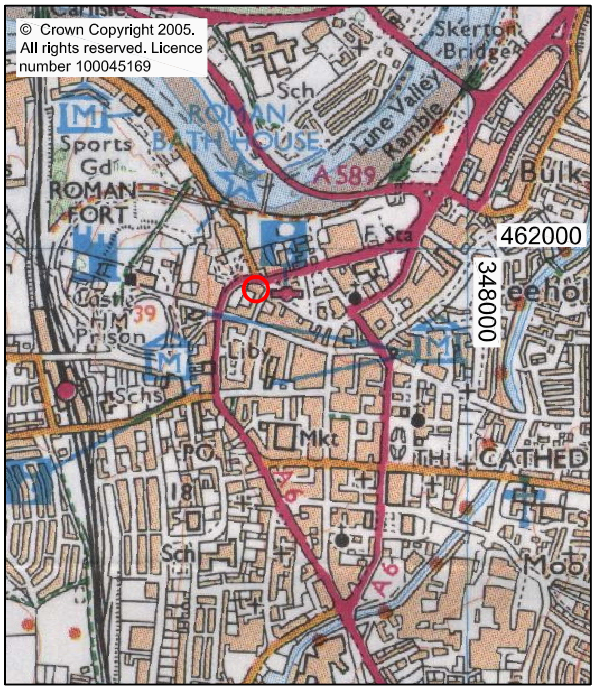
1.2.2 The solid geology principally consists of Namurian grey mudstones and siltstones with sandstones (British Geological Survey 1982), and although the overlying drift geology is obscured by extensive urbanisation, it is likely to consist of glacial till and salt flats (Countryside Commission 1998, 82-3). The surrounding area is dominated by typical brown earths and Cambic stagnogley soils (Ordnance Survey 1983).

1.3 Previous Archaeological Work

1.3.1 The area around Fleet Square has seen several previous pieces of relevant archaeological building recordings carried out. A large house, No. 1 Cable Street, with extensive back buildings, was recorded in 2003 (OA North 2003a), and associated with this was a warehouse recorded in the same year (OA North 2003b). Two further warehouses have also been recorded in the general vicinity, one to the north-west on the quayside, which also belonged to Pyes (OA North 2002), and a smaller warehouse and shop to the east on Dam Side (OA North 2003c). It is unfortunate, however, that the unsafe structural condition of the other warehouse used by Pyes meant that it could not be fully recorded, as it would have provided a useful comparison. All of these buildings are considerably earlier in date than the Pye Warehouse, typically being 18th or early 19th century, but they do indicate the

mercantile character of the local area and the importance of the quay in its topographic development.





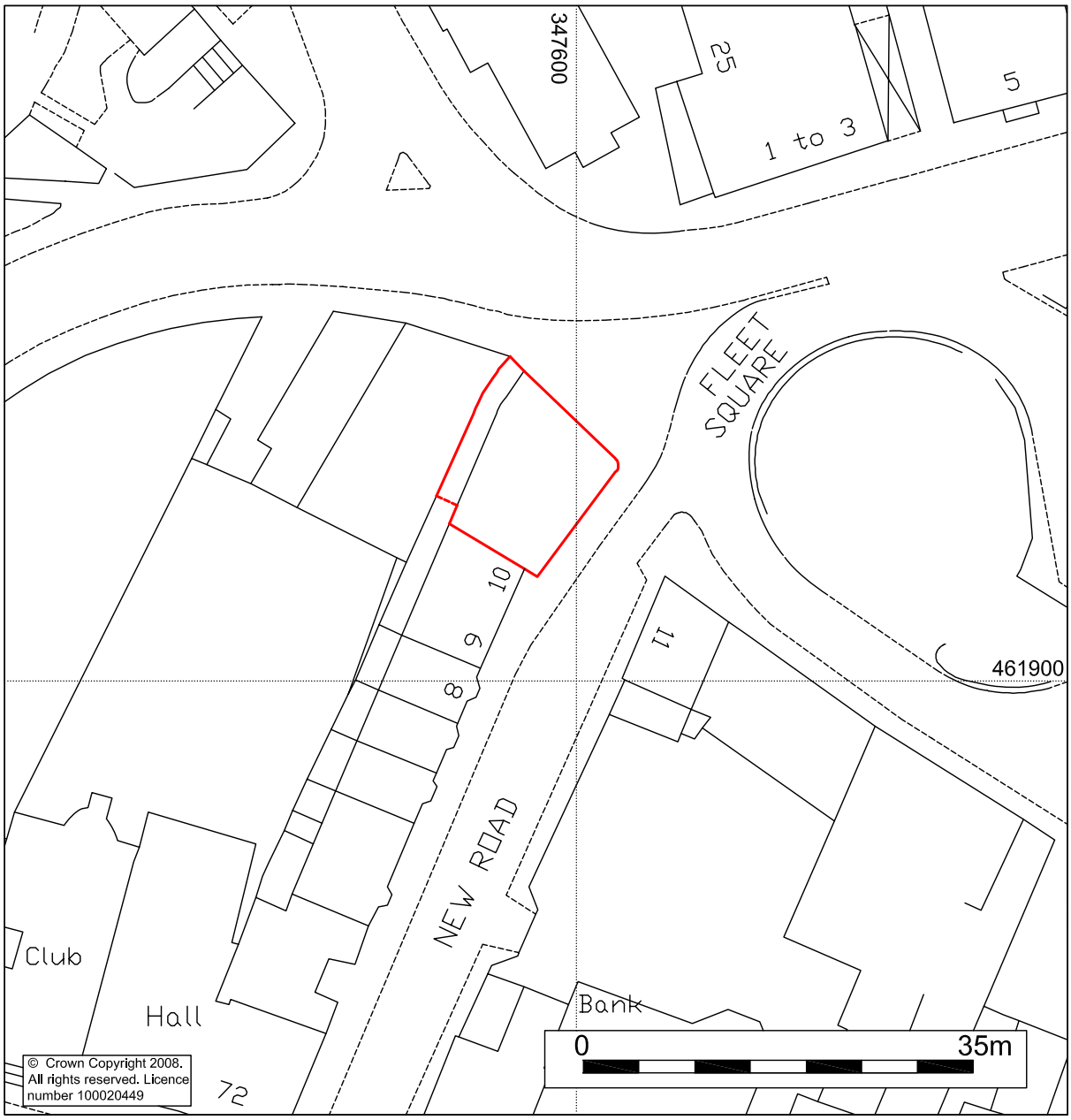


Figure 1: Site location

Client: Lancaster and District YMCA

2. Methodology

2.1 Introduction

2.1.1 The architectural investigation comprised three separate elements intended to provide a suitable record of the structure, in line with English Heritage standards (English Heritage 2006) and the guidelines of the Institute of Field Archaeologists (IFA 2001a; 2001b). In addition a desk-based assessment was carried out in accordance with the project design (*see accompanying CD*), and a suitable archive was compiled to provide a permanent paper record of the project and its results in accordance with English Heritage and IFA guidelines (English Heritage 1991; Brown 2007).

2.2 Desk-Based Assessment

2.2.1 A number of sources of information were utilised during the desk-based assessment:

- ***Lancashire Record Office, Preston (LRO)***: this was visited in order to examine early maps of the site, and other primary and secondary sources;
- ***Lancaster Library, Local Studies Collection***: a number of secondary sources relating to the site and the general history of the area were consulted;
- ***Lancaster City Council, Planning Department***: details of previous planning applications relating to the building were examined in order to provide information about the phasing of the building and the period in which certain elements had been constructed;
- ***Greenlane Archaeology***: additional secondary sources held in Greenlane Archaeology's library and the personal libraries of members of staff, used to provide information for the site background, were also examined.

2.3 Building Recording

2.3.1 The building recording was carried out to English Heritage Level-3 type standards (English Heritage 2006). This is a largely descriptive investigation, but with discussion of the interpretation, phasing, and use of the building incorporating evidence compiled during the desk-based assessment. The recording comprised three main elements:

- ***Written record***: descriptive records of all parts of the building were made using Greenlane Archaeology *pro forma* record sheets;
- ***Photographs****:* photographs in colour digital format, black and white 35mm print, black and white medium format print, and colour slide, were taken of the main features of the building, its general surroundings, and any features of architectural or archaeological interest (see photo locations on Figures 4-6, and photo register in *Appendix 2*). A selection of the colour digital photographs is included in this report, and many of the remaining photographs are presented on the accompanying CD;
- ***Drawings***: drawings were produced by hand-annotating 'as existing' illustrations of the building supplied by the client's architect in digital format at a scale of 1:1. These comprised:
    i. 'as existing' first floor plans, at 1:100;
    ii. 'as existing' elevations of all external aspects, at 1:100;

iii. a cross-section of the building, at 1:50

2.3.2 In addition, detailed drawings of individual elements of architectural or historical interest were produced by hand at a scale of 1:10 or 1:20.

2.4 Archive

2.4.1 A comprehensive archive of the project has been produced in accordance with the project design (*see accompanying CD*), and current IFA and English Heritage guidelines (Brown 2007; English Heritage 1991). The paper and digital archive will be deposited in the Lancashire Record Office in Preston on completion of the project. One copy of this report will be deposited with the client and one with the client's agent, and one will be retained by Greenlane Archaeology. In addition, digital copies will be offered to the Conservation Officer at Lancaster City Council, the Lancashire Historic Environment Record, and the OASIS scheme, together with a record of the project details.

3. Desk-Based Assessment

3.1 Introduction

3.1.1 As outlined in the methodology, the desk-based assessment included an examination of a number of sources, with the intention of providing a relatively comprehensive historical background to the site, and evidence for the manner in which the building has developed through time. The results are divided into three sections based on the types of evidence and information that they can provide:

- A brief history of Fleet Square from the earliest references through to the present day, placing the property in its local context but also providing specific information about the building where possible;
- Information on the building's owners and occupiers;
- A map and image regression, concentrating on the physical development of the building through time;
- Information relating to any previous planning applications so that recorded modern alterations can be easily identified.

3.2 The Origins of Fleet Square

3.2.1 It is likely that Fleet Square did not come into existence until the middle of the 18th century, following the construction of 'New Road' in 1752 (White 2000, 26), before which the area, once called Green Ayre, had comprised flat meadows surrounded by the River Lune (Bathgate and Pye 1997, 12). Much of this area was developed as part of the creation of St George's Quay, which came into existence following an Act of Parliament in 1749 (*op cit*, 27). This soon led to the construction of a dock and associated buildings such as warehouses, inns, and private dwellings, initially in a somewhat disorganised fashion, although with ground set aside for important buildings such as the Custom House (*ibid*). The map and image regression demonstrates that Fleet Square was an established feature of the local topography from the late 18th century at least (see *Section 3.4*). It retained much of its original form until substantial clearances that took place in the 1930s (see *Section 3.3.4*) and Bridge Lane was demolished in 1938-1939 to provide improved access to the bus station (White 2003, 22). This, coupled with the widening of China Street that had already occurred in 1896 (*ibid*), changed the character of the area and paved the way for the development of the present one-way system that takes up the north side of Fleet Square, the rest of which is now dominated by a taxi rank.

3.3 Owners and Occupiers of the Warehouse

3.3.1 ***Owners***: it is clear from the cartographic evidence that there existed a building on the Fleet Square site from at least 1778 (Plate 1), but it is difficult to positively identify the owners and occupiers of the site prior to the purchase of an existing two-storey warehouse on the site by James Bibby in 1865 (Bathgate and Pye 1997, 4). James Bibby acquired the old warehouse at Fleet Square for £294 in 1865 as a means of selling flour and provender (dry food for animals) milled at Conder Mill, Quernmore, to buyers in Lancaster (Bathgate and Pye 1997, 4). He eventually entered into a partnership with his two sons, Joseph and James, and began commercially producing compound feeding stuffs during the 1870s under the name 'J. Bibby & Sons'. The business successfully sold their own brand, 'Bibby's Excelsior Calf Meal', from the Fleet Square warehouse for a number of years (*ibid*)

and 'J. Bibby & Sons' still adorns the entrance to the building on New Road (Plate 13).

3.3.2 J. Bibby & Sons signed an agreement with their neighbours on October 22nd 1881 to pull down the old two-storey warehouse and build in its place a five-storey mill, fully equipped with the modern machinery of the day (Bathgate and Pye 1997, 4-5). It contained two pairs of millstones, a pair of oat crushers, and bran splatters, which were powered by a 12-horsepower gas engine (*ibid*). 'Bibby's Steam Mills', as the enterprise was known, were efficiently producing cakes and meal at a capacity of around 60 tons per week (*op cit*, 6). The business saw rapid expansion in demand and sales in the following years and it was not long before the limited capacity of the new mills in Fleet Square was inadequate. The Bibby partners went in search of new premises in Liverpool and a devastating fire at their mill in Quernmore in July 1885 appears to have strengthened their resolve to develop this potential (*ibid*). Within the same year J.Bibby & Sons new mill in Formby Street, Liverpool had gone into production (*op cit*, 9).

3.3.3 In the age of horse-drawn transport farmers were dependent on their local mill which was an essential part of the local country scene and with the Bibbys' determined move to Liverpool the opportunity arose for a new Lancaster-based firm to develop. On the 1st January 1886 Bibbys transferred some of their business interest as corn and flour dealers at Fleet Square to William and John Pye (*op cit*, 7 and 9). The local directories record that W & J Pye were corn merchants operating out of premises in Union Square at this time (Barrett 1885; 1886), then owned by J. Bibby & Sons (Bathgate and Pye 1997, 9), but in August 1888, Bibbys transferred their machinery from the Fleet Square Mills to their mills in Liverpool and it was agreed that W & J Pye should rent the vacated property, making this their centre of operations (*op cit*, 11), where they continued to ply their trade as corn and seed merchants and steam millers (see Table 1). W & J Pye continued to operate as agents for Bibbys after relocating to Fleet Square (Watson 1899) and continued to sell Bibby's cakes and meals (Bathgate and Pye 1997, 12). William Pye, having previously worked for Bibbys as a travelling salesman, or 'traveller' (*op cit*, 6), was able to retain Bibbys business interests in the area (*op cit*, 9). In addition to buying and selling cereals, simple processing was carried out at the Fleet Square Mills: '*Local farmers could bring their home-grown oats to the mill to be rolled or ground, (before feeding it to their stock) or milled into shelled oatmeal*' (*op cit*, 12). Fleet Square Mills was then occupied by W & J Pye as tenants until it was bought outright from J Bibby & Sons sometime in the 1890s. The Union Square warehouse was also purchased for additional storage from Bibbys the following year (*ibid*).

3.3.4 Like other agricultural merchants of the time, a proportion of Pye's trade goods were imported: '*Wheat from Canada, USA, Australia, Russia, and some from France; Round Maize from South America; Flat Maize from North America; and Oats from Scotland*' (*op cit*, 12). Most imported foodstuffs would come to Liverpool, and for many years the cheapest way to transport goods to Lancaster was by ship. The Fleet Square Mills, located on the edge of the quay, were well situated to take advantage of this trade. W & J Pye appear to have been particularly successful and continued to expand in the early part of the 20th century, taking ownership of several local mills and additional warehouses along St George's Quay. In 1918, a mill, much larger than the property at Fleet Square, was purchased on St George's Quay from Walmsley and Smith (who were based in Lancaster but acquired a large steam powered corn mill on the dockside at Barrow-in-Furness in 1880; see Greenlane Archaeology 2007) and after a gas engine was installed there, replacing a steam boiler, this new mill gradually took over production (Bathgate and Pye 1997, 20). However, the Fleet Square building continued to be used as offices and warehouse accommodation by W & J Pye (and its later incarnations as a limited company) for many decades. The

decision to relocate the company outside of Lancaster city centre in 1997 is recorded as a product of the inadequacy of its existing mills, new environmental legislation, and the inefficiency and extra cost of transport generated by the one-way traffic system in Lancaster (*op cit*, 55). The company finally went into liquidation in 2005, having acquired the Bibby brand and been renamed Pye Bibby Agriculture in 2003, and the company was ultimately acquired by Carrs Billington Agriculture of Carlisle and renamed Bibby Agriculture (*ibid*).

3.3.5 ***Occupiers***: several directory entries can be used to provide information regarding the occupiers of the building during the late 19th and 20th century. The directories list the activities of J Bibby and Sons and W & J Pye at Fleet Square as corn and flour merchants and dealers, and millers, specifically steam millers in Kelly's Directory of Lancashire (1898). A selection of the available directory entries is outlined in Table 1 below:

Year	Name	Entry	Source
1885	J Bibby & Sons	Cake manufacturers and manufacturers of food for rearing and feeding of stock - Fleet Square Mills	Barrett and Co 1885, 667
1886	J Bibby & Sons	Cake manufacturers and manufacturers of food for rearing and feeding of stock - Fleet Square Mills	Barrett and Co 1886, 33
1896	W & J Pye	Corn and flour merchants - Fleet Square Mills	Cook and Co 1896, 133
1898	W & J Pye	Millers (steam) - Fleet Square	Kelly's Directories Ltd 1898, 528
1899	W & J Pye	Corn and flour merchants and dealers	Cook and Co 1899, 131
1913	W & J Pye	Corn merchants and millers, &c. - Fleet Square Mills	Bulmer and Co 1913, 108
1958-59	W & J Pye Ltd	Corn merchants and millers, &c. - Fleet Square Mills	County Publicity Limited 1958-59
1970	W & J Pye Ltd	Corn and seed merchants	Civic Publications Co 1970, 113
1973	Pye Ltd	Corn merchants	Chambers Trade Register 1973

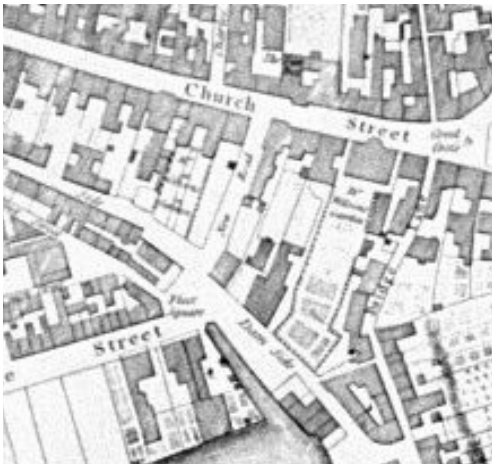
Table 1: A selection of the entries in local directories for Fleet Square Mills

3.3.6 Following the Pyes move out of the city centre in 1997 the building was acquired by the Lancaster and District YMCA in about 2001 (Phil McGrath pers comm.) and has remained their headquarters ever since.

3.4 Map and Image Regression

3.4.1 ***Introduction***: a number of early maps are available, ranging in date from the late 18th to the 20th century, and these provide a reasonably detailed record of the physical development of the area. The maps and images are discussed in chronological order below.

3.4.2 ***Mackreth's map, 1778****:* this map shows the early development of the quay side area and the lay out of New Road joining Church Street and 'Dam Side', currently known as Damside Street (Plate 1). There is a building shown on the corner of the junction of Dam Side and New Road, which is the current location of the Lancaster and District YMCA.



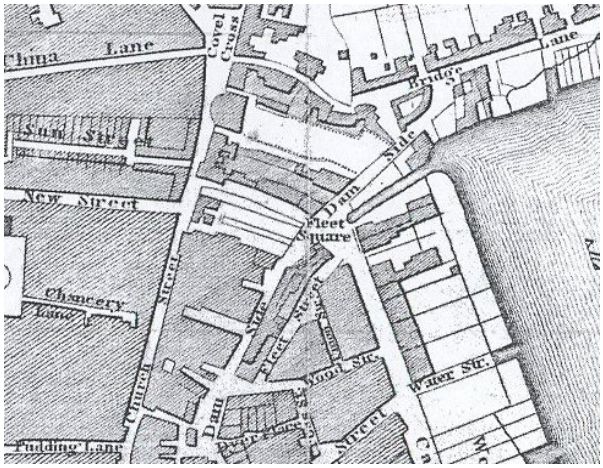


Plate 1: (left) Mackreth's map, 1778 (north is at the bottom)

Plate 2: (right) Clarke's map, 1807 (north is to the right)

3.4.3 ***Clarke's map, 1807***: this map is taken from his *Historical and Descriptive Account of the Town of Lancaster* and also shows a building on the corner of Dam Side and Fleet Square (Plate 2).

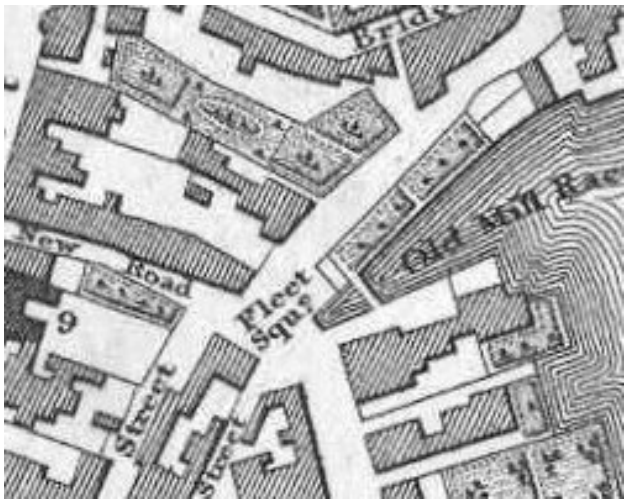


Plate 3: (left) Binns's map, 1821

Plate 4: (left) Atkinson's map, 1824

3.4.4 ***Binns' map, 1821:*** this map also shows a building on the corner of Dam Side and New Road, although it is more detailed and shows the adjoining properties more clearly (Plate 3).

3.4.5 ***Atkinson's map, 1824:*** this map is taken from Baines's directory of Lancashire (Baines 1824) and shows buildings around Fleet Square, including a building on the site of the warehouse on the corner of New Road and Dam Side, although many of the adjoining structures seem to have disappeared (Plate 4).

Plate 5: (left) Ordnance Survey map, 1848

Plate 6: (right) Ordnance Survey map, 1893

3.4.6 ***Ordnance Survey, 1848:*** this map shows limited detail of the buildings around Fleet Square, but again a structure is shown on the corner of New Road and Dam Side (Plate 5).

3.4.7 ***Ordnance Survey, 1893:*** this map is considerably clearer than the proceeding ones due to the scale, and shows the footprint of the current building and the adjoining structures. These evidently include the large buildings to the west of the warehouse, which seem to have formed part of the overall complex, including additional warehousing and a garage, perhaps initially for housing horse-drawn wagons (Plate 6).

3.4.8 ***Photograph, c1900:*** this photograph (from Bathgate and Pye 1997, 11) shows the Fleet Square Mills in the late 19th or early 20th century (Plate 7). The building is depicted probably much as it looked soon after its construction in 1881, and has changed relatively little. It is shown in active use, with all of the loading doors open and goods being winched to the upper floors from waiting wagons below; all of the floors seem to have been used, at least partially, for warehousing at this time.

Plate 7: (left) Photograph, c.1900

Plate 8: (left) Photograph of 1912

3.4.9 ***Photograph, 1912:*** this photograph shows the view across Fleet Square from the west end of Cable Street towards Lancaster Castle. Fleet Square Mills is visible on the left of the photograph (Plate 8; after Hayes 2000, 26) in slightly less detail than the previous image (Plate 7). It is still evident, however, that the building was entirely in use as a warehouse at this time, and the adjoining buildings to the west are more clearly shown.

3.4.10 ***Ordnance Survey, 1913:*** this map labels the building on the corner of New Road as 'corn mill', revealing its function (Plate 9). This may indicate some change in the activities carried out within the building had occurred by this time.

Plate 9: (left) Ordnance Survey map, 1913

Plate 10: (right) Ordnance Survey map, 1938

3.4.11 ***Ordnance Survey, 1933:*** this map no longer records the warehouse as a mill which perhaps reflects the building's change in use to simply office and warehouse accommodation after 1918 (see section *3.3.4*).

3.4.12 ***Ordnance Survey, 1938:*** this map records the demolition carried out under the Corporation Clearance Scheme in the 1930s of the buildings around Fleet Street and what was Union Square (Bathgate and Pye 1997, 9), which seems to have taken place particularly in the area opposite the warehouse on the north-east side of Fleet Square (Plate 10).

3.5 Planning Applications

3.5.1 The details of recent planning applications were available at the City Council Planning Department. Most of these applications relate to the installation of various signs to the outside of the building, changes of use relating to the listed building, and general refurbishments made to the office space. All of these planning applications were granted permission within the last five years (see Table 2 below). None of these applications are for substantial changes or seem to have involved any major alterations to the building, and they are therefore of limited use in understanding its development or phasing.

Reference	Decision issued	Proposal
02/01253/CU 2002	2003	Change of use from garages and offices in attached buildings to multi-purpose hall, changing rooms and fitness suite and refurbishment of existing office accommodation in former mill building.
02/01254/LB 2002	2003	Listed Building Application for the change of use from garages and offices in attached buildings to multi-purpose hall, changing rooms and fitness suite and refurbishment of existing office accommodation in former mill building.
05/00552/LB 2005	2005	Listed Building Application for demolition of one and two-storey garage buildings and erection of two houses and seven flats.
05/00560/FUL 2005	2005	Demolition of single storey and two storey garages and erection of a three storey development comprising two houses and seven flats.
06/01409/LB 2006	2007	Listed Building Consent for the installation of various signs.
06/01493/ADV 2006	2007	Installation of various signs.
06/01495/FUL 2006	2007	Amendment to previously approved application 05/00560/FUL (now to erect 9 flats and 2 houses)
07/00108/LB 2007	2007	Listed Building application for the demolition of garages in connection with the erection of 9 flats and 2 houses.

Table 2: Details of recent planning applications available at the City Council Planning Department

3.6 Discussion

3.6.1 The documentary and cartographic sources demonstrate that the area around Fleet Square has seen substantial urban development since the 18th century associated with the construction of New Road between Church Street and Dam Side in 1752, which in turn formed part of a larger programme of construction associated with the new quay that began in 1749. A two-storey warehouse was purchased on the site of the present building in 1865 by James Bibby who built a five-storey mill on the site largely as it appears today in *c*1881. The building has since undergone relatively minor alterations during the 20th century, including the removal and replacement of various pieces of machinery and the insertion of various partition walls, other minor amendments and general refurbishment.

3.6.2 Although the building was initially owned and occupied by corn merchants and millers, J Bibby & Sons, until they relocated to Liverpool in the late 1880s, the available records regarding owners and occupiers demonstrate that the five-storey building has been occupied by W & J Pye (and latterly as Pye Farm Feeds) for most of the time since its construction, until they relocated outside of the Lancaster city centre in 1997. The building was used as a mill and as a warehouse, forming part of the wider quay-scape in historical times, and has latterly been used for office space.

Significantly, it housed a gas-powered engine that was used to operate machinery used in the production of animal feeds.

4. Building Recording

4.1 Arrangement and Fabric

4.1.1 The building is five storeys high, plus a basement. It is approximately orientated north-east/south-west (Fig 1) but for the purposes of this report it is considered that the elevation facing onto Fleet Sqaure is north, the elevation facing New Road is east and so forth. It has an irregular plan, the longest dimension being north to south. Access to the building is currently from New Road, to the east although there are doorways in the north elevation that are no longer in use and it was not possible to access the lower part of the west elevation. The main walls of the building are made of roughly dressed blocks of pale yellow gritstone which are laid in good courses. The windows typically have 12-light sash casements. The roof is complex with multiple ridges and gables and finished with grey slate. Internally, the floor and ceiling structure is all machine cut timber and any decorative finish is typically chamfering, stop-chamfering in particular, although the basement floor is concrete. The beams are supported by cast iron columns; those on the fourth floor are relatively plain but the rest have curved flanges attached to the top plates.

4.2 External Detail

4.2.1 ***North elevation:*** this five-storey elevation of the building fronts onto Fleet Square (Plate 11; Fig 2). This side of the building is dominated by two rows of loading doors arranged in pairs on each floor. There are moulded kneelers at sill level of most of the loading doors on the upper floors, which presumably originally supported a timber footplate or shelf. The loading doors are set within two recessed areas either side of central cast iron drainpipe with square hoppers. There are windows located either side of the recessed areas on the top four floors of the building and doorways on the ground floor, as described in more detail below.

Plate 11: North elevation, Fleet Square

4.2.2 On the ground floor, the north-east corner of the building is chamfered with 'lamb's tongue' finish. To the east of this there is a five-light (four-over-one) sash window with horns. The window frame has a continuous lintel and chamfered sill, which turns into the lintel for a doorway with a timber door to the west. The door has two moulded and chamfered panels below a three-light over-light. There is a loading door centrally located within the eastern recess, to the west of this door. This has a timber lintel and sill with rounded corbels projecting from the stringcourse at lintel level. The doorway now houses a double door, one half of which is made from small planks and the other a mix of planks and panels. The timber sill has a step below it forming the lintel to the entrance to the basement, which is blocked with brick and concrete blocks. There is a further opening to the basement below the east window covered with an iron grill. A stone-lined opening to the basement in the pavement in front of the loading door has been filled with concrete. There is a cast iron drainpipe with square hoppers at either side of the elevation, extending to the roof. To the west, there is a second loading doorway, which has been mostly in-filled (to the basement) leaving a plain door and a very modern single-light window with a timber lintel. There are no rounded corbels above this loading doorway. There is an iron sign for 'DAMSIDE STREET' attached to the ground floor to the west of the loading doors. There is a further small door at the far west end of the north elevation on the ground floor with a plain dressed lintel and tongue and groove plank door.

4.2.3 On the first floor there is a small two-light window on the east side of the loading doors. It has a sliding sash casement with horns and stone sill and lintel bands. Attached to the building below this window is a modern, moulded lettering spelling out 'YMCA'. There are two central loading doorways with timber lintels, one of which has wear marks, presumably caused by rope or chains from the hoists on the top floor. Both loading doors have rounded corbels from the lintel band. The door in the eastern doorway is plain and made from small planks. Planks also form the lower part of the door in the west doorway with a four-light fixed casement window forming the top section. To the west there is a small 12-light sash window with horns, stone sill and lintel band.

4.2.4 On the east side of the two central loading doorways on the second floor there is a two-light sash window with horns. Both the loading doors have planks forming the bottom half: the eastern door has an 18-light fixed casement window in the top; the west has a four-light hinged casement window. There is a 12-light sliding sash window to the west of the elevation as per the floor below.

4.2.5 The third floor has a 12-light sash window on the east and west side of the two central loading doorways. Both of the loading doors have planks forming the lower half and an 18-light fixed casement window above.

4.2.6 The fourth floor has a 12-light sash window on either side of the two central loading doorways, both of which are set below an individual rounded arch made up of dressed blocks. The loading doorways both have rounded tops with the doors comprising two over-lights and plank-built doors below. There are small holes located above each of the two loading doors through which chains would have passed for the hoist system. The opening to the west still has the pulley wheel *in situ*. The fourth floor is decorated with a rounded stringcourse below the arches and a smaller cavetto-moulded stringcourse at the sides. The loading doors are situated below a projecting gabled canopy on the fourth floor which is supported by arched brackets with upright posts on small corbels, which form part of the string course. A moulded iron gutter is supported on a row of corbels below the eaves of the roofline.

4.2.7 ***East elevation:*** again, five storeys of the building are visible on the east elevation. There are two recessed areas with rounded, arched tops and a cavetto-

moulded band either side of centre. The recessed areas contain windows, which face onto New Road (Plate 12; Fig 2).

North elevation adjoining buildings

adjoining building East elevation

Figure 2: North- and east-facing elevations

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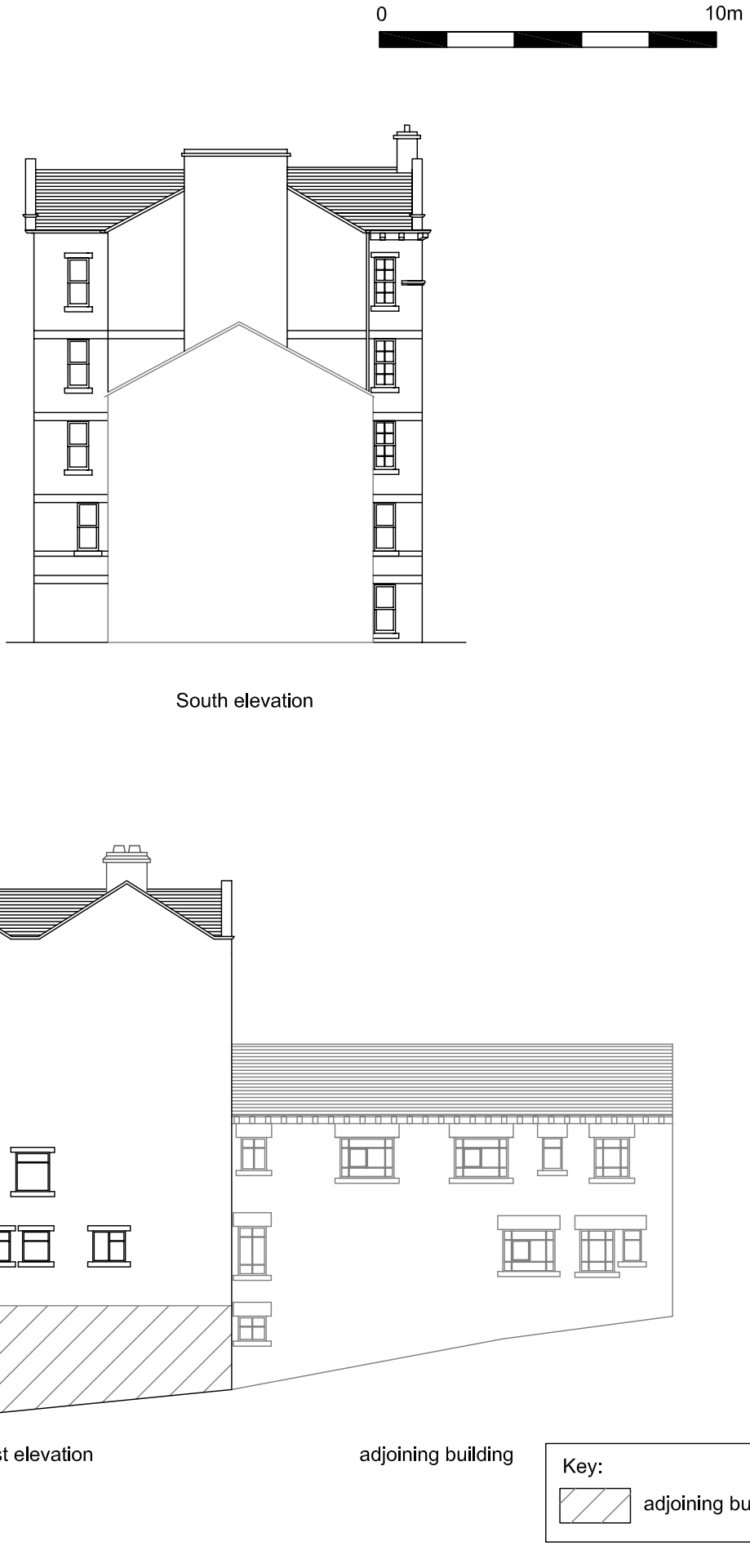

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Figure 3: South- and west-facing elevations

Plate 12: (left) East elevation, facing onto New Road

Plate 13: (right) The main entrance onto New Road

4.2.8 There are two pairs of windows either side a central door on the ground floor. The windows have neatly dressed lintels forming a continuous band with chamfered sills rising up on the south side to form the sill of the ground floor window in the south elevation. The windows on the south side are two-light sash windows with mesh over the lower light and there are iron spikes on the sill. The windows on the north side are seven-light (six-over-one) sash windows with horns. The central door has a moulded pediment and carved plaque reading 'J. BIBBY & SONS' below (Plate 13). The doorway has rounded neatly dressed jambs and a lintel incorporating a triangular keystone. The moulded six-panel door is possibly original. There are moulded plastic letters spelling 'YMCA' attached to the wall over the north window.

4.2.9 On the first floor there are two two-light sash windows with horns and a continuous sill and lintel band. Similarly, there are two two-light sash windows on the second floor and a continuous lintel band. There are two 12-light sash windows on each of the third and fourth floors. There is a continuous lintel band on the third floor. Above the arches on the fourth floor is a row of semi-circular corbels supporting a moulded gutter and two gables. Both gables have ovolo-moulded coping and a chimney on top with flat chamfered coping, each with two ceramic chimney pots. The coping has ovolo-moulded kneelers at either end.

4.2.10 ***South elevation:*** most of the lower three storeys on the south elevation of the warehouse are obscured by an adjoining building, and it was not possible to access the western side of this part of the building (Plate 14; Fig 3). The roofline forms a single large gable with flat coping and has a central large chimneystack, also with flat coping, coming down onto the centre of the adjoining building's gabled roof. There is a row of narrow windows, one per floor on the east side of the south elevation. The ground floor window is covered by metal mesh. The first floor has a two-light, fixed, frosted window. The second floor has a two-light sash window with horns. There is a four-light sash window with horns on each of the third and fourth floors. There are flush neatly-dressed lintel bands up to the third floor. There is a moulded band extending around part of the fourth floor and moulded guttering on two

semi-circular corbels. The west side of this elevation was not accessible during the building recording but apparently has a single two-light window with a relatively modern hinged timber casement on each floor (Fig 3).

Plate 14: (left) South and east elevations, with adjoining buildings to the south

Plate 15: (right) The west elevation is partially obscured by garages when viewed from street-level

4.2.11 ***West elevation:*** a garage butts against and obscures the ground floor and much of the first floor of the building when viewed from street level (Plate 15; Fig 3). There is partial continuation near the roofline and on the fourth floor of the string coursing in the north elevation. It does not continue all the way round the building, perhaps suggesting that originally another building might have butted against this elevation, although it could simply be matching the opposing elevation. There is no evidence externally for what were thought to be blocked doorways and windows when the building was viewed from the inside (see *Section 4.3.7*). There are no other structural details such as windows or guttering on either the third or fourth floors. There is a single two-light hinged window visible on the second floor, which has a squared, worked sandstone lintel and a plain timber frame. There are four more windows on the first floor, two with three-light hinged casements and two with two-light hinged casements, all of which are relatively modern. The double gables forming the west elevation are not symmetrical and are towards the south. The gable has a flat coping with ovolo-moulded lintel and there are kneelers to the north elevation.

4.3 Internal Detail – Fourth Floor

4.3.1 The fourth floor comprises a large open room with very regular tongue and groove floorboards orientated east/west, covering most of the floor. The roof is a complex structure of multiple pitches and valleys with gables and dormers to all sides (Fig 4). There are two small skylights and a basic ladder to the skylight in the south-east corner of the room. The roof is finished with grey slate. There has evidently been some repair to the roof structure in the south-west corner of the room where there are two empty joist slots.

4.3.2 The roof is supported by three main trusses running north/south each comprising a pair of king post trusses, each with bases shaped for angled braces but

not used as such in most cases, which are bolted to the beams and slightly joggled to meet the principal rafters, which are also bolted to the beams (Fig 7). In each case the paired trusses share a single beam (Plate 16). The beams in turn are supported by a single iron column (Fig 7), which is very plain, with a rectangular plate on the top and bottom bolted to the tie beam and through the floor to the beam below (Plate 17). The central truss has additional crossed angled braces providing a type of 'scissor brace' (Plate 18).

Plate 16: (left) One half of a typical king post truss

Plate 17: (right) Example of an iron column on the forth floor

Plate 18: Crossed angled braces within the roof structure

4.3.3 There is a complex arrangement of timbers attached to the roof structure on the north side of the room. On the west side there is a pair of beams orientated east/west supporting a wheel and drum (Plate 19), which would have formed part of the hoist or winching system. In the centre is a pair of simpler beams orientated north/south, which possibly originally supported the main wheel of the pulley system but which are now incorporated into the structure supporting the lift mechanism.

There are two groups of three holes visible to the west side of these beams, perhaps indicating where the main wheel was attached (Plate 20). On top of the east/west beams a small iron wheel with an attached timber drum (with iron chain wrapped around it) remains *in situ* (Plate 21); this has an associated iron release lever and a timber plank chute leads the chain from the drum to a pulley wheel that projects through a hole in the north elevation (Plate 22).

Plate 19: (left) Pair of east/west beams supporting a wheel and drum

Plate 20: (right) North/south beams where the main wheel of the pulley system might originally have been located

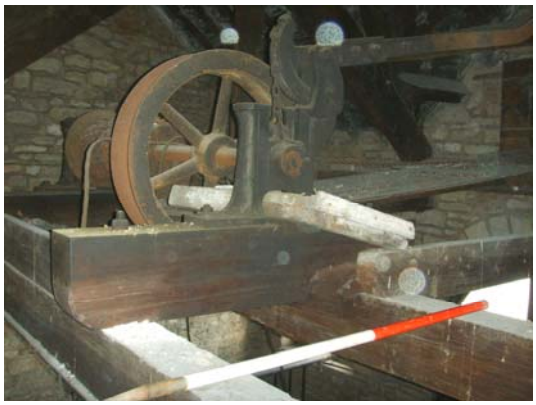
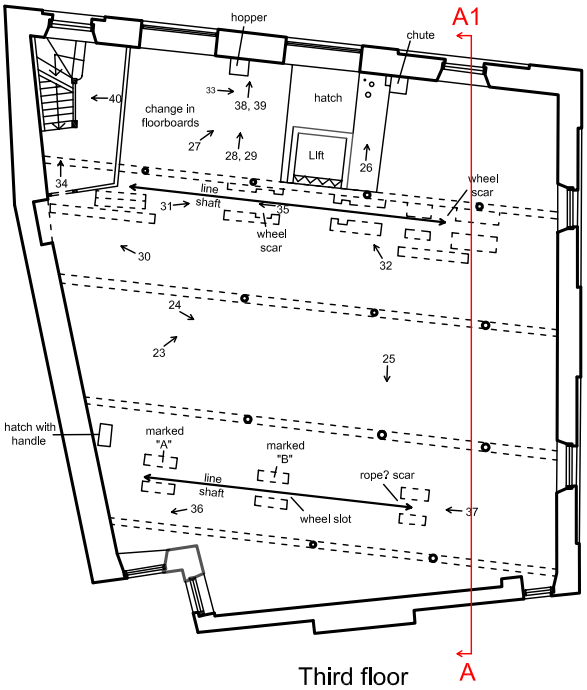


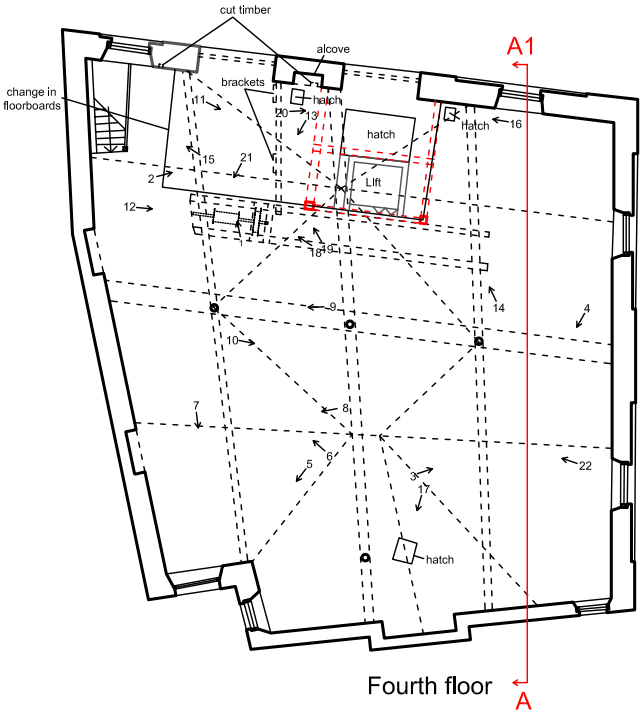
Plate 21: (left) *In situ* pulley wheel

Plate 22: (Right) Small hatch above the loading door through which chains would have passed for the pulley system

4.3.4 The lift shaft is a concrete block structure with a folding metal door on the south side. A sign inside the lift reads; 'ELECTRIC LIFT FOR 4 PERSONS OR 6 CWT LOAD HERBERT MORRIS LTD LOUGHBOROUGH ENGLAND'. There is an additional I-beam structure attached to the north wall, which is built around and supports the lift (Plate 23). On top of this is a timber structure of rather random construction with a 'fence' housing the lift motor (Plate 24).



Third floor



Fourth floor

N

Key:

projected line / overhead feature

A section line

34 photo number

2b room number

blocking

sectional timber

iron girder

0 10m

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Figure 4: Third and fourth floor plans

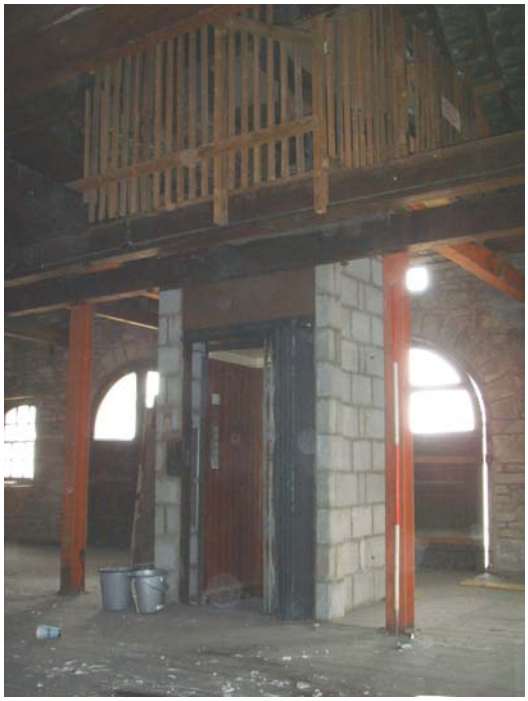


Plate 23: (left) I-beam structure built around the lift shaft

Plate 24: (right) Timber construction housing the lift motor

Plate 25: Loose pulley wheels from the hoist

4.3.5 There are two pulley wheels from the winching mechanism lying loose on the floor in the south-west corner of the room (Plate 25; Fig 8). The larger comprises two wheels attached to the same iron axel; the larger with a channel running around its entire circumference and ten spokes with fattened ends at the junction with the wheel rim, while the smaller has six spokes with slightly flared ends. There is a large timber drum attached behind these two wheels with metal plates at either end. The smaller wheel is attached to a separate iron axel and identical to the one still *in situ* (see Section 4.3.3 above). The smaller wheel has a wide wheel with five spokes with a flattened area, presumably to take a band, and a shorter drum behind.

4.3.6 There are several holes and hatches in the floor, including a larger one on the north side of the room (Plate 26) and a small one with an iron loop handle on the

south (Plate 27). The larger one has been partially utilised for the installation of the lift. Against the north elevation, in front of the loading doorways, a large area of the floorboards is set at a different orientation (north-east/south-west) to the rest.

Plate 26: (left) View of the tongue and groove floorboards and large hatch on the north side of the fourth floor

Plate 27: (right) Small floor hatch on the south side of the fourth floor

4.3.7 The stairs in the north-west corner of the room have a quite plain banister with square section spindles (Plate 28). The stairs have a rounded hand rail plinth, with a stop-chamfered post at one end and an additional fatter stop-chamfered post towards the centre.

Plate 28: (left) Detail of the banister and spindles

Plate 29: (right) View of the west side of the north elevation showing the stairs, a window and a loading doorway

4.3.8 All the walls are made of stone which is exposed and has been recently re-pointed. There are a small number of modern and earlier electrical fittings attached throughout. The north elevation has two 12-light sash windows at either end, either side of the two central loading doorways (Plate 29). The windows have a rounded head and beaded and ovolo-moulded surround and the sawn timber lintel has the remains of laths attached. The loading doors each have a rounded top and segmental arch doorway. The double plank doors have chamfered and stop-

chamfered battens and the original bolts and bar supports (and one bar on the east one) (Plate 30). In the wall between the two loading doors is a shallow but long alcove with the remains of the original plaster and whitewash finish. In this area the floor changes to being diagonally set, north-east/south-west (Plate 30). There is a small hatch slot through to the hopper below.

Plate 30: (left) Detail of the loading door and alcove in the north elevation

Plate 31: (right) Detail of the windows in the south-west corner

4.3.9 The east elevation is relatively plain, although there are two 12-light sliding sash windows, and approximately linear areas of brickwork either side of these demarking the position of flues inside the wall.

4.3.10 The south elevation is relatively plain, although there is a small window on the east side with an eight-light sliding sash casement. In the centre there is a large alcove extending the full height of the wall, with some extremely neatly-dressed stone at floor level, and at the west side it returns and there are two windows in this section, both with 12-light sliding sash casements (Plate 31).

4.3.11 The west elevation is plain apart from two apertures, with sawn timber lintels, which have been blocked with handmade brick (Plate 32). The bricks are quite rough, dark orange-red in colour and typically measure 0.21m by 0.07m. Their sawn timber lintels again have laths attached to the undersides.

Plate 32: West elevation showing blocked 'apertures'

4.4 Internal Detail – Third Floor

4.4.1 There is one main room on the third floor, which is currently filled with modern timber shelving attached to the ceiling and floor (Plate 33 and Plate 34). There are three main beams, running east/west, which support joists orientated east/west, which in turn support the floorboards of the floor above. There are a considerable number of joists visible in the ceiling, possibly twice as many as might have been expected, presumably as a result of the need to support particularly heavy loads on the fourth floor and to cope with the weight of drive-shafts at one time attached to the ceiling.

Plate 33: (left) General view of the north-east corner of the third floor showing the modern shelving and columns

Plate 34: (right) General view of the south-east corner of the third floor showing the modern shelving and columns

4.4.2 The beams rest on and are bolted to simple iron columns which in turn are bolted to the floor (Fig 4). The iron columns are similar but not the same as those on the fourth floor, with a similar diameter and length but with curved flanges at the top (for comparison, compare Plate 17 and Plate 35; Fig 8).

Plate 35: Detail of an iron column on the third floor

4.4.3 There are four parallel east/west rows of various bolt-holes and pieces of timber attached to the ceiling. These form two distinct pairs of rows, each evidently

where drive shafts have been attached. There are scars visible within each pair of rows, where the wheels have rubbed against the joists: elsewhere the joists have purposefully been cut through to accommodate the band wheels. The north pair of rows is situated near to the south side of the lift shaft (Plate 36). It is made of two lines of short lengths of timber and bolts which are attached to the ceiling and run most of the width of the room. Some of the north/south joists have been cut in order to attach these modifications and there is an arch-shaped cut in the joists near the north-westernmost column on the front row of the metal columns, which is most likely to have been to accommodate a band wheel. There is some scarring on the joists almost immediately to the south-west of the lift shaft (Plate 37), again probably caused by a wheel rubbing against it.

Plate 36: (left) The front (north) row of attachments and scarring to accommodate a drive shaft, showing where the joists have been purposefully cut

Plate 37: (right) Scarring on the joists caused by rubbing band wheels

4.4.4 The second, main pair of rows of attachments and modifications to the ceiling is located further to the south. Again, this pair of rows comprises two east/west lines of short lengths of timber bolted to and cut into the north/south ceiling joists (Plate 38). There are also curved or arched cuts centrally-located between the bolted attachments, which again run the length of the room. There is also some scarring to some of the joists in the east of the room, again probably caused by rubbing band wheels. Two areas of the attached timbers are labelled “A” and “B” in pencil from west to east respectively (Fig 4).

Plate 38: The second main pair of rows of modifications to the ceiling

4.4.5 There is a very regular tongue and groove board floor (Plate 39), running east/west across the length of the room, similar to that which was observed on the fourth floor. Again, as on the fourth floor, there is an area of the board floors near to the two loading doors on the north wall and extending to the front of the lift shaft where the boards are diagonally, north-east/south-west. The lift shaft, which is constructed from concrete blocks, cuts through this area (Plate 40). A single, metal, folding partition door covers the lift entrance, which has a plaque attached to it that reads, 'BOLTON SHUTTER DOOR: PATENT NOS: 397,546 464,984 710,520. KEEP WELL OILED TO ENSURE SATISFACTION'. There are several small square holes in the floor where machinery is likely to have been situated and attached.

Plate 39: (left) Detail of the floor

Plate 40: (right) The lift shaft with metal shutter door

4.4.6 The stairwell in the north-west corner of the building has been partitioned off with a thin, stud wall incorporating a modern fire door. This wall has not been plastered or painted. The stairs and banister are as described for the fourth floor

(Plate 41). There are two humorous early 20th century postcards attached to the side of the stairs.

Plate 41: Stairwell on the third floor

4.4.7 All of the walls have been plastered with a layer of grey-white plaster and smoothed over. It is cracked and crumbling in various places but there is none of the underlying stone fabric of the building exposed.

4.4.8 The bottom section of each of the two large central loading doors on the north elevation is made of vertical wooden planks, above which is an 18-light, timber framed window (Plate 42). There is a 12-light timber sliding sash window to the east. Between the loading doors there is a hopper built from timber planks, which leads up to the floor above (Plate 43). There is an advert for evening addresses at St Nicholas Street Chapel in Lancaster dated 1918 (Plate 44) and various clippings - one a newspaper article about a record compensation payment paid to an injured joiner in Blackburn, another about the 51st Highland division - stuck to the front, below which is an opening with a sliding door. The hopper is approximately located above a hatch to the floor below, perhaps indicating that it originally ran from ceiling to floor. There is another timber chute to the east of the loading doors, which passes from the floor above to the floor below without opening on this floor (Plate 45).

Plate 42: An 18-light window above vertical wooden slats fills the loading doors in the north elevation

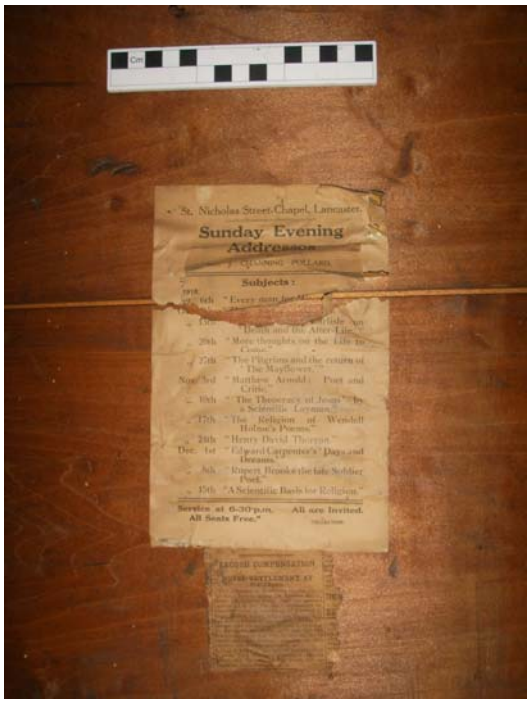


Plate 43: (left) Centrally-located timber hopper

Plate 44: (right) Advert for evening addresses at St Nicholas Street Chapel in Lancaster, dated 1918, and newspaper clipping

Plate 45: (left) Timber chute located to the east of the loading doors

Plate 46: (right) Remains of an iron drive shaft with broken band wheel at one end lying on the floor against the west elevation

4.4.9 There are several windows in this room: two 12-light wood sliding sash windows on the east elevation, the uppermost pane of each has been partially obscured by a timber beam; an eight-light timber frame sliding sash window in the south-east corner of the room; a four-light sliding sash window in the west corner of the south elevation, and a six-light timber framed sliding sash window on the south side of the west elevation. There is a small alcove, possibly once a doorway that has been plastered over, near to the stairwell within the west elevation. Lying loose on the floor against the west elevation is a long iron drive shaft with a broken band wheel at the south end (Plate 46).

4.5 Internal Detail – Second Floor

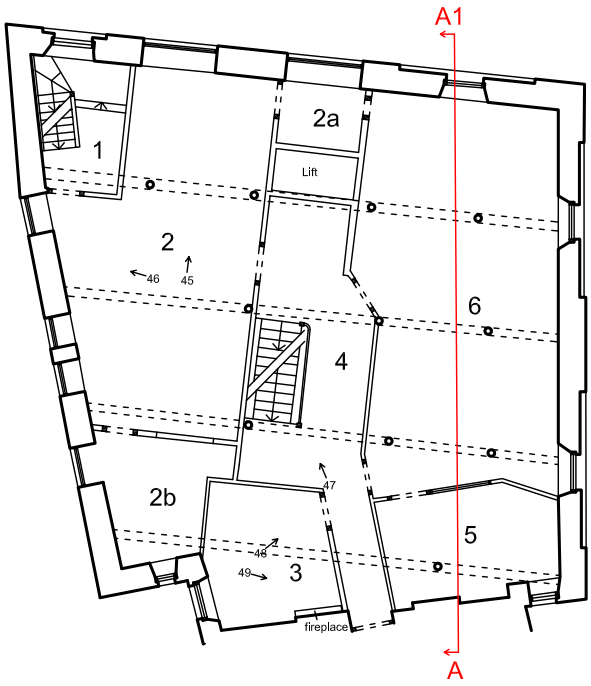
4.5.1 ***Room 1:*** the stairwell on the second floor has been largely unchanged and has the original board floors and ceiling joists and timber stairs with plinth and stop-chamfered newel post, as per the floors above (Plate 47; Fig 5). The partitioning off of the stairwell is a recent addition and the south and east walls of the stairwell are concrete blocks with a modern fire door to the south. There is a very plain 12-light sash window in the north elevation. The surround retains the original plaster and whitewash, as do most of the walls. There is an alcove on the north side of the west elevation, which is seemingly a former door although it was possibly created to form a 'passing space'. Otherwise the stairwell is plain, with some relatively early electrical fittings attached to the walls.

Plate 47: (left) Stairwell on the second floor

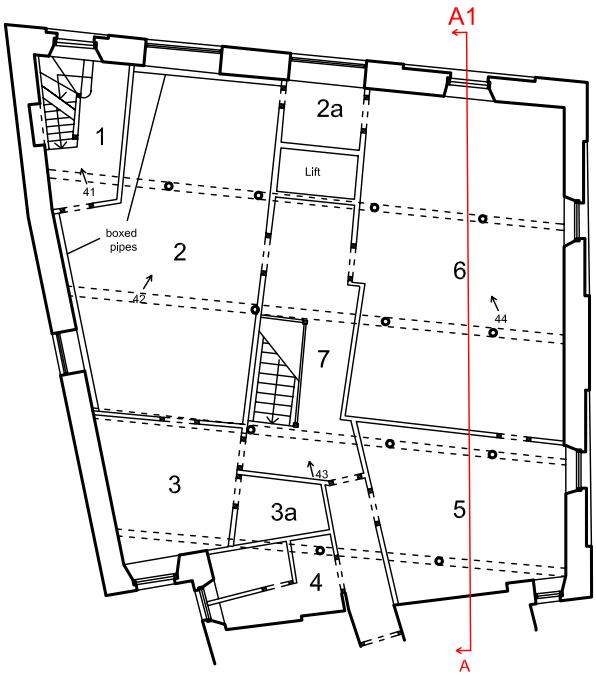
Plate 48: (right) Meeting room (*Room 2*) on the second floor

4.5.2 ***Room 2:*** this room is currently used as a meeting room and has a modern wood effect vinyl floor and plaster ceiling (Plate 48). Two east/west beams, which have been painted, are visible on top of flanged, iron columns as per the room above. There is a third beam against the south wall. The walls have all been plastered and painted with the same finish. The doorway to the stairwell is toward the west side of the north elevation on the return of the stud partition wall. There is a central four-light hinged-opening window within the loading door on the north elevation. There is a boxed pipe running along the base of the north wall. There are two modern doors in the stud partition wall of the east elevation. The north door leads to a small cupboard (***Room 2a***). This small room has a vinyl floor but the original ceiling, which has been painted, is visible inside it. This does not have quite as many joists as the floor above, and there is an iron bracket bolted to the north wall above an 18-light window with panelling below, which is set within the loading door. There is a modern door on the east side.

4.5.3 ***Room 3:*** this room is now used as a small office, and has been extensively modernised. There is a suspended polystyrene tile ceiling and the floor is carpeted. One of the beams supporting the ceiling is visible on the south side of the room. The north and east walls are modern partitions with a door to the north and two doors to the east. There is a window in the south elevation with a two-light hinged casement with frosted glass. To the east of the main room is a small kitchen (***Room 3a***). The kitchen area has a vinyl floor and a suspended polystyrene tile ceiling, and there are modern units attached to the south elevation.



First floor



Second floor

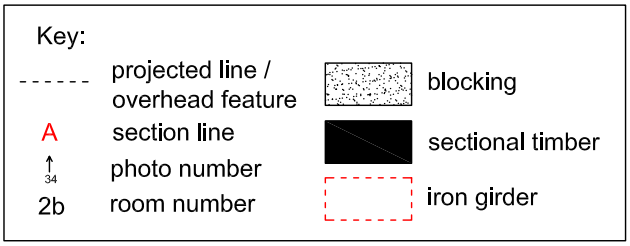


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Figure 5: First and second floor plans

4.5.4 ***Room 4:*** this room now forms toilets and has a vinyl floor and a suspended polystyrene tile ceiling. Part of one of the beams and iron columns is visible on the north side of the room. There are partitions within the room forming a cubicle, but the south and west walls are original. The west wall has a four-light, hinged casement window, which is split by the cubicle walls. The south wall has a low arched alcove on the west side. The other elevations are modern partitions.

4.5.5 ***Room 5:*** this office has a carpeted floor and a suspended polystyrene tile ceiling. Two of the east/west beams are visible above the columns. The room has an added polystyrene cavetto-moulded cornice all the way around. The east and south elevations are main walls of the building. The north and west walls are partition walls, each with a single door. The east elevation has a two-light sash window. The south elevation has a single, two-light sash window at the east end. The return wall from the window forms an alcove all the way to the west partition wall.

4.5.6 ***Room 6:*** this room is currently used for office space. The ceiling is covered with square polystyrene tiles, painted white, which cover any view of the joists or floorboards above. Four of the metal columns and associated beams remain visible (Plate 49). The columns have a curved flange attached to the top plates as per the floor above, and both they and the beams have been painted white. Modern cavetto-moulded, polystyrene cornicing has been added along all of the beams and continues around the room. The north, east, and west walls, as far as the main doorway on the west wall, are finished with wood chip wallpaper. The south wall and the south end of the west wall have decorative, patterned wallpaper, covering the original fabric of the building. There is a plain skirting board around the room. The floor is covered with a blue carpet. There is a single two-light, timber sliding sash window in the north wall and a similar two-light window in the east wall. The main door is modern with no decoration or moulding with a modern surround. The door to the storeroom is also plain with a timber surround.

Plate 49: (left) Office space on the second floor (***Room 6***)

Plate 50: (right) Stairwell on the second floor (***Room 7***)

4.5.7 ***Room 7:*** this comprises a hall, with the main stairwell to the north. The stairwell has a modern handrail with partitioned sides (Plate 50) and steps covered in vinyl. Two of the east/west beams and one of the iron columns are visible in the ceiling which is finished with polystyrene tiles. All of the walls are partitions, with doors to the east and west at the north end of the room, and further doors to the west at the south end and to the south at the south-east corner of the room. The door to the south-east leads to the adjoining building, and forms a corridor (***Room 7a***), which rises up to where it meets the adjoining building at the south end. There are doors to

the east and west in the partition walls and to the south. The floor of the corridor is carpeted and the ceiling is finished with polystyrene tiles.

4.6 Internal Detail – First Floor

4.6.1 ***Room 1:*** this comprises the original stairwell in the north-west corner of the building (Fig 5). This room has the original east/west floorboards. The ceiling joists are exposed and one of the east/west beams is visible. The stairs are the same as the floors above, with the same design of stop-chamfered plinth and newel post. There is what may be some early lino attached to the ceiling and a curved arch has been cut out of the stair structure to ease access. The north and west walls of the room are original. The window to the north has a 12-light sash. The west wall is plain. Both the north and west walls have the original plaster and whitewash finish. The south and east walls are made from concrete blocks. There is a fire door to the south.

4.6.2 ***Room 2:*** this room is the lounge area on the first floor (Plate 51). The room is carpeted and has plastered walls and the ceiling is made of suspended polystyrene tiles. Three beams and three columns are visible as per the floor above. The north-west corner of the room is partitioned off around the stairs with a single door through to the stairwell (***Room 1***). There is a storeroom to the north-east (***Room 2a***) and kitchen area to the south (***Room 2b***) of the lounge area. The east elevation is a partition wall with a door to the main hall and stairs, and a door to the storeroom. There is a partition wall at the south end of the lounge area with a large hatch and a door to the kitchen area. There is a large, early safe against the east elevation (Plate 52). The north elevation has a large window with a four-light hinged casement within the loading door aperture. The west elevation has three two-light hinged casement windows.

Plate 51: (left) Lounge area on the first floor (*Room 2*)

Plate 52: (right) Large safe against the east elevation of the lounge area (*Room 2*)

4.6.3 ***Room 2a:*** there is a small cupboard in the north-east corner of the storeroom. This storeroom is essentially the same as in the second floor, with the original ceiling and joists supported by an L-shaped iron bracket attached above the window to the north, which is covered by hardboard. There are partition walls to the east, south, and west with doors to the east and west. The floor is obscured by boxes.

4.6.4 ***Room 2b:*** the kitchen area has a vinyl floor and plaster ceiling. There is a beam visible on the south side of the room. There is a modern finish to the walls, which are tiled to the south-east. The north elevation is a modern partition wall with a

large hatch and door. The east elevation has an alcove on the north side. The south elevation has a small, two-light hinged window with frosted glass. The west elevation has a four-light hinged window on the north side.

4.6.5 ***Room 3:*** this room is currently used as a small office. There is a vinyl wood effect floor and plaster ceiling with a single, east/west beam and column on the east side. The north elevation has a beaded tongue and groove with roughly ovolo-moulded skirting. The east elevation has a possibly early door on the north side (Plate 53). This has four ogee-moulded panels and a more plain, possibly later, surround. There is an original safe against the east elevation, labelled 'FIRE & THIEF RESISTING' (Plate 54). The south elevation is plain except for a recess on the west side with a possibly timber lintel. There is a raised hearth on the east side of the south elevation, which appears to comprise cast concrete. The west elevation has a two-light sliding sash window on the south side. There is a slight turn in the wall to the north with boxing for cables.

Plate 53: (left) Probable early door to *Room 3*

Plate 54: (right) Original safe against the east elevation of *Room 3* and hearth against the south

4.6.6 ***Room 4:*** the ceiling and the walls of the corridor and staircase on the first floor have all been plastered and painted white. Three beams are visible, which are also painted white. One of the iron columns is visible near the stairs, against the west wall; the columns are the same as those on the second and third floors. The floor is covered in green carpet. The stairs down from the second floor have a plain square post at the end and the sides of the stairs leading down from the floor above are closed (Plate 55). The spindles along the north/south side of the stairs on this floor are stop-chamfered and have been painted white. At the top of the stairs leading to the ground floor are two square wooden posts with round finials. The skirting board round the north and west end of the room is plain, and probably relatively modern. The skirting board along the wall south of the entrance to **Room 6** is ovolo-moulded and possibly original. This skirting continues along the side of the broadcast room (***Room* 5**) and the side of the radio staff office (***Room 3***). The skirting board on the north of the radio staff office, which is ogee-moulded and possibly more modern,

continues along the east wall of the room. The corridor continues into the extension to the south.

Plate 55: Staircase on the first floor

4.6.7 ***Room 5:*** this is the broadcast room, to which there was no access during the survey but the interior could be viewed through the glazed part of the wall. The room has a modern finish with a carpeted floor and plaster ceiling. An east/west beam runs across the room and a single iron column is visible supporting it. There is a two-light sliding sash window with frosted glass in the south elevation, to the south-east corner of the room. The north wall is a partially glazed partition wall.

4.6.8 ***Room 6:*** this is the IT suite. It has a carpeted floor and a plaster ceiling. Three of the east/west beams are visible with their supporting columns. The north elevation has a single, two-light sliding sash window. The east elevation has two two-light sliding sash windows, with original ovolo-moulded skirting and an early iron radiator. There is modern cabling along the east elevation. The south elevation is a glazed partition to ***Room 5***, with a single door. The west elevation is a solid wall with original ovolo-moulded skirting. There is a door in the centre of the west elevation that is a modern insertion, and there is a slight return with an alcove, possibly a blocked door. There is a further narrow door at the north end of the room to the store (***Room 2a***).

4.7 Internal Detail – Ground Floor

4.7.1 ***Room 1:*** this is the stairwell at the north-west corner of the building (Fig 6). The staircase is now a fire escape. The original stairs remain between the ground and first floor and the original ceiling joists and floorboards of the floor above are visible. The north elevation has a modern plaster finish with the original plaster visible beneath. The door at the east end of the north elevation is a modern fire door with a single light above it with frosted, reinforced glass and a sawn timber lintel. The east elevation is built from concrete blocks. The south elevation is also concrete blocks with a single doorway. The west elevation has a door at the top of the stairs. The door is an original six-panel bevel raised and ovolo-moulded door with a chamfered frame (Plate 56).

Plate 56: (left) Original six-panel bevel raised and ovolo-moulded door with a chamfered frame in *Room 1*

Plate 57: (right) The gym; ground floor *Room 2*

4.7.2 ***Room 2:*** this is currently used as a gym (Plate 57). The floor is carpeted and the ceiling is finished with plaster. Two east/west beams and two iron columns are visible as per the floor above, although the beam to the south has a large slot cut out of it. The north elevation is a modern partition containing a door to the stairs to the basement, which are modern. The aperture for the loading door is part blocked: there is a single light window and the rest is blocked with modern brick and plastered. There is a door to a small storeroom (***Room 2a***) to the north end of the east elevation and a further central door through to the stairs (***Room 3b***). There is an aperture with a door at the south end, below the stairs, but this could not be opened. To the south is a brick wall built in stretcher bond, and there is a door on the east side of the south elevation to the toilet, shower room, and connecting lobby (***Rooms 2b***, ***2c***, and ***2d***). There is a brick wall to the west built in stretcher bond butting the west wall and incorporating one of the iron columns. The west elevation is made of earlier brick and has a thick covering of paint. The upper part apparently only consists of hardboard. The brick below is laid in a stretcher bond but quite mixed. There is a hatch on the north side under the stairs. The south elevation is finished with tongue and groove boards and has the original plaster on the wall to the west.

4.7.3 ***Room 2a:*** this small cupboard room has the floorboards exposed, with the diagonally set section visible, and a plaster ceiling. The north elevation is plain with a modern plaster finish. The east elevation has the original plaster over brick. There is a small window on the south side with a timber sill, blocked by board. The return in the south elevation is built from concrete blocks and butts the east elevation. The west elevation is a modern partition wall with a single door.

4.7.4 ***Room 2b:*** this forms a lobby between the gym (***Room 2*****)** and the toilet and shower room (***Room 2c*** and ***2d*** respectively). The floor is finished with carpet and the ceiling with plaster. There is a single east/west beam across the doorway. The north elevation is a wallpapered partition wall and there is a door at the west end of the elevation. The east elevation has a modern finish. The south elevation is a partition wall with a door on the west side.

4.7.5 ***Room 2c:*** this is a large toilet. It has a vinyl floor and plaster ceiling. An east/west-orientated beam is partially visible on the south side of the room. All of the walls have a modern plaster finish. There is a door on the east side of the room.

4.7.6 ***Room 2d:*** this is a shower room; it has a vinyl floor and plaster ceiling. The wall is covered with tiles and the shower unit. There is a slight step in the wall at the south side. The north and west walls are partitions and there is a door to the west side of the room.

4.7.7 ***Room 3:*** this forms the main corridor running east/west from the entrance door on the east side of the building (Plate 58) and an associated lobby leading to the stairs to the first floor. The floor is finished with carpet. There is an angled scar of the original wall visible in the ceiling (Plate 59) and floor, and there are additional short beams on the north side of the main beam. To the west of this scar the ceiling is finished with plaster but the tongue and groove boards are visible to the east. There is ovolo-moulding against the beam and around the tops of the walls. The north elevation has been extensively modified; there are two doors, both of which are modern, the western of which is inserted. To the east of these two doors there is a thick astragal rail above the original tongue and groove panels that cover the lower part of the wall. The main door, which has six bevel-raised and fielded panels, a letterbox, and original lock, dominates the east elevation and there is a three-light window above. At ceiling level, on the south side, there is a decorative perforated metal vent in the wall. The south elevation has partitions creating the main reception room (***Room 5***) containing a glazed hatch and single door, both of which are modern. The wall to reception returns to the south and to the west of this it is solid masonry with a single doorway leading into the corridor beyond. The west elevation is plain and solid masonry with a plain skirting board. The room is extended by a corridor leading to the south through a modern door. The east and west walls of the corridor are mainly partitions, with two modern doors to the west and one to the east. There is a door at the south end of the corridor to the adjoining building and a door at the north end to the main part of ***Room 3***. The floor of this section of the corridor is carpeted and the ceiling is plastered. There are two east/west beams plus an additional north/south beam visible between them, on the east side of the room.

Plate 58: (left) The main ground floor corridor (*Room 3*)

Plate 59: (right) Angled scar of the original wall visible in the ceiling (*Room 3*)

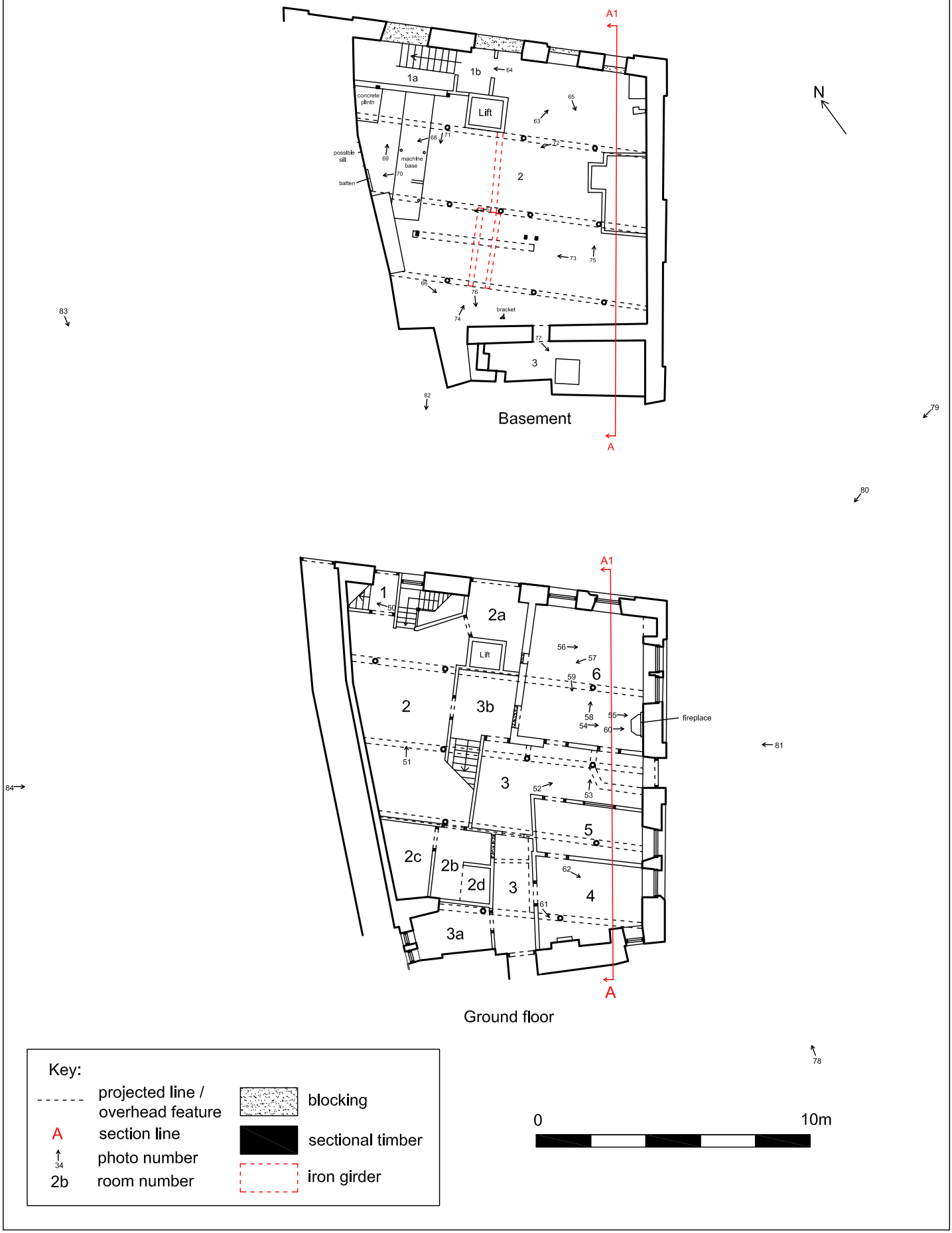

Figure 6: Basement and ground floor plans

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4.7.8 There is a small toilet (***Room 3a***) at the south end of the corridor, which has a vinyl floor and plaster ceiling. An east/west beam is visible on the north side. The walls are plastered and painted and have modern skirting. The north elevation is plain with a slight return to the west forming a block. The east elevation has a single modern door. The south elevation has what appears to be a projecting chimneybreast on the east side. The west elevation has two two-light hinged casement windows.

4.7.9 To the west of the main corridor is a small lobby (***Room 3b***), which connects the corridor to the staircase. The stairs at the south of this lobby area are modern. They have a newel post with a round finial on the south side and a handrail against the south wall. The south and west elevations are partition walls with modern skirting. The east elevation is solid with the same skirting as the south and west elevations. There is a scar for a blocked door on the east elevation, which is visible from ***Room 6*** (see *Section 4.7.12* below). The south elevation has a fire door to the east of the stairs and the whole area is carpeted. The ceiling is plastered and water pipes run along the east and north walls.

4.7.10 ***Room 4:*** this room is currently used as an office (Plate 60). The ceiling is plastered and painted white. One of the east/west beams runs across the room and is bolted to an iron column with flanges, painted grey. There is timber panelling comprising tongue and groove boards topped by a chamfered timber rail fitted round the whole room to approximately waist height. There is no skirting board. There is a plain timber door and frame on the north elevation, through to the reception (***Room 5***). There is a single window with a two-light, frosted glass, timber sliding-sash casement with horns to the north of the east wall. The sill comprises a plain piece of timber. There is a patterned perforated metal vent near the ceiling, south of the sash window, and a two-light sliding sash window with frosted glass in the south-east corner of the room in the south elevation. There are Bakelite light switches on the north elevation, with associated electrical ducting. There is a modern fire door with a plain doorframe approximately centrally positioned in the west wall, and a fireplace on the west side of the south wall (Plate 61). The fireplace has a moulded iron mantelpiece above a beaded astragal moulding with a decorative, raised geometric design on either side of the back plate above a reeded decoration flanking the opening. The hearth possibly consists of polished concrete and the opening is blocked with concrete and has a radiator positioned in front of it, which covers much of the reed decoration. The floor of the room is finished with a blue carpet.

Plate 60: (left) Administrative office (*Room 4*)

Plate 61: (right) Decorative fireplace in *Room 4*

4.7.11 ***Room 5:*** this room is currently used as the main reception area. Timber boards are visible east/west across the ceiling. One of the main beams runs across the room east/west and is bolted to a flanged iron column. There is moulded cornicing around the south, east, and west walls, which continues along the sides of the beam, but there is no cornicing along the north wall. The north elevation is a thin partition wall, which has been plastered and painted. It has no panelling or moulding round the ceiling. There is a window through to the corridor, which is covered on the south side with a metal shutter. The doorway on the north elevation is plain and the door is modern. There is some chamfered skirting board running along this wall and there is a frosted, two-light sliding sash window with horns and a timber sill in the east elevation. Timber panelling extends from the level of the windowsill to the floor over the south elevation but does not stretch to the north wall. The east elevation is plastered and painted. The timber panelling continues along the south and west elevations where there is also a moulded dado rail. The south and west walls are plastered and painted. The south elevation has a modern timber door and a plain timber frame. There is a large hardboard notice board, which covers most of the south wall and there is wood effect vinyl flooring across the floor.

4.7.12 ***Room 6:*** the ceiling of this office is covered in east/west orientated timber boards. Below these the ceiling has a moulded plaster cornice. This extends around the entire room and continues along both sides of a beam, orientated east/west across the room. The north, east, and west parts of the south wall are covered in wood chip wallpaper. There is a single three-light window with a timber frame, and one five-light sliding sash window with a timber frame to the east in the north elevation. There is timber panelling in the form of tongue and groove planks from the windowsills to the floor across the north elevation, with a timber dado rail above. There are two large, seven-light sliding sash windows with timber frames approximately in the centre of the east elevation (Plate 62). Again, there is timber panelling extending from the floor to the level of the windowsills, but no skirting or moulded rail. There is a perforated metal vent near the ceiling in the east elevation to the south of the windows (Plate 63), and a small alcove to the north housing shelving.

Plate 62: (left) *Room 6,* timber panelling and dado rail on the east elevation

Plate 63: (right) *Room 6,* vent next to the ceiling in the east elevation

4.7.13 There is a fireplace in the south-east corner of the room, which has a polished stone surround and a decorated cast iron back plate (Plate 64). The mantelpiece is also decorative and ovolo- and cavetto-moulded. There are two doors in the south elevation, both with plain timber frames (Plate 65). One of the doors, the fire exit to the east, has a single window light; the other is plain. The timber panelling and rail does not continue between the two doors on this elevation, and the wallpapering is also absent in the area between the two doors, indicating that a recent modification

has been made to the wall. There is timber panelling and railing along the west elevation and wood chip wallpaper to the ceiling. There is a blocked doorway to the south (indicated by a remaining alcove and surround) and, to the north, a blocked aperture, both with moulded surround (Plate 66). The floor is covered with wood effect vinyl flooring.

Plate 64: (left) *Room 6*, the decorative fireplace

Plate 65: (right) *Room 6*, the south elevation

Plate 66: *Room 6*, blocked doorway and window in the west elevation

4.7.14 In addition to the rooms described there was a passageway along the west side of the ground floor, against the east side of Room 2, which could not be accessed. This provides access from Fleet Square to the north to the area to the south of the building.

4.8 Internal Detail – Basement

4.8.1 ***Room 1:*** this room is divided into two parts: the stairwell (***Room 1a***), to the west, and a small lobby (***Room 1b***), to the east (Fig 6). ***Room 1a*** contains the modern timber stairs, which are situated against the north elevation. The west elevation is finished with plaster and is plain. The east elevation is concrete block with modern timber framing the doorway but there is no door. The south elevation is initially the return of the east wall and built of concrete blocks. This section butts a timber post, which in turn is butted by a brick wall that extends to the west. This is

constructed in an approximately English garden wall bond, at a ratio of six or seven rows of stretchers to one row of headers, but somewhat mixed. The bricks are very thin and some are wedge-shaped, and the majority are a pale orange-yellow colour and typically measure 0.23m by 0.11m by 0.06m. This wall butts the west elevation. The west elevation is rough plaster over stone. The north elevation, below the stairs, is also stone with a finish of rough plaster. There is a doorway, which is blocked with concrete blocks and yellow bricks below the sill, and which continues above and to the east of the stairs. The north elevation of the lobby (***Room 1b***) has another brick-blocked aperture, leaving an alcove. The east elevation is a stud partition wall with a plain doorway on the north side, with a modern timber surround and door. The south elevation is made of concrete blocks, which return on the west side. The west elevation is constructed from concrete blocks with a door to the stairs (Plate 67).

Plate 67: (left) Stairwell to the basement (*Room 1a*)

Plate 68: (right) Long concrete plinth originally forming the engine bed in *Room 2*

4.8.2 ***Room 2:*** the main room of the basement has a concrete floor which is raised on the west side to form a long plinth (Plate 68), evidently an engine bed as there are several large iron bolts projecting from it, and on the east side to form an irregular area surrounded by a low concrete block wall (Plate 69). There are various other concrete blocks and plinths in the room (as shown in Fig 6; see also Plate 74 and Plate 75).

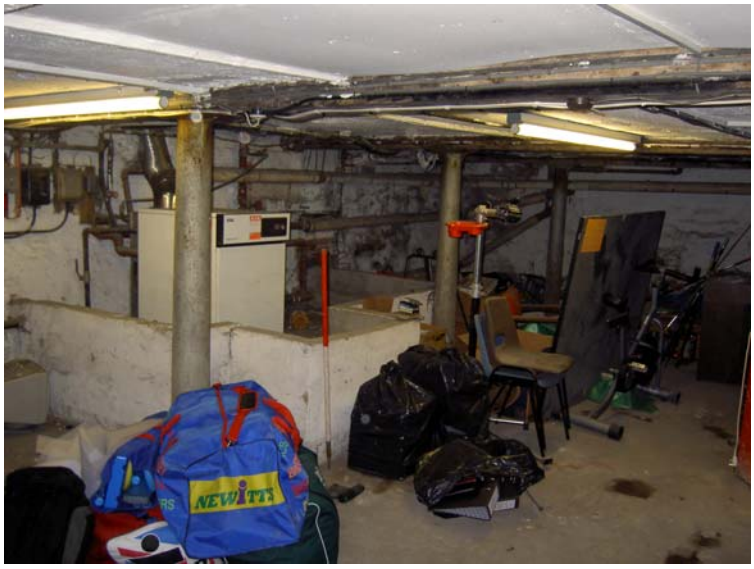


Plate 69: Low concrete block wall on east side of *Room 2*

4.8.3 The ceiling in the basement is very low with three east/west beams supported by iron columns with flanges as per the floors above, although in a different arrangement. There is a group of additional iron I-beams, orientated north/south, in the centre of the room in a Y-shaped arrangement (Plate 70; Fig 6); a pair of fish-bellied type I-beams to the south (Plate 71; Fig 8) and a square one to the north (Plate 72). The iron crossbeams are bolted between the main beams and support an additional east/west timber beam. The east end of this beam is supported by an upright timber post (Plate 73), and there are two similar-sized upright timber posts located slightly to the north and east of this beam.

Plate 70: (left) Iron I-beams in a Y-shaped arrangement

Plate 71: (right) Fish-bellied iron beam


Plate 72: (left) Square iron I-beam

Plate 73: (right) One of the timber supports below the additional east/west beam

4.8.4 Concrete blocks and brick walls have been added in the centre of the north elevation forming the lift shaft attached to which are the partition walls around the stairwell in the north-west corner of the room. To the west of ***Room 1*** there is brick wall below a timber beam (Plate 74), as per ***Room 1a***. This wall incorporates an upright post on the west side and to the east before being butted by the concrete block walls of ***Room 1***. To the east of ***Room 1*** there is a stone wall with an alcove formed by a blocked aperture (Plate 75). There is a further aperture to the east with a stone sill and possibly what remains of a timber door, which is blocked with brick but leaving a perforated 'diaper' ventilation.


Plate 74: (left) North elevation to the west of *Room 1*

Plate 75: (right) North elevation to the east of *Room 1*

4.8.5 The east elevation is stone with rough plaster and is plain except for concrete plinths on the north side and a brick plinth in the centre (Plate 69).

4.8.6 The south elevation is built of stone and there is a central projecting area with a small hatch (Plate 76) into a crawl space (***Room 3***) on the west side. The west of this projecting area is a return forming a deep alcove into the wall, the west wall of which is slightly angled. There is a brick wall at back of this deep alcove butting the wall on the west side.

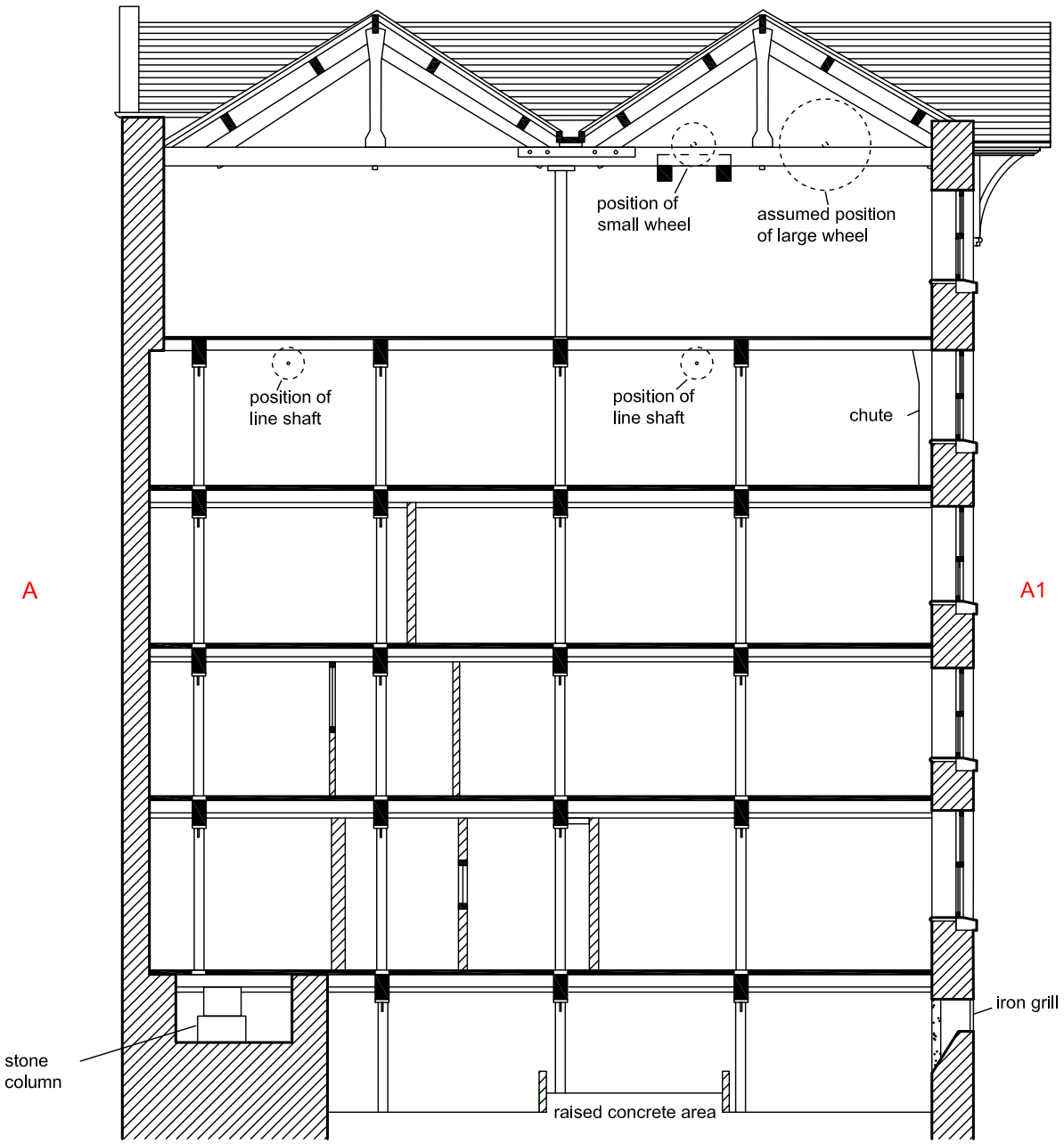
Plate 76: (left) Projecting area on the south elevation of *Room 1*

Plate 77: (right) West elevation of *Room 1*

4.8.7 The west elevation has the same rough stone and plaster finish as the other walls of the basement but with a slight plinth at the top. There is a projecting red brick built section in the centre, which appears to be a chimneybreast or flue that butts against the main wall. The bricks are dark red, appear to be machine made, and each measures 0.23m by 0.105m by 0.07m. There is a row of slots towards the top of this brick section (see Plate 73), which run through to a vented opening beyond, to the passage on the ground floor. To the north of this projecting brick section there are two further grilled vents in the wall and a chamfered bracket attached to the wall (Plate 77). There is also what appears to be a rough timber lintel in the wall to the north of this bracket (although if it is a lintel any associated aperture could not be identified), and a later timber 'trough' attached, with what appears to be a water pipe sat in it.

4.8.8 ***Room 3:*** this is a small crawl space to the south of the main room (***Room 2***). It is a small, raised, level chamber with a concrete floor. The original ceiling joists are exposed with the floorboards of the floor above visible on the west side and lath and plaster over the east. There is a large apparently stone column built on a stone base to the east of the centre of the room, which seems to at least partially support the ceiling (Plate 78; Fig 7). The north elevation of this room is plain, but for the aperture hatch through to the main room, and is built from stone. The west elevation is plain and built from red brick with a slight return. It was not possible to closely examine the east elevation, but it is likely to be one of the main walls to the structure, and built from stone. The south elevation is built from brick and is notably thicker at the west end were it returns. The thicker western end has a slightly projecting course of brick.

Plate 78: Stone-built column in the small crawl space (*Room 3*)



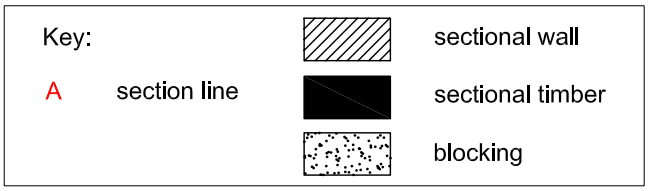


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Figure 7: East-facing cross-section

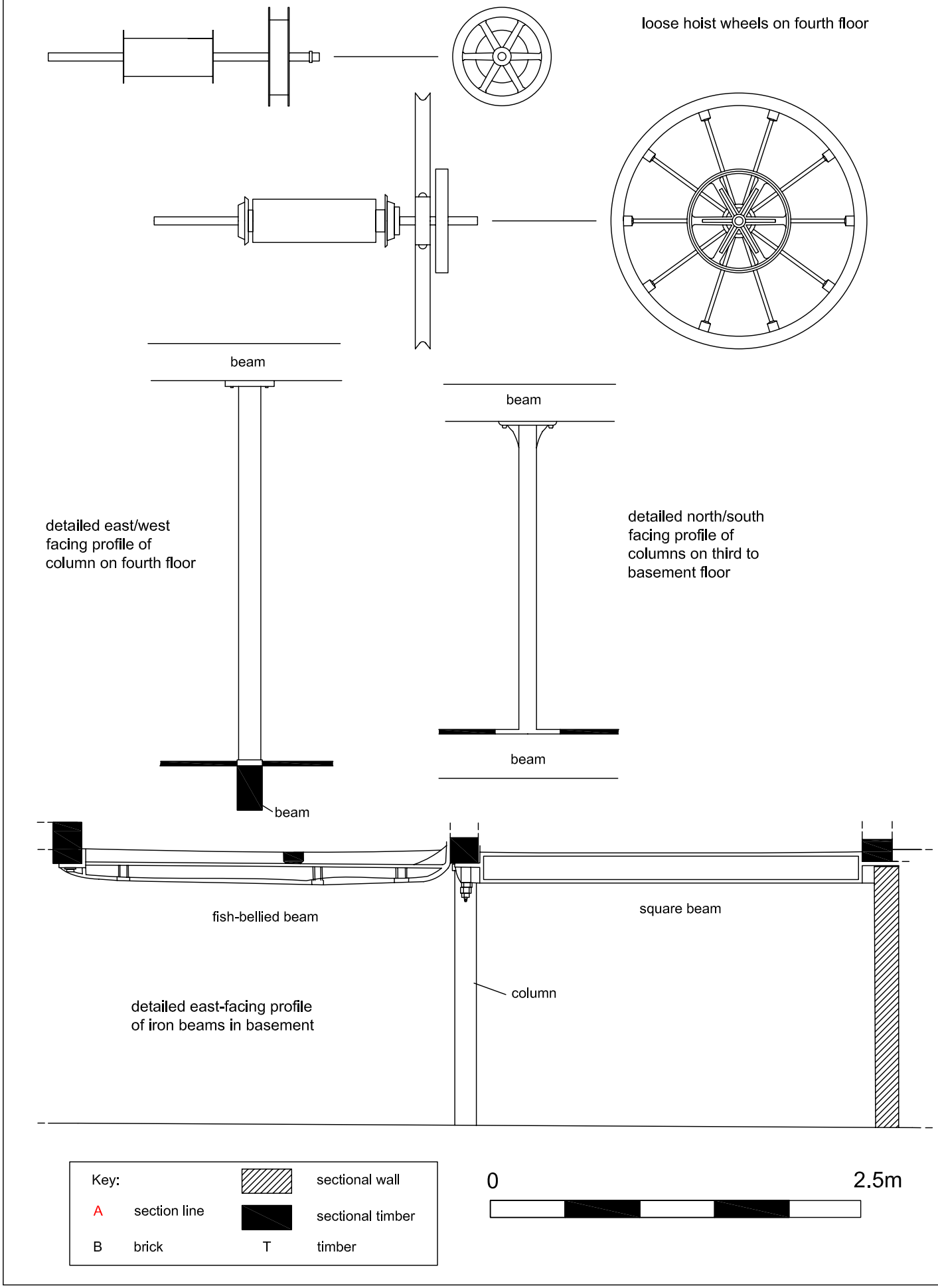

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Figure 8: Details of loose hoist wheels, iron columns, and iron beams

5. Discussion

5.1 Phasing

5.1.1 ***Phase 0***: it is possible that remnants of an earlier building are present in the basement. The stonework is noticeably rougher, and there is a possible lintel in the west wall that would serve no useful function in the present building. There is also the curious stone column in the south-east corner (within ***Room 3*** of the basement), which perhaps corresponds to an earlier building as it looks somewhat out of place in the present one. It is known from the documentary sources that the present building was built on the site of an earlier two-storey warehouse, which, according to the earlier maps, filled almost the same footprint area as the present one. In this case it is quite possible that the present warehouse utilised some of the existing foundations and perhaps even the original basement.

5.1.2 ***Phase 1***: the documentary sources show that the present building was constructed as a warehouse and mill in *c*1881. It initially included a 12-horsepower gas engine, which probably drove machinery on at least the third and second floors. It is evident that the engine was in the basement: it would have been attached to the concrete plinth on the west side and it is possible that the apparently wedge-shaped bricks re-used in the north-west corner were taken from the housing for a boiler (although this is perhaps more likely to have belonged to Phase 2). The brick 'flue' against the west wall and the curious arrangement of walls forming ***Room 3*** against the south were perhaps related to it, forming flues and housing for elements of the engine. It is noticeable that there is no obvious separate chimney, so it is possible that the smoke from the engine fed into one of the flues contained in the main walls. The iron beams in the basement and additional timber supports were also all undoubtedly connected to the operation and housing of this engine. The location of any associated boiler is not known, but as the original engine is described as being powered by gas it may not have a boiler. The curious yellow bricks apparently re-used to form a wall in the basement (on the north-west side of ***Room 2***) do have the appearance of the type of firebricks that might be used in a boiler (and are very similar to some recorded at the steam corn mill in Barrow-in-Furness; Greenlane Archaeology 2007, 36), so there may have been some form of small boiler in the basement.

5.1.3 On the third floor there is considerable evidence for the position of the line shafting (including a loose piece of the line shaft itself), which formed two rows, although this was evidently modified and may relate more closely to Phase 2. On the second and first floor the original arrangement and use is uncertain as modernisation has obscured much of the early fabric, although it is likely that similar processes to the floor above took place. There were undoubtedly some offices on the 1st floor, and the ground floor was evidently also largely used for offices from an early date, and it is entirely possible that these existed during this phase. The presence of fireplaces in ground floor ***Room 5*** and ***Room 6*** and first floor ***Room 3*** are indicative of this, as is the presence of decorative finishes to the ceilings and walls and grilled vents. The small aperture that originally existed in the west wall of ***Room 6*** probably formed a small 'window' for the recording of goods as they were brought into the building or even the paying of wages. The presence of two large early safes on the first floor also indicates that money was kept on the premises and that sales were dealt with on site.

5.1.4 ***Phase 2***: it is recorded that Bibbys moved to Liverpool in 1888 and W & J Pye took over the building. As Bibbys are said to have taken the original gas engine to their new premises, Pyes presumably installed a new one. While there is little definite

physical evidence for this, the manner of attachment of some of the timbers relating to the position of the drive shafts on the third floor, which is quite crude in places, suggests that they were not installed during the initial phase of construction. The apparent need to cut curved slots out of some of the joists, and the evident rubbing of the band wheels against the joists, suggests the drive shafts were instead added into the available space. Such a phenomenon is known from other mill buildings when they have been examined in detail, specifically the much earlier Murrays Mill in the Ancoats area of Manchester, which had gouged rebates in the beams left as a result of changes made to the line shafts, in this case in the early 19th century (Miller and Wild 2007, 106-107). Whether this might also relate to a change in the activities carried out at the mill is uncertain, although it is noticeable that W & J Pye are referred to as corn and flour merchants in the directories, while their predecessors were more particularly involved in the production of animal feed. Again, the position of any associated boiler is not known, although this is complicated by the fact that the historical sources do not explicitly state what type of engine W & J Pye used. It is conceivable that the adjoining 'garage' was originally a boiler house: the early photographs show what appears to be a louvered roof (Plate 8) and the plan of 1893 shows what may be a chimney on the west side of this building (Plate 6). This building was certainly added soon after the warehouse was built (before 1889), while evidently later than it, and so would fit within the period in which W & J Pye took over the site. Without further work, however, this remains speculation.

5.1.5 ***Phase 3***: although the documented history of Pyes is unclear on some of the details, it is evident that by 1918 the warehouse in Fleet Square was being largely used as offices, the new and substantially larger mill on St George's Quay, purchased from Walmsley and Smith, having taken over production. It is likely that some considerable modernisation took place at this time. As a minimum the engine and associated machinery would have been removed (the documentary sources suggest that they may have been utilised in the new mill but this is not clear). Some partition walls were also undoubtedly added and in the years following 1918 and until the YMCA acquired the building in 2001, and it is likely that other changes were made. The central staircase was undoubtedly added during this time, as was the lift, and the general layout of many of the rooms must have been established during this period. The lift cannot have been added before 1900 as it was made by Herbert Morris Ltd, who did not become a limited company until that year (The Monopolies and Mergers Commission 1976, 10), and the latest patent numbers on the shutter doors suggest it must post-date 1953 (The British Library 2008). Changes were evidently also made to the external windows and loading doors, partially blocking the latter and replacing the casements of many of the others (compare Plate 7 to Plate 11).

5.1.6 ***Phase 4***: following the acquisition of the building by the YMCA some more minor alterations were also made. Principal amongst these appears to have been the knocking through of new doorways into the building adjoining to the south; it is not clear when this was built, or what its original function was, but it seems likely to be similar in date to the warehouse. Additional changes were largely cosmetic or connected to minor changes in the use of parts of the building; the establishment of a radio studio on the first floor for example, the addition of kitchens and new toilets, and changes to provide adequate fire escapes, which are particularly evident in ***Room 3*** on the ground floor where an earlier doorway leading through ***Room 6*** was blocked and the corridor (***Room 3***) re-organised.

5.1.7 A number of uncertainties remain regarding some elements of the building. It is not clear what function the apparently blocked doorways on the fourth floor served; there is no evidence externally for corresponding openings. It is also uncertain what function the buildings adjoining the west side of the warehouse had and whether it

related to the function of the warehouse. Most recently the easternmost building appears to have formed a garage used to house and service Pye's fleet of vehicles, and an early petrol pump is still apparently *in situ* within it (Phil McGrath pers comm.). The western building, however, appears to be a small warehouse. The early maps suggest that all of these buildings were constructed at a similar time to the warehouse, although their physical relationship demonstrates that they are later. They were almost certainly built to be used by the warehouse/mill in some capacity.

5.2 Conclusion and Significance

5.2.1 The Pye Warehouse is a perhaps unexpectedly significant building because rather that simply being used for the storage of grain and animal feed it was also used for processing and housed an engine for this purpose. The evidence within the building suggests that the engine was situated within the basement, and drove line shafting that was certainly powering machinery on the third floor. It is likely that there was also machinery on the floors below; certainly the second floor, especially as one of the chutes on the third continued through to the floor below, but any direct evidence for this is now lost. The fourth floor was most probably used solely for storage, with different grains being fed through the hopper and chute onto the floors below for processing.

5.2.2 The use of corn milling or processing machinery powered by a steam engine underwent a number of radical advances in the late 19th century, although ironically the first steam powered mill ever built was for the production of flour (Mosse 1971). Major innovations were made by the late 1870s with the introduction of chilled metal rollers (Tann and Jones 1996), which almost totally removed the need for traditional millstones (Simon 1889, 148). It is not certain what form of milling equipment was used at the Pye Warehouse, but the evidence suggests that process followed that in larger establishments, with the grain moved from the top to the bottom floors as it went through a variety of finishing machines (Greenlane Archaeology 2007, 9-10). Although it is unlikely that Pyes used such sophisticated machinery their increased productivity and success demonstrates the effectiveness of powered equipment of any type. Their enterprise subsequently increased in size and became part of an international trade in grain, which was certainly a feature of larger corn mills of that time and in a sense was the beginnings of the globalised market that is prevalent today (*op cit*, 44).

5.2.3 In addition, the structural use of iron columns is interesting, and continues a technique developed at the end of the 18th century in which the main walls of a building were effectively held together by a framework of interconnected beams and iron columns. In the most complex cases hollow cast iron columns could be used to supply gas for lighting around the building (Miller and Wild 2007, 117). There is no evidence that this was the case at the Pye Warehouse, but the structural tradition used has its origins in such developments.

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Appendix 1: Listed Building Information

After: English Heritage 2001

Images of England Number: 383229

Listing: Grade II

Date Listed: 13th March 1995

Description: Pye's Building Warehouse and office. c1885. Coursed sandstone rubble with ashlar bands at the level of each floor. Slate roofs. Roughly square double-depth plan with the office entrance on New Road, and a 2-span roof with gables and chimney stacks to New Road. 5 storeys above cellars, with 2 bays on the New Road frontage and 4 bays around the corner on the right facing Damside Street. The New Road facade is articulated by shallow pilaster strips, from which segmental arches with rusticated voussoirs spring just below a line of corbels carrying the gutter across the base of the gables. The entrance doorway is placed within the central pilaster strip under a pediment whose cornice extends as a band across the facade. On either side there are paired windows on the ground floor, with single windows on each of the upper floors. The side facing Damside Street continues the system of articulation on New Road for one bay. Then follow 2 bays, containing a pair of full-height, slightly altered, recessed loading bays with round-headed arches under strongly projecting gables carried on brackets, and a narrow fourth bay with openings similar to those in the first bay. The windows have sliding sashes, with glazing bars in most of the windows to the upper storeys.

Appendix 2: Photographic Register

Codes for 'Area' column: B = basement, G = ground floor, Fi = first floor, S = second floor, T = third floor, Fo = fourth floor, with numbers following being the room numbers on these floors

Photo ID No.	Area	Description	Colour digital	Black and white	Colour slide
1	Fo	North elevation, west side	1_00	2_00-01	
2	Fo	North elevation, east side	1_01	2_02-03	
3	Fo	East elevation, south side	1_02	2_04-05	
4	Fo	South elevation, east side	1_03	2_06-07	8_01
5	Fo	Southwest corner	1_04	2_08-09	
6	Fo	West elevation alcoves	1_05	2_32-33	8_03
7	Fo	Loose wheels	1_06a,b	2_10-11	8_05-06
8	Fo	Typical truss	1_07	2_12-13	8_08-09+19
9	Fo	Column	1_08	2_14-15	8_17
10	Fo	Cross braces	1_09	2_16-17	
11	Fo	Lift and mechanism	1_10	2_18-19	8_10
12	Fo	Pulley support beams	1_11	2_20-21	
13	Fo	Mechanism in roof	1_12	2_22-23	8_16
14	Fo	Lift	1_13	2_24-25	8_11+04
15	Fo	Handrail	1_26	3_19-20	7_33-34
16	Fo	Hatches, north side	1_27	3_21-22	
17	Fo	Hatch, south side	1_28	3_23-24	
18	Fo	Wheel	1_29	3_25-26	8_12-13+15
19	Fo	Hatch	1_30	-	8_14
20	Fo	Bolt holes in beam	1_31	3_27-28	
21	Fo	Bracket	1_32	3_29-30	
22	Fo	Skylights	-	2_34,35	8_02
23	T	General shot	1_14	2_26-27	7_31
24	T	General shot	1_15	2_28-29	7_28
25	T	Column	1_16	2_30-31	7_32
26	T	Timber chute	1_17	3_01-02	7_29
27	T	Hopper and door	1_18	3_03-04	8_18
28	T	Hopper	1_19	4_03-04 3_05-06	7_30
29	T	Notes pasted on hopper	1_20a,b,c,d	3_07-08	
30	T	Doors, northwest corner	1_21	3_09-10	
31	T	Scars and fittings in ceiling	1_22	3_11-12	7_27
32	T	Lift and columns	1_23	3_13-14	
33	T	Hatches, etc, on north side	1_24	3_15-16	
34	T	Stairs	1_25	3_17-18	
35	T	Wheel scars in ceiling	1_33	3_31-32	
36	T	Loose drive shaft	1_34	3_33-34	8_07
37	T	Drive shafts on south side	1_35a,b	4_00-01	7_25-26
38	T	Newspaper on the hopper	1_36	-	
39	T	Newspaper on the hopper	1_37	-	
40	T	Postcards on the staircase	1_38	4_05-06	
41	S1	Stairs	1_39	4_07-08	7_24
42	S2	General shot	1_40	4_09-10	
43	S7	Stairs	1_41	4_11-12a,b	
44	S6	General shot	1_42	4_13-14	
45	Fi2	General shot	1_43	4_15-16	
46	Fi2	Safe	1_44	4_17-18	
47	Fi4	Stairs	1_45	4_19-20	
48	Fi3	Door and panelling	1_46	4_21-22	
49	Fi3	Safe and hearth	1_47	4_23-24	
50	G1	General shot, door	1_48	4_25-26	
51	G2	General shote	1_49	4_27-28	

Photo ID No.	Area	Description	Colour digital	Black and white	Colour slide
52	G3	Main entrance	1_50	4_29-30	
53	G3	Detail of ceiling	1_51	4_31-32	
54	G6	Fireplace	1_52	4_33-34	7_20
55	G6	Detail of fireplace	1_53	-	
56	G6	East elevation	1_54	5_01-02	7_19
57	G6	West elevation	1_55	5_03-04	7_18
58	G6	Detail of ceiling	1_56	5_05-06	
59	G6	South elevation	1_57	5_07-08	
60	G6	Vent in east elevation	1_58	5_09-10	
61	G4	Fireplace	1_59	5_11-12	7_23
62	G4	East elevation	1_60	5_13-14	7_21-22
63	B2	North elevation, east side	1_61	5_15-16	
64	B1	Stairs	1_62	5_17-18	
65	B2	East elevation	1_63	5_19-20	7_15
66	B2	South elevation, west side	1_64	5_21-22	7_14
67	B2	West elevation, centre	1_65	5_23-24	
68	B2	West elevation, north side	1_66	5_25-26	
69	B2	North elevation, west side	1_67	5_27-28	7_16
70	B2	West elevation, batten	1_68	5_29-30	
71	B2	Concrete base	1_69	5_31-32	7_13
72	B2	I-beam, north side	1_70	5_33-35	7_10
73	B2	Fish-bellied beam	1_71	6_01-02	7_11
74	B2	Iron beams	1_72	6_03-04	7_12,17
75	B2	Loose weights	1_73	6_05-06	
76	B2	Brackets, south side	1_74	6_07-08	
77	B3	Column	1_75	6_09-10b	
78	External	South and east elevation	1_76	6_11-12	7_01-02+09
79	External	East and north elevation	1_77	6_13-14	7_04
80	External	East elevation	1_78	6_15-16	
81	External	East elevation, door	1_79	6_17-18	7_03
82	External	North elevation	1_80	6_19-20	7_05
83	External	West elevation	1_81	6_21-22	7_06-07
84	External	West elevation and adjoining buildings	1_82	6_23-24	7_08