Lane Close Mill
Bartle Lane, Bradford, West Yorkshire:
Historic Building Photographic Recording

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NGR: SE 13919 31346

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SUMMARY

Photographic recording of the grade II listed Lane Close Mill in Great Horton, Bradford (NGR: SE 13919 31346) was carried out in November 2016 for the developer Minhaj-ul-Quran International, before its demolition. The mill was established by Samuel Dracup in about 1840 as a worsted mill, and expanded during numerous episodes, though parts of the historic structure were demolished in the 1980s. Dracup was prominent as a manufacturer of Jacquard-looms and related textile equipment, but to what extent these premises were used for this purpose, in addition to worsted production, is unclear.

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LIST OF BLACK AND WHITE PHOTOGRAPHS

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LANE CLOSE MILL, BARTLE LANE, BRADFORD, WEST YORKSHIRE:

HISTORIC BUILDING PHOTOGRAPHIC RECORDING

1 Introduction

1.1 This report presents the results of photographic recording of the grade II listed Lane Close Mill, on Bartle Lane in Bradford, West Yorkshire, prior to its demolition. The work was carried out in December 2016 and was commissioned by the owner and developer, Minhaj-ul-Quran International, via its agent Faum Architecture, to fulfil a condition of listed building consent for the demolition and a subsequent mixed use development at the site.

1.2 The principal surviving building at the site is a two storey, stone building dated 1841, which fronts the street. It was erected by Samuel Dracup as part of a once larger complex, used for producing worsted cloth, and probably also for manufacturing Jacquard-looms and card cutting machines; to the rear of it is a conjoined group of single storey sheds of various dates, but a number of other structures which once formed part of the site were demolished in the 1980s.

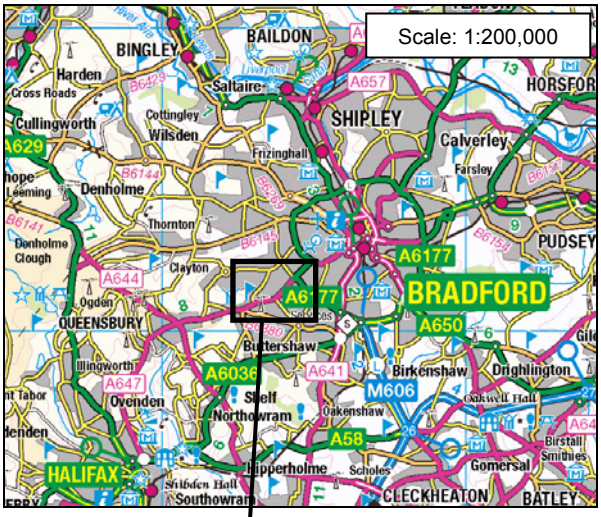
1.3 The recording work was carried out in accordance with a specification from the West Yorkshire Archaeology Advisory Service (WYAAS) (Appendix 1), and was confined to photography. This report will be submitted to the client, the City of Bradford Metropolitan District Council (CBMDC), and the West Yorkshire Historic Environment Record, and to the OASIS project[1], for online publication.

2 Location

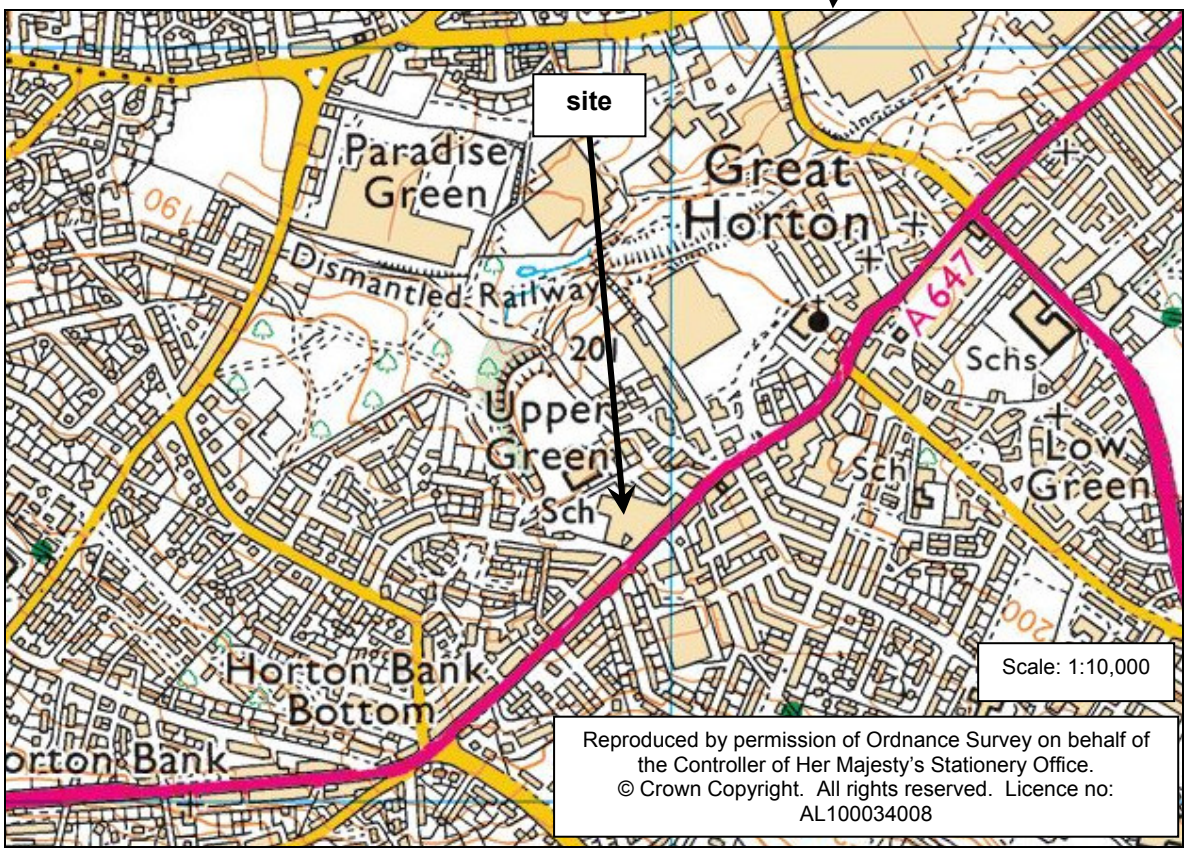
2.1 The site lies in the Upper Green area of Great Horton, on the north side of Bartle Lane at its junction with the A647 Great Horton Road, about 3km south-west of Bradford city centre, at NGR: SE 13919 31346 (figures 1 & 2). It has been disused and unoccupied for about ten years.

2.2 The buildings on the site form a single conjoined block, with the principal building being that dated 1841, at the south side of the site (see figures 3 & 4); this has been recently damaged by fire. There is a large yard to the west of the buildings within the site perimeter, much of which was occupied by buildings historically. There is no access to the south-east side of the site, which adjoins other properties.

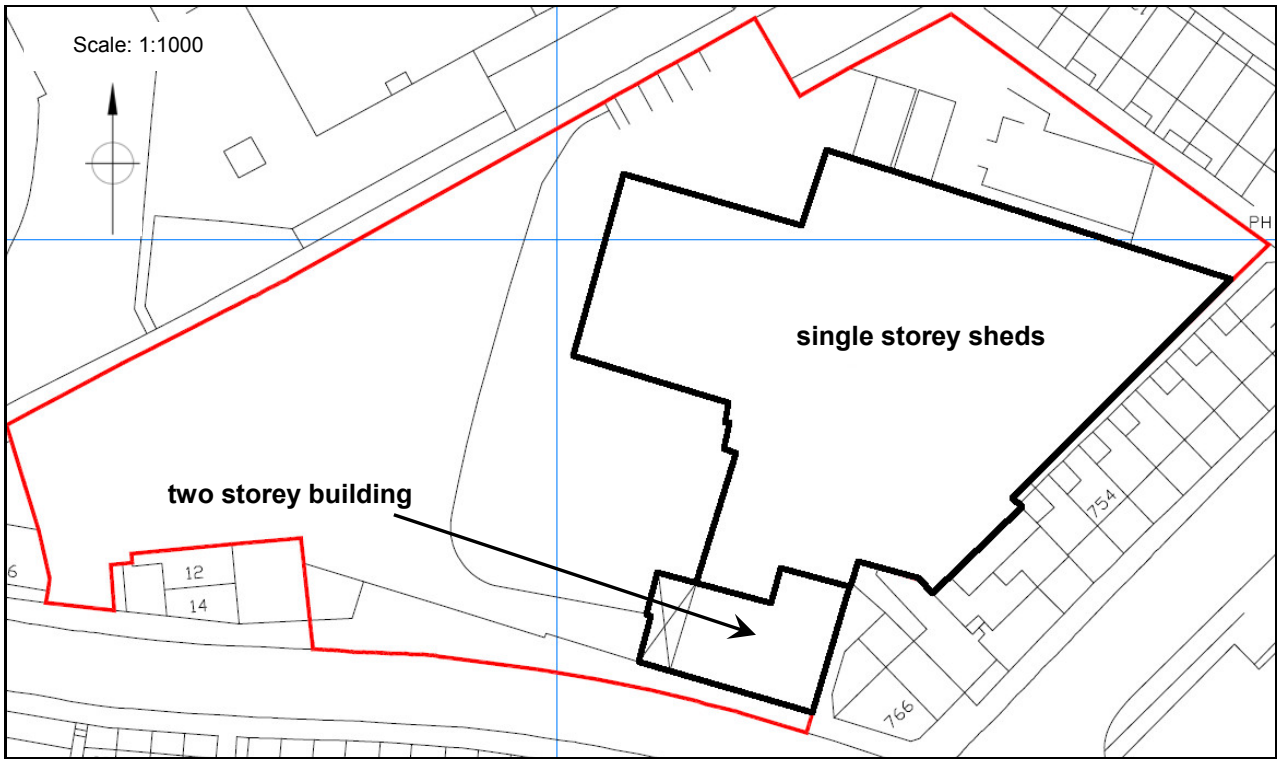
[1] "Online Access to the Index of Archaeological Investigation"



1: Location map (i)



2: Location map (ii)



3: Site plan

4: Satellite image

3 Planning background

3.1 The building lies within the Great Horton conservation area, and has been grade II listed since 1983. It is identified in the National Heritage List for England[2] as "Main block to Lane Close Mill to rear of numbers 742 to 766 Great Horton Road and fronting Bartle Lane". The list entry describes the building as:

> A fairly early worsted mill built in 1841 and extended in 1847. The mill was built to the order of Samuel Dracys [*sic*], an important Horton mill owner and inventor of the card cutting machine. Two long, 2-storey, sandstone "brick" ranges parallel with the road. Stone slate roofs with block brackets to the eaves. Ashlar lintels and sills to close set fenestration. Segmental voussoir archways to each range with dated keystones. Later C19 link between the 2 ranges. Three-storey rear wing to 1841 block, the gable end surmounted by a bellcot and containing an oculus. Some of the windows on the rear elevations and wing retain original small pane glazing. In rear yard of 1847 part is a doorway flanked by octagonal piers.

3.2 Listed building consent for the demolition of Lane Close Mill was granted by CBMDC on 15 June 2016 (application number 16/01881/LBC). Condition 4 of the consent requires that "No demolition works shall commence until a written scheme of investigation (WSI) has been submitted to and approved in writing by the Local Planning Authority. The WSI shall include:

> i) A statement of significance and research objectives, and
>
> ii) A programme and methodology of site investigation and recording and the nomination of a competent person(s) or organisation to undertake the agreed works
>
> iii) A programme for post-investigation assessment and subsequent analysis, publication & dissemination and deposition of resulting material.

Thereafter, no demolition works shall be undertaken other than in accordance with the agreed WSI."

3.3 At the request of the developer, a written scheme of investigation was provided by the West Yorkshire Archaeology Advisory Service in November 2016 on behalf of CBMDC, in the form of a detailed specification (see Appendix 1), and the present recording implemented in accordance with it.

4 Previous investigative work

4.1 The RCHME identified Lane Close Mill during their survey of Yorkshire textile mills in the 1980s, although the record made comprises only two photographs taken from Bartle Lane, and a number of oblique aerial views[3].

[2] Reference no: 1133304
[3] Historic England Archives, buildings file BF062427

5 Historic background

5.1 In the early post-medieval period, the economy of Great Horton (part of the Horton township) was essentially agricultural, but by the seventeenth century many farmers in the district were working part-time as cloth manufacturers in their homes. A pattern of increasing settlement and industrialisation took place, particularly with the establishment of Great Horton Road as the Bradford to Halifax turnpike from 1740, as the thoroughfare formed the focus of the buildings of the cloth industry, with hand-loom weavers' cottages proliferating along it. By the early nineteenth century textile mills were beginning to be built in small numbers, the first being Knights Mill of 1806[4].

5.2 Samuel Dracup (1793 - 1866) came from a local family in Great Horton active in the textile trade, and was related to Nathaniel Dracup, a shuttlemaker there in the 1820s. The family was non-conformist (in common with many others in the emerging industrialist class), and grew to be significant landholders in the township. Samuel's principal fame arose from his invention of the card cutting machine, and his adaptation of the existing jacquard engine or machine for use in worsted production industry, allowing him to go into machine-making as well as textile manufacture. The jacquard mechanism, devised in France in 1798 for silk, allows a complicated pattern to be woven automatically on a hand-loom or power-loom, by means of a sequence of punched cards, the pattern of holes in which dictates the manner in which the warp threads are raised. Patterned cloth could thereby be produced accurately and repetitively.

5.3 Samuel Dracup married Sarah Jowett in 1815, at which date he was described as a shuttlemaker, though later accounts suggest he also worked as a joiner and cabinet maker. There is some disagreement about the precise details of the development of his business, but after this early period it seems that he established his own company in 1825, and began manufacturing card-cutting machines between 1825 and 1833, then went on to make repeaters, hand operated Jacquard-looms, and eventually from 1838, powered Jacquard-looms[5]. His success was such that Dracup Road, immediately north of Lane Close Mill, was named after him.

5.4 Worsted cloth, whose name derives from Worstead, the Norfolk village where the British industry was begun by Flemish immigrants in the twelfth century, is a fabric created from wool, relatively light in weight and with a smooth finish, in contrast to true woollen cloth, which is heavier with a felted texture. The

[4] CBMDC 2006 *Great Horton Conservation Area Assessment*
[5] https://timdracup.wordpress.com/2016/03/10/dracups-in-great-horton-from-john-dracupp-1688-1767-to-samuel-dracup-1793-1866/ consulted 22 December 2016

distinction is based on the use of long wool fibres for worsted, rather than the shorter fibres used for woollens. Although the manufacture of worsted cloth began in East Anglia, during the eighteenth century the centre of production moved to the West Riding, and from the early nineteenth century became concentrated in the Bradford area, to the extent that the town became known as "Worstedopolis"[6].

5.5 In worsted production the long fibres are separated from the raw material by combing, a process for which mechanisation was only satisfactorily achieved in the 1840s. However, the spinning of worsted yarn from the fibres ("tops") had been carried out mechanically since the 1780s, with Roberts' self-acting mule being introduced in the 1830s. Power-looms for worsted were introduced in the 1820s, but only became widespread in the 1830s and 1840s.

5.6 The site on which Lane Close Mill was to be built was almost entirely undeveloped at the start of the nineteenth century. A map made in 1801-2, and copied in 1878 (figure 5), together with a schedule of the land identified, shows that the landowner was then a Miss Bower, and the tenant Absolum Haley, who presumably used the land for farming.

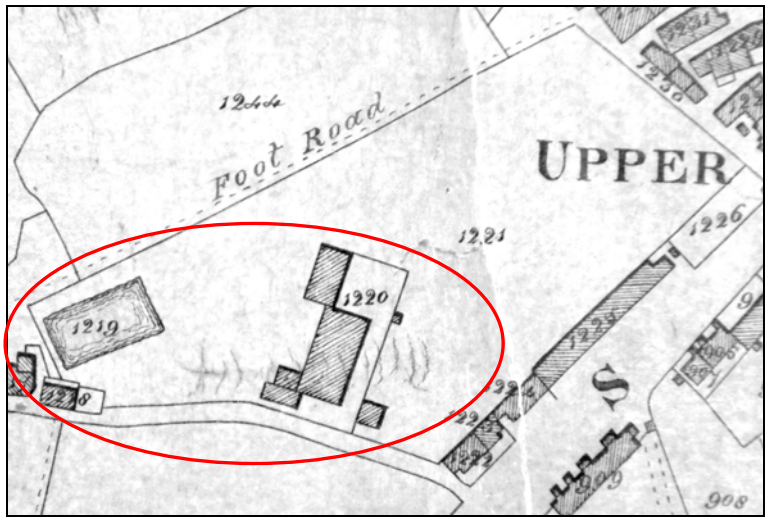
5: 1802 map, copied & annotated in 1878[7]

5.7 Dracup is reported to have established Lane Close Mill as a worsted mill in 1839, although at the outset the premises were let to John Bartle, whose name survives in Bartle Lane (in the 1840s known as Cliff Lane). A map of 1839 (figure 6) shows a small cluster of buildings and a reservoir for a steam engine at the western end of the site, and the accompanying book of reference describes plots 1219-1221 as belonging to Samuel Dracup, with 1220 being "mill, warehousing etc"; however none of the surviving buildings appear to correspond

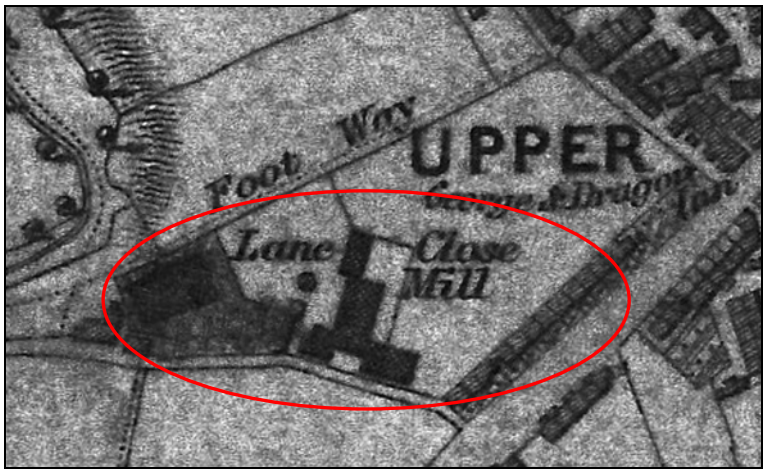
[6] Giles, C & Goodall, I 1992 *Yorkshire Textile Mills 1770 – 1930*; Jones, W 1996 *Dictionary of Industrial Archaeology*

[7] *Plan of Great & Little Horton in the Parish of Bradford…Surveyed by order of its inhabitants by Will'm Bassett 1801-2* West Yorkshire Archive Service, Bradford DB3/C24/1 & 2. Reproduced by kind permission

with those standing today. A similar arrangement is shown on maps of 1846 and 1852, where the name "Lane Close Mill" is used for the first time (figures 7 & 8). After Bartle, the tenant was W Bunting & Co, later succeeded by Mr. Henry Snowdon, so it appears that Dracup was simply a landlord, albeit perhaps with an active role.



6: 1839 township map[8]



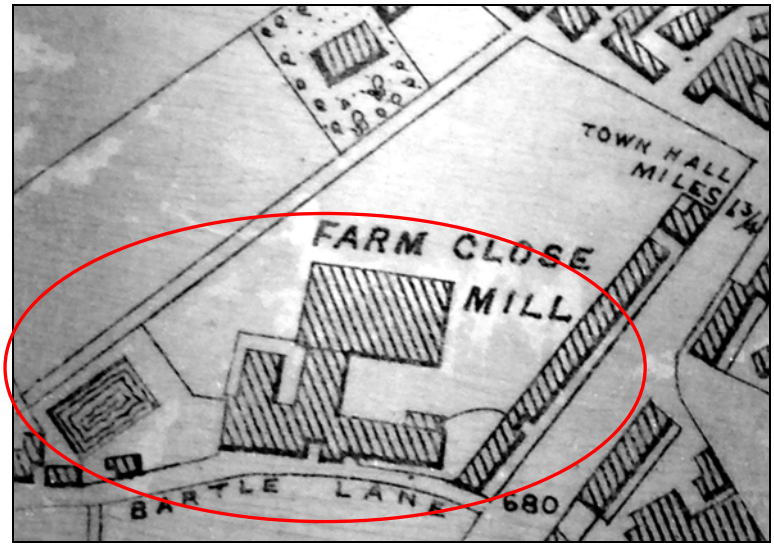
7: 1846 map[9]

[8] *Plan of the township of Horton in the Parish of Bradford…Made from an actual survey for the valuation in the year 1839 by Samuel Wormald* West Yorkshire Archive Service, Bradford 52D79/7; book of reference DB3/24/3. Reproduced by kind permission

[9] *Map of the Borough of Bradford comprising the townships of Bradford, Bowling, Horton & Manningham from an actual survey made in the years 1844,1845 & 1846 by Thomas Dixon* Bradford Local Studies Library BRA 1844/6 DIX Reproduced by kind permission

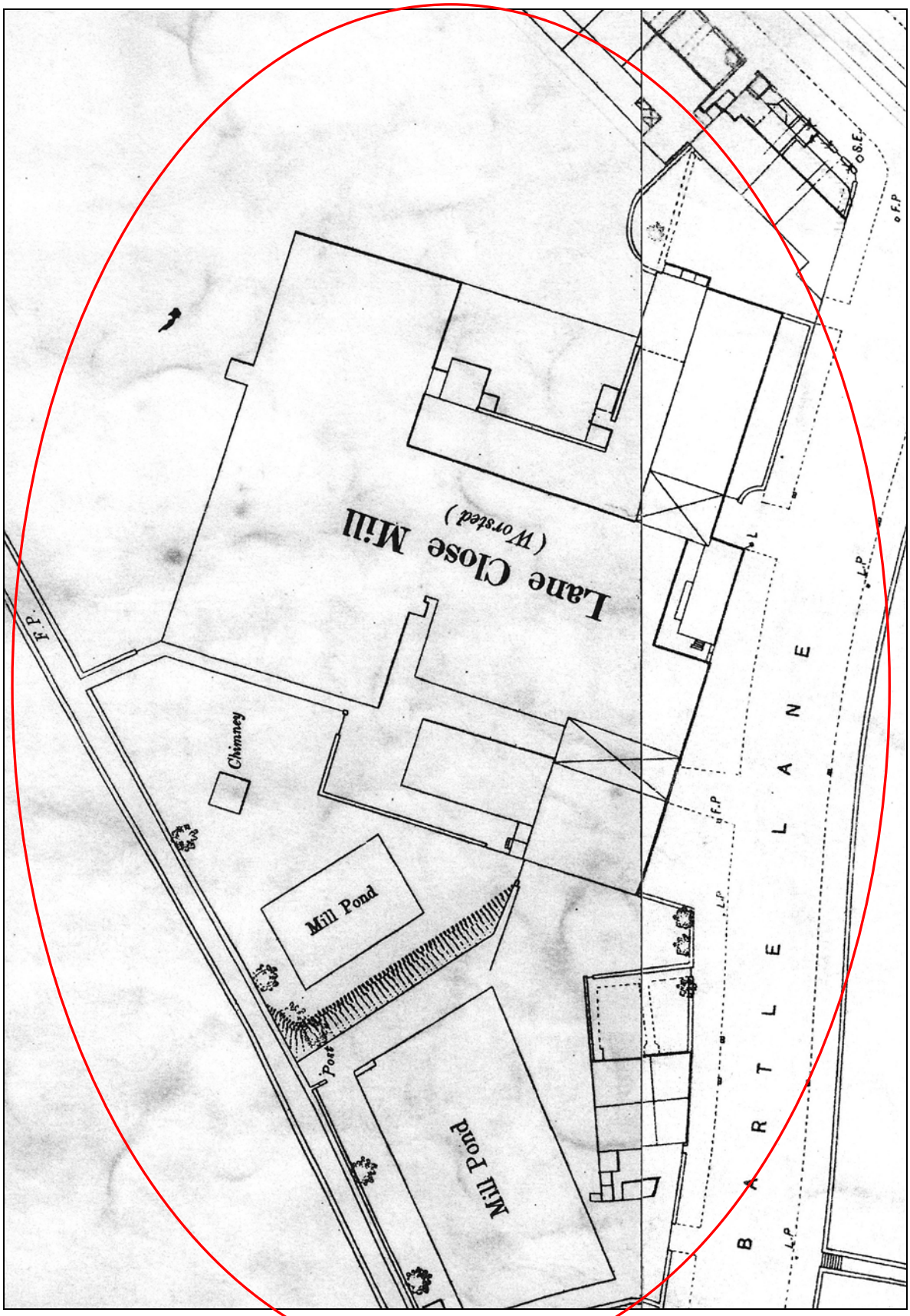
8: 1852 OS map[10]

5.8 The scale and form of the mill buildings shown on the mid nineteenth century maps suggest that power-loom weaving at the site may have been small in scale, and it was only in the second half of the century that the buildings seem to have expanded to include a large weaving shed. A map of 1880 (figure 9) shows a major phase of building to have taken place at the site in the preceding thirty years, as the mill was then shown with a much longer frontage along Bartle Lane, and a large new rear block at the north side (the mill is mis-named here).



9: 1880 map[11]

[10] Ordnance Survey 1:10560 map, Yorkshire sheet 216, surveyed 1847 to 50
[11] *Plan of the townships of Bradford, Horton, Bowling, Manningham & Bolton forming the Borough of Bradford, revised and corrected from actual surveys by Joseph Hardwick* Bradford Local Studies Library BRA 1880 HAR Reproduced by kind permission

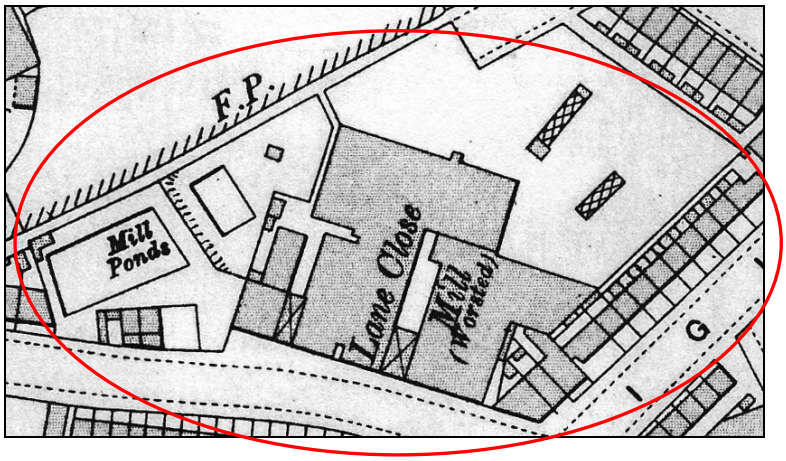


10: OS 1:500 map, 1891[12]

[12] Ordnance Survey 1:500 map, Yorkshire sheets 216.11.3 & 8, surveyed 1890

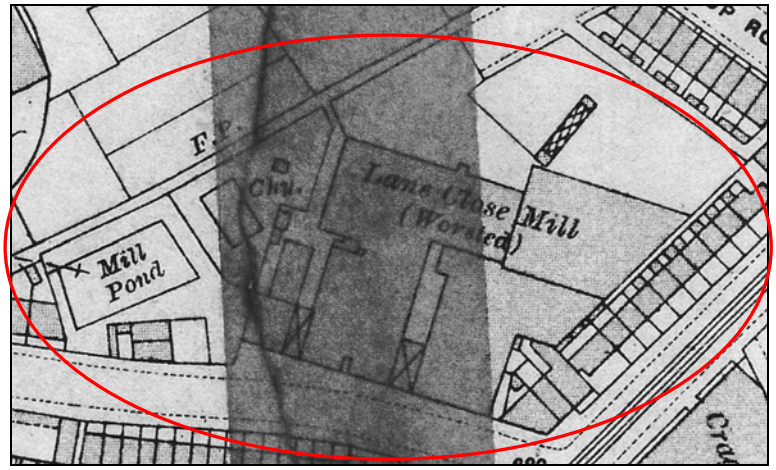
5.9 The Ordnance Survey 1:500 map, surveyed in 1890, is a particularly useful source in understanding the extent of buildings during the heyday of the British textile industry (figure 10). The mill then comprised an enlarged complex of various structures, albeit by this date very small in comparison with Bradford's largest worsted mills. There were two entrances off Bartle Lane located within the frontage, and various rectangular blocks to the rear, partly identifiable as weaving sheds. A detached chimney stood to the west, and two mill ponds.

5.10 Later maps show that during the twentieth century the mill continued to expand, with several phases of weaving shed being added along the east side of the site, so that by the late 1950s its footprint nearly filled the whole of the site (figures 11 to 14). Between the 1960s and the early 1980s however, when the textile industry began to undergo rapid contraction, there was considerable demolition at the site (some apparently taking place without consent, following its listing in 1983). By the mid 1980s the complex had been reduced largely to its present extent, with the western part of the Bartle Lane frontage being one of the most significant losses. The RCHME photographs of c.1986 show the site as it now appears, but still occupied by "Samuel Dracup & Sons Ltd, Jacquard Engineers"[13]. In 2006 the property was the premises of Eltex Ltd, who continued the tradition as manufacturers of textile machinery and software, including "electronic jacquards"[14], though cloth production seems to have ceased by then.

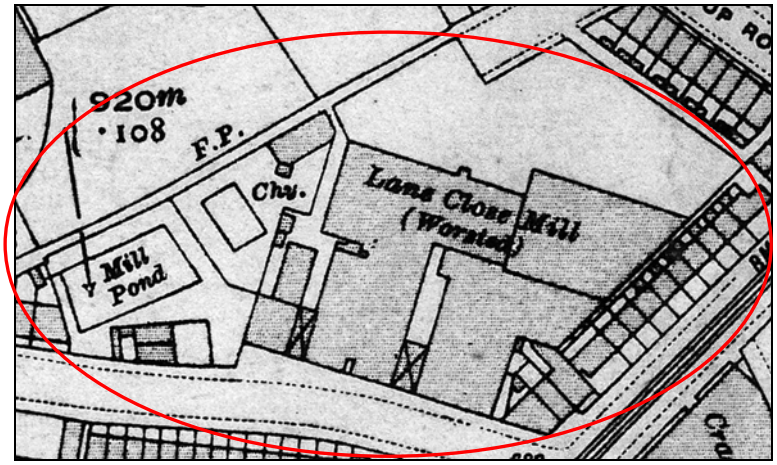


11: OS 1:2500 map, 1908[15]

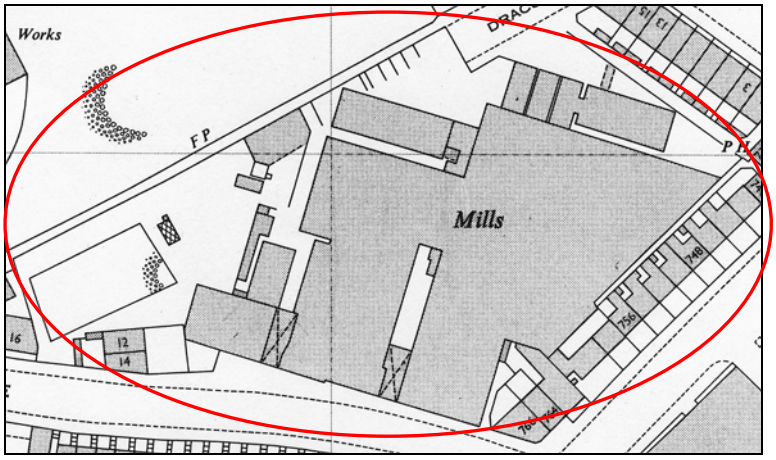
[13] Historic England Archives, buildings file BF062427 photographs 79R11 &12
[14] CBMDC 2006 *Great Horton Conservation Area Assessment*
[15] Ordnance Survey 1:2500 map, Yorkshire sheet 216.11, revised 1905 (at enlarged scale)



12: OS 1:2500 map, 1921[16]



13: OS 1:2500 map, 1932[17]



14: OS 1:1250 map, 1958[18]

5.11 Quite how Dracup physically combined the facilities for worsted manufacture with his interests in Jacquard-looms on the Lane Close site cannot be established: the entry for the mill in an 1856 directory described him only as a jacquard

[16] Ordnance Survey 1:2500 map, Yorkshire sheet 216.11, revised 1915 (at enlarged scale)
[17] Ordnance Survey 1:2500 map, Yorkshire sheet 216.11, revised 1932 (at enlarged scale)
[18] Ordnance Survey 1:1250 map, Plan SE1331SE, surveyed 1957 (at reduced scale)

machine maker[19], with no mention of worsted manufacture, yet the 1852 Ordnance Survey map annotates the mill as "worsted". Later directories all refer to Dracup's company as jacquard machine makers or engineers, with no mention of textiles.

6 Recording methodology

6.1 The present recording, carried out during a site visit on 28 November 2016, involved inspection and photographic recording of the surviving buildings (principally of the exteriors), in accordance with the specification (Appendix 1). The main building fronting Bartle Lane has been damaged by fire and access into it was deemed unsafe.

6.2 Photography was carried out using a medium format camera with perspective control and other lenses, and black and white film for archival stability (as required by the specification). The photographs include a scale, in the form of a 2m or 1m ranging pole marked with 0.5m graduations, or a 0.5m baton with 0.1m graduations. These black and white photographs have been printed at 7" x 5" or 10" x 8", and all are copied in this report, where they are referred to by numbers in **bold**. A small number of photographs was also taken using a digital camera (see Appendix 2), which will be deposited with WYAAS on CD only. Locations of all photographs taken are marked on a plan of the site (see figure 15).

7 Description of the buildings

7.1 Of the surviving buildings at the site, the two storey, two- and three-pile range fronting Bartle Lane is the most prominent and perhaps the earliest component (**1**). This is ten bays long, and is built from local, thinly coursed sandstone "bricks", with generally plain detailing, though there is a broadly dentilled, moulded cornice at the eaves. The roof is of stone slate (**2**,**3**). At the west end is a cart entrance to a passage through the range; it is embellished by a finely executed basket arch with ashlar voussoirs and furrowed imposts, and with a datestone of 1841, with Samuel and Sarah Dracup's initials (**4**-**6**). It is worth noting however that the 1852 Ordnance Survey map (figure 8 above) does not show this building in its present form, raising questions about the authenticity of this date-stone, or perhaps suggesting that there have been well-concealed alterations. The pedestrian entrance two bays to the east of the arch has a moulded cement surround of the mid twentieth century, and is likely to have been inserted through a former window then (**7**).

[19] *Lund's Bradford Directory* 1856, p151

7.2 At the west end, the range has been truncated through demolition, though the date-stone of 1847 which once adorned a second passage entrance (see figure 10 above), has been incorporated within the new boundary wall (**8**-**10**). However, within the narrower front pile of the range, a tall, east-facing window has been blocked historically, and a number of massive stone blocks exist at its foot, which together suggest that this was the site of a beam engine house, which pre-dated the surviving entrance passage and two storey building (**11**). The supposition that this demolished structure is earlier than the surviving range is lent weight by the observation that at the north-west corner, the wall forming the west end of the range appears to be earlier than the range itself (**16**). The depiction on the 1852 map would also accord with the idea that there was an earlier structure at this location, but its detachment from the buildings then standing to the north-west implies it would not have been an engine house.

7.3 The surviving two storey range consists of three parallel piles, which as far as can be determined are of the same construction phase, and according to the historic maps, all date from between 1852 and 1880 (**12**,**13**). The arrangement, in which the rearmost pile is only a third of the front block's length, can also be seen from the north-west, though most of the rear elevation is inaccessible due to the adjoining buildings (**14**). Window details to the rear elevation are however the same as those to the front.

7.4 There is a second archway at the rear of the covered passage (**15**), similar to that at the front, but differing in the impost detail and use of alternate projecting voussoirs (**16**).

7.5 Little can be deduced about the function of the main part of the two storey building: within the covered passage are a number of blocked openings to the west, which formerly served the demolished building there (including the possible engine house) (**18**), while further east, the wall dividing the front and rear parts on the ground floor has been removed (**19**). The few visible details, principally cast iron columns supporting a timber first floor, are in keeping with the building's supposed use as a warehouse (**20**).

7.6 The short length of the third pile of the two storey building, at the north-east corner of the range, has a chimney stack (the only one observed), and may have contained offices (**17**).

7.7 The group of north-light sheds adjoining the rear of the two storey block appears to date from different episodes between the late nineteenth and the mid twentieth centuries, and is constructed from a variety of materials. The earliest part, which is shown on the 1891 map, is the western end of the present group, whose saw-

tooth roof has east-facing fenestration, and its south side various blocked openings below a parapet (**21**,**22**). Its interior is characteristic of the weaving sheds of the time, with cast iron columns with bolting faces supporting the roof (**23**). The next part to be built stands to the south-east of this, and linked it to the rear of the surviving Bartle Lane block (**24**-**26**); it dates from the period 1890 - 1905, according to the Ordnance Survey. This shed is stone-faced and was formerly slate roofed, with five bays to the roof, and north-lights. It has several large openings in its west elevation which formerly looked out onto the narrow yard to the rear of the covered passage of 1841. Its interior differs slightly from the earlier weaving shed, but is essentially typical for the building type (**27**). Between 1905 and 1932 this shed was extended to the north-east by a further six bays (**28**), and then between 1932 and 1957 two further brick-built sheds were added at the north end of the site (**29**).

8 Conclusion

8.1 The surviving remains of Lane Close Mill represent only a small proportion of the nineteenth century steam-powered worsted mill complex established by Dracup in about 1840, with the mainly double-pile front range being the most architecturally and historically significant element on the site, particularly as it bears Dracup's initials; its interior appears to have been altered considerably however, as would be expected in a building which has evolved over 150 years of industrial use. Although the front block is dated 1841 this is not endorsed by map evidence, which implies that it was built between 1850 and 1890. The large group of single storey sheds which now dominates the site is not of particular interest, some parts of it being mid twentieth century. Although it is well documented that Dracup manufactured Jacquard-looms and associated machinery there, there is nothing to distinguish visibly the site from the numerous other integrated worsted mills which made up a large part of the Bradford townscape in the late nineteenth century.

Appendix 1: WYAAS Specification

SPECIFICATION FOR ARCHAEOLOGICAL PHOTOGRAPHIC RECORDING AT LANE CLOSE MILL BARTLE LANE, BRADFORD

NGR 13919 31346

This specification was requested by Shoaib Mahmood of Faum Architecture (01274 928 259) and prepared on behalf of City of Bradford Metropolitan District Council in respect of planning consent 16/01881/LBC

1. Summary

1.1 This specification covers the requirements for a general archaeological and architectural photographic record of the remaining sections of this mid-19th century worsted mill prior to its demolition and the construction of a mixed use redevelopment.

This specification has been written by the West Yorkshire Archaeology Advisory Service (WYAAS), the holders of the West Yorkshire Historic Environment Record.

2. Archaeological / Architectural Interest

Lane Close Mills is a grade II listed building and designated heritage asset (National Heritage List for England No. 1,133,304 and West Yorkshire Historic Environment Record PRN 15532) and is located in a conservation area.

The fire damaged warehouse and an area of single storey sheds are the only remaining parts of Lane Close Mill. The warehouse is dated to 1841 by an inscription on the keystone of its cart way opening. The much larger three storey mill of 1847 (also listed) was demolished c. 2000.

Historically the worsted trade gravitated towards Bradford from the later 18th century. Prior to this it was centred on Halifax and was largely a domestic craft based industry.

Worsted cloth is characterised as employing only long woollen fibres (tops) or other substitute yarn such as cotton or silk in the warp. Since the yarn produced from these sources was stronger than the short staple wool of the woollen branch, the weaving of worsted cloth was mechanised in the 1830s or 40s, a decade or two earlier than the heavy woollens industry centred in Leeds and Huddersfield. This early mechanisation of weaving does not seem to have spurred distinctive building types until wool combing was mechanized and large integrated mills built in the 1850s.

Although identified as a warehouse this structure could have housed many of the activities associated with worsted production prior to the introduction of mechanized wool combing a few years later. The subject building is a good example of the scale of Bradford's textile mills prior to the creation of large integrated complexes such as Salts Mill and Manningham Mills.

The builder of Lane Close Mill, Samuel Dracup, initially traded as a maker of Jacquard card cutting machines and Jacquard looms used in the production of intricately patterned cloth. The cards, which controlled the pattern woven, could be quickly changed and are recognised as a precursor to the development of computers. Dracup's engineering interests may also have occupied floor space in the surviving building.

If necessary the archaeologist should discuss the necessary recording and reporting on this site with the WYAAS.

3. Aims of the Project

5.1 The aim of the proposed work is to identify and objectively record by means of photographs any significant architectural features and evidence for the original and subsequent historical form and functions of the warehouse and surviving sheds, and to place this record in the public domain by depositing it with the West Yorkshire Historic Environment Record (the Registry of Deeds, Newstead Road, Wakefield WF1 2DE; tel. 01924 306797; email wyher@wyjs.org.uk). The building recorder on site should give particular attention to recording as far as possible the functional arrangements and division of the building(s) / structure.

4. General Instructions

4.1 Health and Safety
4.1.1 The building recorder on site will naturally operate with due regard for Health and Safety regulations. Prior to the commencement of any work on site the building recorder may wish to carry out a Risk Assessment on the building / structure in accordance with the Health and Safety at Work Regulations. The building recorder should identify any contaminants which constitute potential Health and Safety hazards (e.g. chemical drums) and make arrangements with the owner / developer for decontamination/making safe as necessary and appropriate. The WY Archaeology Advisory Service and its officers cannot be held responsible for any accidents or injuries which may occur to outside contractors engaged to undertake this survey while attempting to conform to this specification.

4.2 Confirmation of Adherence to Specification
4.2.1. Unauthorised variations are made at the sole risk of the building recorder. Proposed modifications presented in the form of a re-written specification/project design **will not** be considered. For technical queries see para. 8.1.

4.3 Confirmation of Timetable and Contractors' Qualifications
4.3.1 Prior to the commencement of *any work*, the building recorder **must** provide the local planning authority and WYAAS **in writing** with:

- a projected timetable for the site work
- details of the staff structure and numbers
- names and *CVs* of key project members (the project manager, site supervisor, any proposed specialists, sub-contractors *etc.*)

4.3.2 All project staff provided by the building recorder must be suitably qualified and experienced for their roles. In particular, staff involved in building recording should have proven expertise in the recording and analysis of industrial buildings. The timetable should be adequate to allow the work to be undertaken to the appropriate professional standard.

4.4 Notification and Monitoring

The Local Authority and WYAAS should receive at least one week's notice in writing of the intention to start fieldwork.

5 Recording Methodology

5.1 Site preparation

Prior to the commencement of work on site the building recorder should identify all removable modern material (including 20th century partitions, dry-boarding, suspended ceilings, modern machinery etc.) which may significantly obscure material requiring a photographic record, and should contact the developer in order to make arrangements for its removal. It is not the intention of this specification that large-scale removal of material of this type should take place with the building recorder's manpower or at that contractor's expense.

5.2 Documentary research

Prior to the commencement of work on site, the building recorder should undertake a rapid map-regression exercise based on the readily-available map and photographic evidence held by the relevant Local History Library and the West Yorkshire Archive Service, and a rapid examination of the available 19th- and 20th-century Trades and Postal directories, the appropriate census returns and all other available primary and relevant secondary sources. This work is intended to inform the building recording by providing background information with regard to function and phasing. Please note that this exercise is not intended to be a formal desk-based assessment, and should not represent a disproportionate percentage of the time allowed for the project overall.

5.3 Site/building plans

If as "existing plans" of the building/ structure have been produced then, if appropriate, these plans may be used for any annotation relative to the photographic record (permission of the copyright holder must be sought).

Failing this, an accurate sketch plan of the site/building layout, marked with a north pointer, should be derived from the most appropriate large-scale historic mapping and reproduced at an appropriate scale (not smaller than 1:100). This plan should then be used for any annotation relative to the photographic record.

6. Photographic Record

6.1 External photographs

An external photographic record should be made of all elevations of the warehouse and surviving north light sheds, from vantage points as nearly parallel to the elevation being photographed as is possible within the constraints of the site. The contractor should ensure that all visible elements of each elevation are recorded photographically; this may require photographs from a number of vantage points. A general external photographic record should also be made which includes a number of oblique general views of the building(s) from all sides, showing them and the complex as a whole in its/their setting. In addition, a 35mm general colour-slide survey of the building(s) should also be provided (using a variety of wide-angle, medium and long-distance lenses). While it is not necessary to duplicate every black-and-white shot, the colour record should be sufficiently comprehensive to provide a good picture of the form and general appearance of the mill buildings. The colour slide record should also include some internal shots. (See para. 6.5 below for possible use of digital photography.)

6.2 Internal photographs

Safe access to the warehouse is not possible due to fire damage. If possible a small number of interior photographs should be obtained from a safe location (e.g. through a window) to confirm its method of construction and record any evidence of internal features. In areas which are wholly modern in appearance, character and materials, a single shot to record current appearance will suffice.

6.3 Detail photographs

In addition, detailed record shots should be made of all features of archaeological and architectural interest identified during the process of appraisal. Typically, items of interest would include:

- All original structural elements (which ca be observed safely)
- Original doors and window frames and any associated shutters or other fittings
- Original staircases and other access arrangements
- Date stones and inscriptions of the warehouse and later mill

But this list should not be treated as exhaustive. The building recorder on site should also identify and note:

- any significant changes in construction material – this is intended to include significant changes in stone/brick type and size
- any blocked, altered or introduced openings
- evidence for phasing, and for historical additions or alterations to the building.

Elements for which multiple examples exist (e.g. each type of roof truss, column or window frame) may be recorded by means of a single representative illustration. **N.B.** Detail photographs must be taken at medium-to-close range and be framed in such a way as to ensure that the element being photographed clearly constitutes the principal feature of the photograph.

6.4 Equipment

General photographs should be taken with a Large Format monorail camera (5" x 4" or 10" x 8"), or with a Medium Format camera that has perspective control, using a tripod. The contractor must have proven expertise in this type of work. Any detail photographs of structural elements should if possible be taken with a camera with perspective control. Other detail photographs may be taken with either a Medium Format or a 35mm camera. All detail photographs must contain a graduated photographic scale of appropriate dimensions (measuring tapes and surveying staffs are not considered to be acceptable scales in this context). A 2-metre ranging-rod, discretely positioned, should be included in a selection of general shots, sufficient to independently establish the scale of all elements of the structure.

6.5 Digital photography

Digital photography: as an alternative for colour slide photography, good quality digital photography may be supplied, using cameras with a minimum resolution of 10 megapixels. Digital photography should follow the guidance given by Historic England in Digital Image Capture and File Storage: Guidelines for Best Practice, July 2015. Note that conventional black and white print photography is still required and constitutes the permanent record. Digital images will only be acceptable as an alternative to colour slide photography if each image is supplied as both a JPEG and a TIFF versions. The latter as an uncompressed 8-bits per channel TIFF version 6 file of not less than 25Mbs (See section 2.3 of the Historic England guidance). The contractor must include metadata embedded in the TIFF file. The metadata must include the following: the commonly used name for the site being photographed, the relevant centred OS grid coordinates for the site to at least six figures, the relevant township name, the date of photograph, the subject of the photograph, the direction of shot and the name of the organisation taking the photograph. Any digital images are to be supplied to WYAAS on gold CDs by the archaeological contractor accompanying the hard copy of the report.

6.6 Film stock

All record photographs to be black and white, using conventional (not chromogenic) silver-based film only, such as Illford FP4 or HP5, or Delta 400 Pro that is replacing HP5 in certain

film sizes (such as 220). Dye-based films such as Ilford XP2 and Kodak T40CN are unacceptable due to poor archiving qualities.

6.7 Printing

6.7.1 Record photographs should be printed at a minimum of 5" x 7" . In addition a small selection of photographs (the best of the exterior setting shots and interior shots with important detail) should be printed at 10" x 8". Bracketed shots of identical viewpoints need not be reproduced, but all viewpoints must be represented within the report.

6.7.2 Prints may be executed digitally from scanned versions of the film negatives, and may be manipulated to improve print quality (but **not** in a manner which alters detail or perspective). All digital prints must be made on paper and with inks which are certified against fading or other deterioration for a period of 75 years or more when used in combination. If digital printing is employed, the contractor must supply details of the paper/inks used in writing to the local authority with supporting documentation indicating their archival stability/durability.

6.8 Documentation

A photographic register and photo location plan are required. The photographic register should (as a minimum) include location, direction and subject of shot must accompany the photographic record; a separate photographic register should be supplied for any colour slides and digital photographs. Position and direction of each photograph and slide should be noted on a scaled copy of the building plan (minimum acceptable scale 1:100), which should also be marked with a north pointer. Separate plans should be annotated for each floor of the building/ structure. (See also para. 5.3 above.)

7. Post-Recording Work and Report Preparation

7.1 Report Preparation

7.1.1 Report format and content

A written report should be produced. This should include:

- an executive summary including dates of fieldwork, name of commissioning body, planning application reference and condition number and a brief summary of the results including details of any significant findings
- an introduction outlining the reasons for the survey
- a brief architectural description of the buildings presented in a logical manner (as a walk around the buildings, starting with setting, then progressing to all sides of the structures in sequence, and finally, where possible, observations of the interior from the ground floor up)
- a discussion placing the mill in its local and historical contexts, describing and analysing the development of individual structures and of the complex as a whole. This analysis should consider the site type as an integrated system intended to perform a specialised function, with particular attention being given to historical plan form, technical layout and process flow.

Both architectural description and historical/analytical discussion should be fully cross-referenced to the photographic record, sufficient to illustrate the major features of the site and the major points raised.

7.1.2 Report Illustrations

Illustrations should include:

- a location map at a scale sufficient to allow clear identification of the building(s)/structure in relation to other buildings in the immediate area
- a complete set of site drawings at a legible scale, on which position and direction of each photograph has been noted
- any relevant historic map editions, with the position and extent of the site clearly indicated
- any additional illustrations pertinent to the site
- a complete set of good-quality laser copies of all photographs. All photographs should be accompanied by detailed captions clearly locating and identifying any pertinent features.

The latter should be bound into the report, appropriately labelled (numbered, and captioned in full) and fully referenced within the report. When captioning, contractors should identify the individual photographs by means of a running sequence of numbers (e.g. Plate no. 1; Plate no. 2), and it is this numbering system which should be used in cross-referencing throughout the report and on the photographic plans. However, the relevant original film and frame number should be included in brackets at the end of each caption.

7.2 Report deposition

7.2.1 The report should be supplied to the client and to the local planning authority and an identical copy (but also including the photographic prints and any colour slides) supplied to the West Yorkshire HER – see para.7.3 below for details). The finished report should be supplied within twelve weeks of completion of all fieldwork unless otherwise agreed with the local authority. The report will become publicly accessible once deposited with the West Yorkshire Historic Environment Record, unless confidentiality is explicitly requested, in which case it will become publicly accessible six months after deposit.

7.2.2 The West Yorkshire HER supports the Online Access to Index of Archaeological Investigations (OASIS) project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. The building recorder must therefore complete the online OASIS form at http://ads.ahds.ac.uk/project/oasis/. Contractors are advised to contact the West Yorkshire HER officer prior to completing the form. Once a report has become a public document by submission to or incorporation into the HER, the West Yorkshire HER may place the information on a web-site. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the case officer at the West Yorkshire HER.

7.2.3 With the permission of the client, the building recorder is encouraged to consider the deposition of a copy of the report for this site with the appropriate Local History Library.

7.2.4 A brief note for 'Post-medieval Fieldwork in England and Northern Ireland' should be submitted to the Journal of the Society for Post Medieval Archaeology and the Council for British Archaeology's Yorkshire Forum publication (please contact the editor (forum-editor@cba-yorkshire.org.uk) or visit the CBA's website for more information.

7.3 Deposition with WYAAS (as holders of the West Yorkshire Historic Environment Record)
The report copy supplied to the WY Archaeology Advisory Service (see address at the base of this document) should also be accompanied by both the photographic negatives and a complete set of labelled photographic prints (mounted in KENRO display pockets or similar, and arranged in such a way that labelling is readily visible) bound in a form which will fit readily into a standard filing cabinet suspension file (not using hard-backed ring-binders). Labelling should be on the *back* of the print in pencil giving film and frame number only

(taking care not to damage the print) and on applied printed labels stuck on the front of the relevant photographic sleeve and which should include:

- film and frame number
- date recorded and photographer's name
- name and address of building
- national grid reference
- specific subject of photograph.

Negatives should be supplied in archivally stable mounts (KENRO display pockets or similar), and each page of negatives should be clearly labelled with the following:

- national grid reference
- Site name and address
- Date of photographs (month/year)
- Name of archaeological contractor
- Film number

Colour slides should be mounted, and the mounts suitably marked with the 'site name' at the top of the slide; grid reference at the bottom; date of photograph at the right hand side of the mount; subject of photograph at the left hand side of the mount. Subject labelling may take the form of a numbered reference to the relevant photographic register. The slides should be supplied to the WY Archaeology Advisory Service in an appropriate, archivally stable slide hanger (for storage in a filing cabinet). In all other respects, standards for archive compilation and transfer should conform to those outlined in *Archaeological Archives – a guide to best practice in creation, compilation, transfer and curation* (Archaeological Archives Forum, 2007).

7.3.3 **Copyright** - Please note that by depositing this report, the contractor gives permission for the material presented within the document to be used by the WYAAS, in perpetuity, although The Contractor retains the right to be identified as the author of all project documentation and reports as specified in the *Copyright, Designs and Patents Act* 1988 (chapter IV, section 79). The permission will allow the WYAAS to reproduce material, including for use by third parties, with the copyright owner suitably acknowledged.

8. Technical Queries

8.1 Any technical queries arising from the specification detailed above, should be addressed to WYAAS without delay.

9. Valid Period of Specification

9.1 This specification is valid for a period of one year from the date of issue.

David Hunter
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West Yorkshire Historic Environment Record
Registry of Deeds
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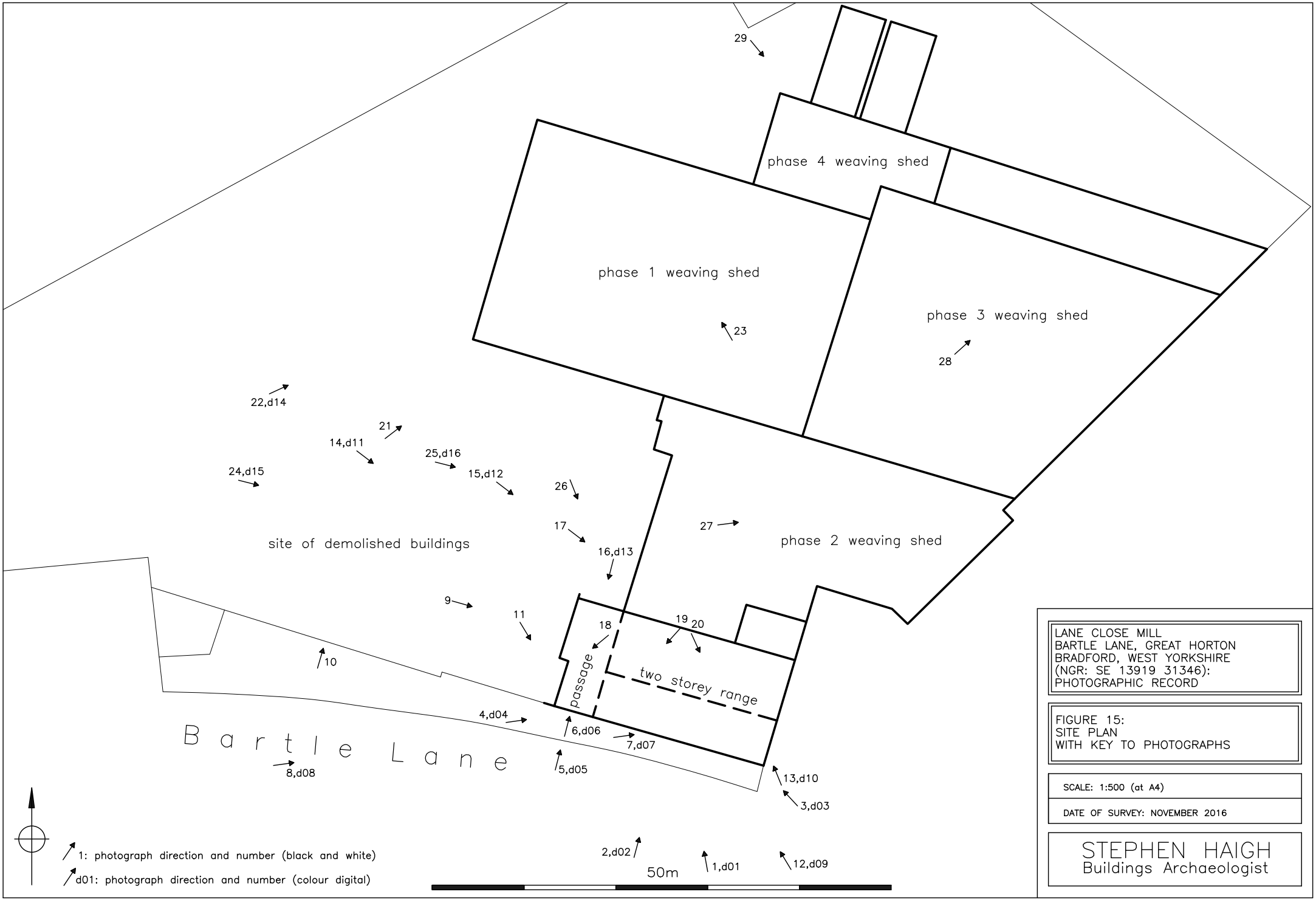
November 2016

Appendix 2: List of digital photographs

CD of photographs (in JPG & TIFF formats) deposited with the West Yorkshire Historic Environment Record

Photo	Subject
d01	General view of two storey block, from the south-east across Bartle Lane
d02	General view of two storey block, from the south across Bartle Lane
d03	Front elevation of two storey block, from the east
d04	Front elevation of the two storey block, from the west
d05	Arched entrance to covered passage through two storey block, from the south
d06	Detail of datestone on arched entrance
d07	Twentieth century doorway in front elevation of two storey block, from the west
d08	General view of the site, from the south-west
d09	General view of two storey block, from the south-east across Bartle Lane
d10	East end of two storey block, from the south-east
d11	General view of two storey block, from the north-west
d12	General view of two storey block, from the north-west
d13	Rear arched entrance to covered passage through two storey block, from the north
d14	Late nineteenth century weaving shed, from the south-west
d15	Phase two weaving shed, from the west
d16	Phase two weaving shed, from the west



LANE CLOSE MILL
BARTLE LANE, GREAT HORTON
BRADFORD, WEST YORKSHIRE
(NGR: SE 13919 31346):
PHOTOGRAPHIC RECORD

FIGURE 15:
SITE PLAN
WITH KEY TO PHOTOGRAPHS

SCALE: 1:500 (at A4)

DATE OF SURVEY: NOVEMBER 2016

STEPHEN HAIGH
Buildings Archaeologist

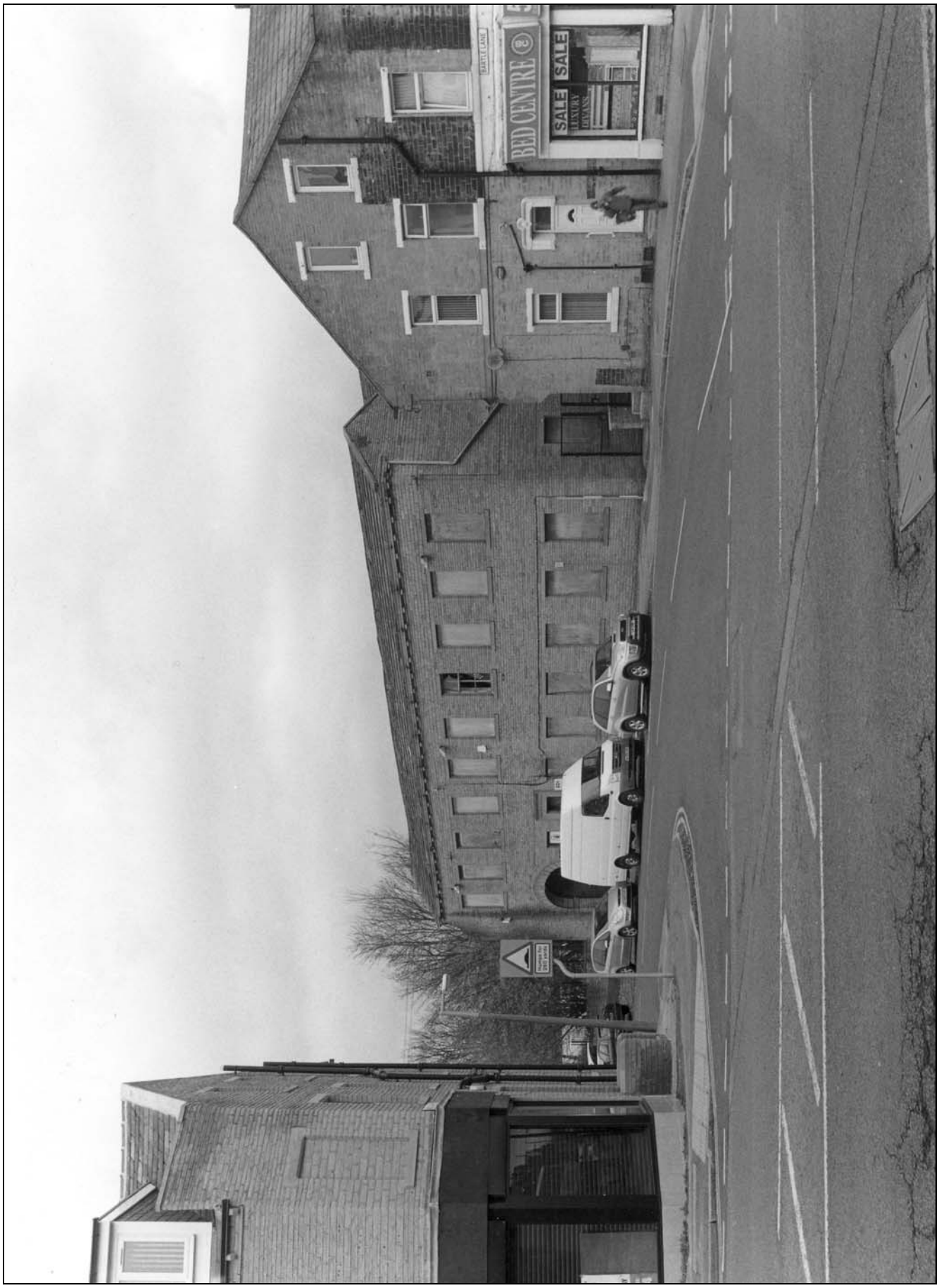


Photo 1: General view of two storey block, from the south-east across Bartle Lane (film 1, frame 5)

Photo 2: General view of two storey block, from the south across Bartle Lane (film 1, frame 1)

Photo 3: Front elevation of two storey block, from the east (film 1, frame 2)

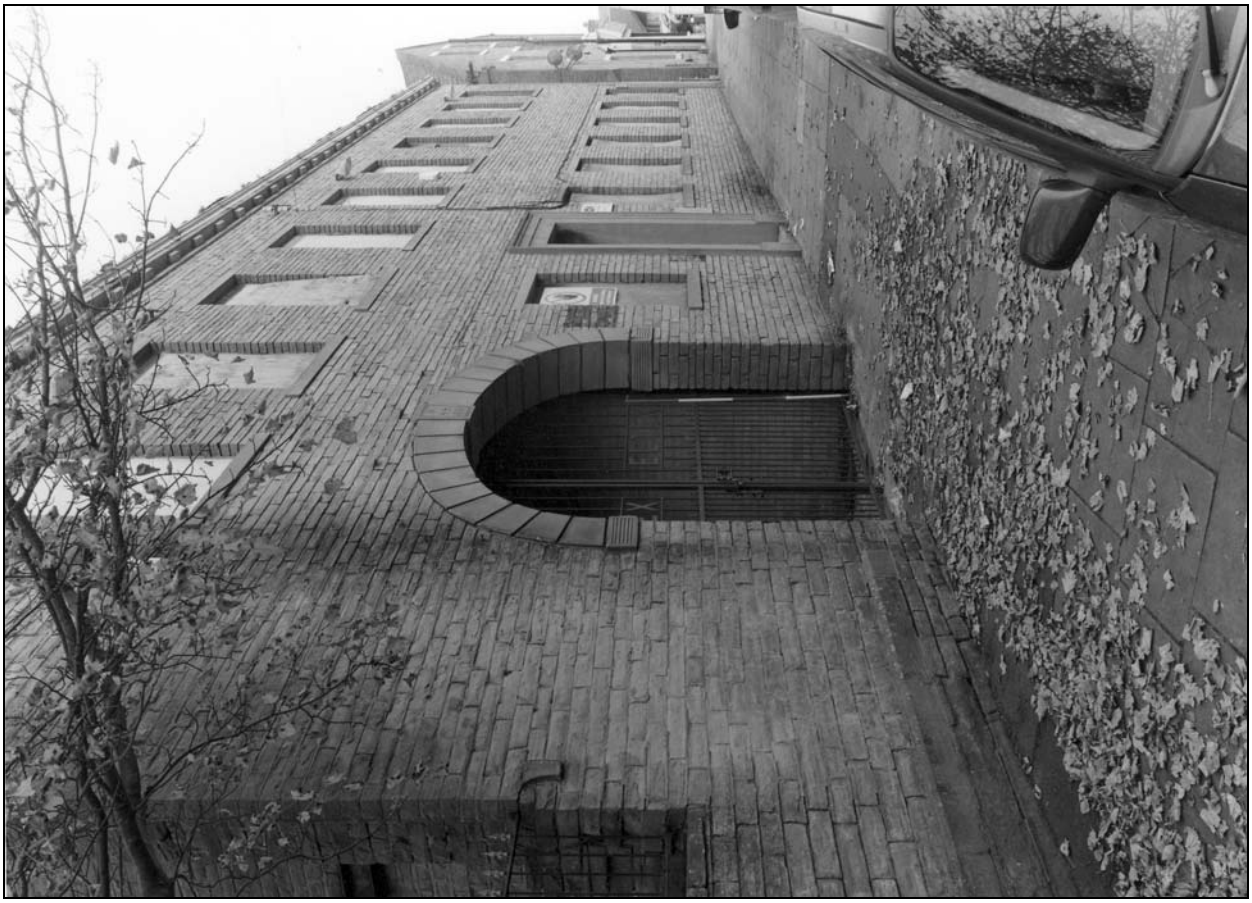


Photo 4: Front elevation of the two storey block, from the west (film 1, frame 12)

Photo 5: Arched entrance to covered passage through two storey block, from the south (film 1, frame 8)

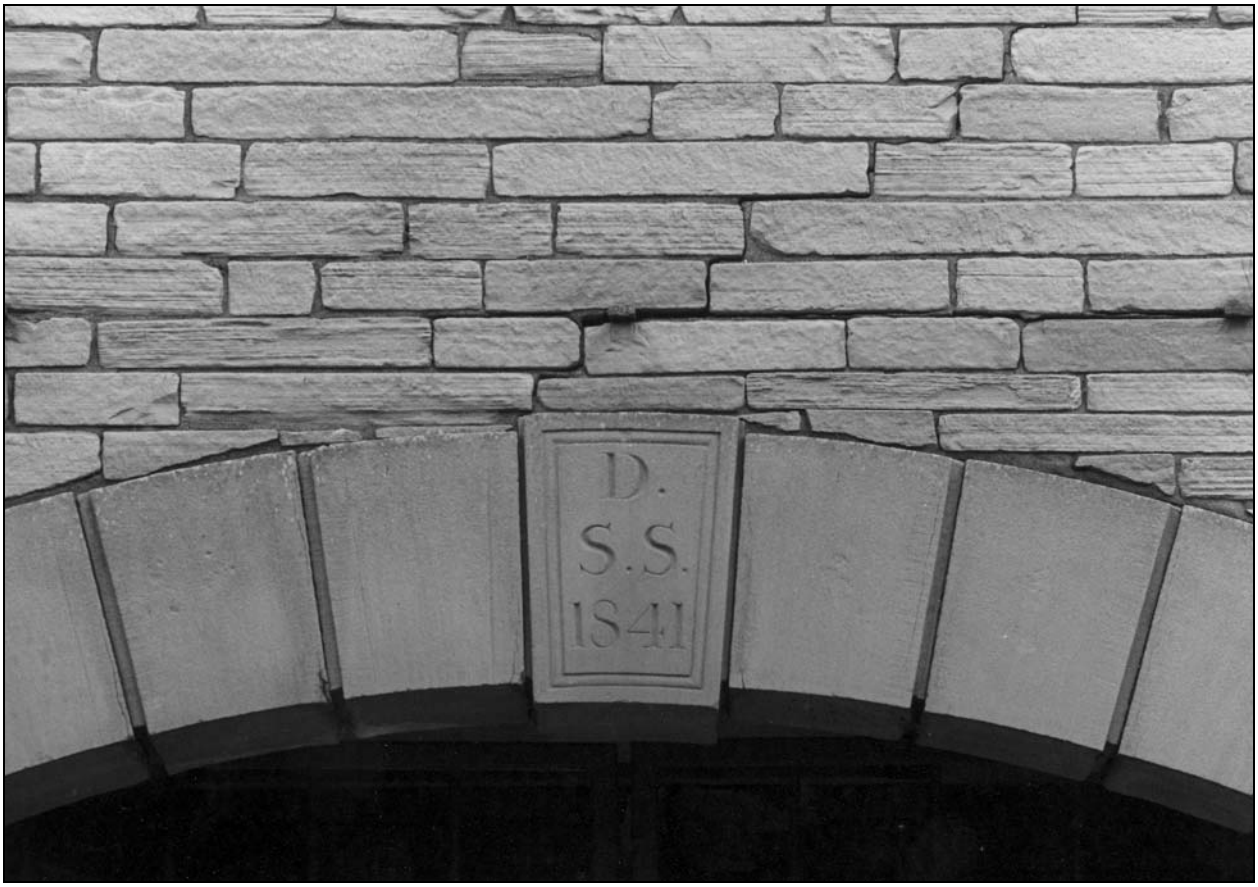


Photo 6: Detail of datestone on arched entrance (film 1, frame 9)

Photo 7: Twentieth century doorway in front elevation of two storey block, from the west (film 1, frame 11)

Photo 8: General view of the site, from the south-west (film 1, frame 13)

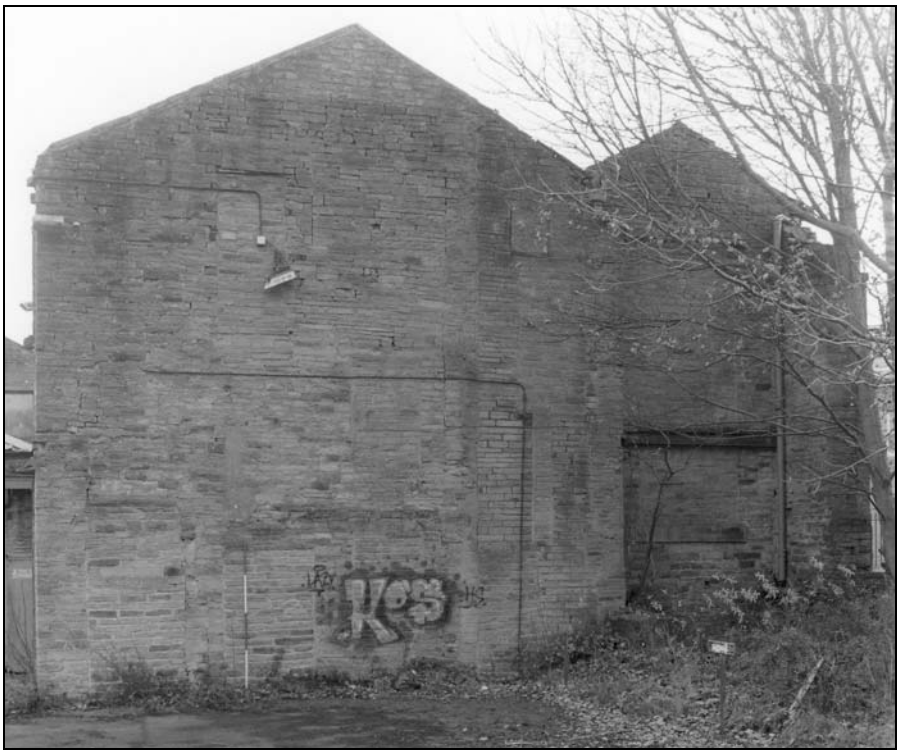


Photo 9: West end of surviving two storey block (following truncation) (film 1, frame 15)

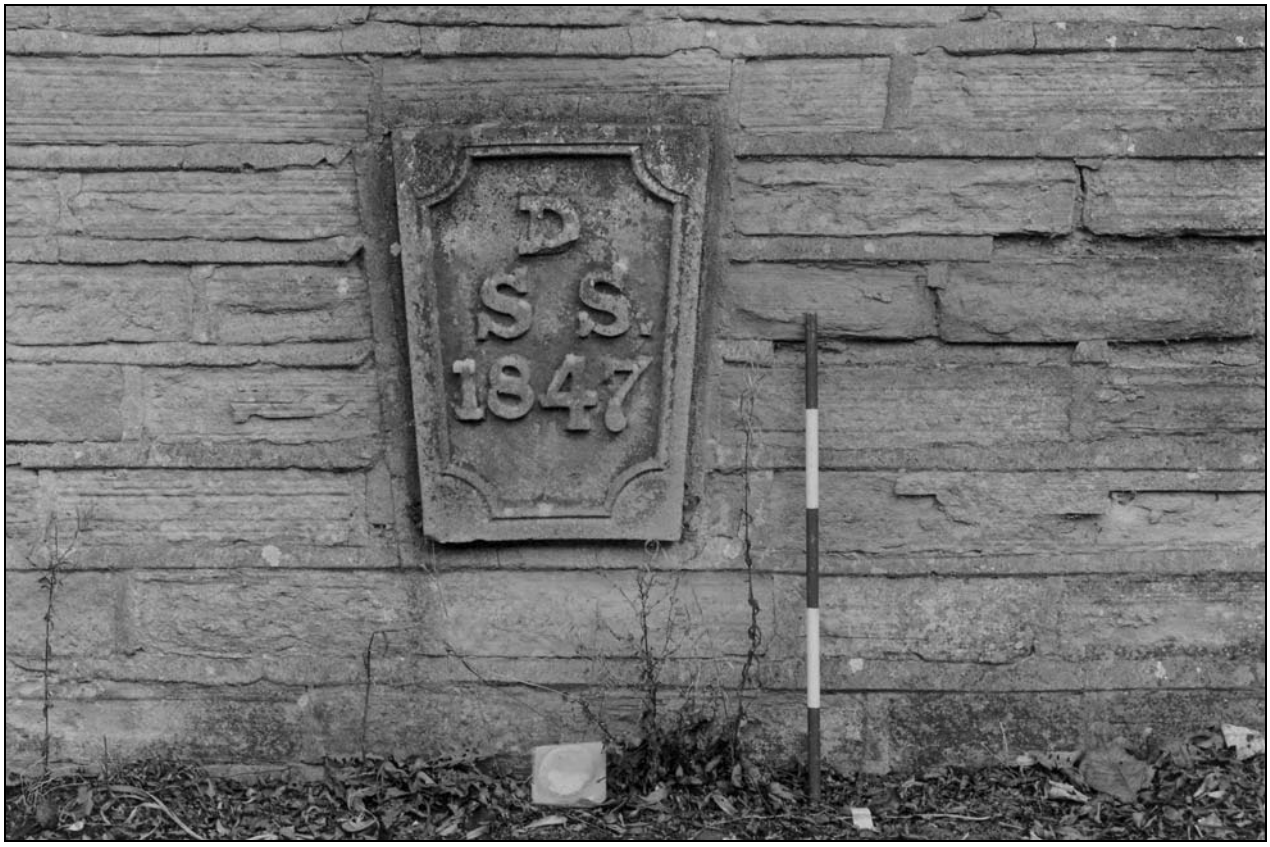


Photo 10: Date-stone formerly adorning demolished block at west end of Bartle Lane frontage (film 1, frame 14)

Photo 11: West end of surviving two storey block, from the north-west, showing possible beam engine house (film 2, frame 2)

Photo 12: General view of two storey block, from the south-east across Bartle Lane (film 1, frame 3)

Photo 13: East end of two storey block, from the south-east (film 1, frame 7)

Photo 14: General view of two storey block, from the north-west (film 2, frame 14)

Photo 15: General view of two storey block, from the north-west (film 1, frame 17)

Photo 16: Rear arched entrance to covered passage through two storey block, from the north (film 1, frame 18)

Photo 17: Rear elevation of two storey block, from the north-west (film 2, frame 18)

Photo 18: Covered passage through two storey block, from the north-east (film 2, frame 1)

Photo 19: Ground floor of two storey block, from the north-east (film 2, frame 7)

Photo 20: Ground floor of two storey block, from the north-west (film 2, frame 6)

Photo 21: Late nineteenth century weaving shed, from the south-west (film 2, frame 17)

Photo 22: Late nineteenth century weaving shed, from the south-west (film 2, frame 13)

Photo 23: Interior of late nineteenth century weaving shed, from the south-east (film 2, frame 11)

Photo 24: Phase two weaving shed, from the west (film 2, frame 12)

Photo 25: Phase two weaving shed, from the west (film 2, frame 4)

Photo 26: Phase two weaving shed, from the north-west (film 2, frame 5)

Photo 27: Interior of phase two weaving shed, from the west (film 2, frame 8)

Photo 28: Interior of phase three weaving shed, from the south-west (film 2, frame 10)

Photo 29: Phase four weaving shed, from the north-west (film 2, frame 15)