



SALFORD
ARCHAEOLOGY
University of Salford

Manchester Life Development Company

3 Ltd

Issue: v2

25/01/24

SA2024/32

Jersey Wharf Ancoats Manchester

Archaeological Evaluation, Mitigation
and Watching Brief



Salford
Environmental
Consultancy

Built / Historic / Natural

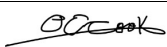


ISO
14001: 2015
45001: 2018



ISO
9001: 2015

Document Information

Location:	Jersey Wharf, Ancoats, Manchester, Greater Manchester		
NGR:	NGR 385266 398767		
Project:	Evaluation		
Planning reference:	133769/FO/2022		
Internal reference:	SECL2436		
Report number:	SA2024/32		
Prepared for:	Manchester Life Development Company 3 Ltd		
Document:	Jersey Wharf, Ancoats: Archaeological Evaluation, Mitigation and Watching Brief		
Version:	V1		
Author:	Julian Thorley and Jordan Perris		
Position:	Archaeologist		
Date:	25/01/24		
Approved by:	Oliver Cook	Signed:	
Position:	Project Manager		
Date:	04/07/2024		
Copyright:	Copyright for this document remains with the Centre for Applied Archaeology, University of Salford		
Contact:	Salford Archaeology, Centre for Applied Archaeology, LG 19 – 26 Peel Building, University of Salford, the Crescent, Salford, M5 4WT		
Email:	O.E.Cook1@salford.ac.uk	Phone:	07760657006

Disclaimer:

This document has been prepared by the Centre for Applied Archaeology, University of Salford for the titled project or named part thereof and should not be used or relied upon for any other project without an independent check being undertaken to assess its suitability and the prior written consent and authority obtained from the Centre for Applied Archaeology. The University of Salford accepts no responsibility or liability for the consequences of this document being used for a purpose other than those for which it was commissioned. Other persons/parties using or relying on this document for other such purposes agrees and will by such use or reliance be taken to confirm their agreement to indemnify the University of Salford for all loss or damage resulting therefrom. The University of Salford accepts no liability or responsibility for this document to any other party/persons than by whom it was commissioned.

CONTENTS

SUMMARY.....	4
1 INTRODUCTION	5
2 AIMS AND OBJECTIVES	7
3 LOCATION, GEOLOGY AND TOPOGRAPHY	10
4 HISTORICAL BACKGROUND	11
5 METHODOLOGY	23
6 ARCHAEOLOGICAL SEQUENCE	25
7 DISCUSSION	76
8 CONCLUSIONS	81
9 ARCHIVE	84
10 ACKNOWLEDGEMENTS	84
BIBLIOGRAPHY.....	85
APPENDIX 1: CONTEXT INDEX.....	88
APPENDIX 2: FINDS REPORT	94
APPENDIX 3 : FIGURES.....	95

SUMMARY

This report details the results of the archaeological evaluation and mitigation, which took place at Jersey Wharf (centred on NGR 385266 398767). Manchester Life Development Company 3 Ltd gained planning consent (133769/FO/2022) for a scheme of works including the erection of 190 residential apartments together with amenity space, car and cycle parking provision, hard and soft landscaping, access, servicing, and other associated works. Archaeological evaluation and mitigation was required to investigate the development site in advance of construction.

Greater Manchester Archaeological Advisory Service (GMAAS) in their role as advisors to the Local Planning Authority recommended a programme of archaeological strip map and record investigation comprising an area measuring approximately 69m by 35m. In February 2023, Salford Archaeology was commissioned by Manchester Life Development Company 3 Ltd to compile a Written Scheme of Investigation (WSI) (Mottershead 2023). The scope of works was informed by previous desk-based assessments (Arrowsmith 2005; Poundall 2023), which revealed the potential for archaeological remains of Jersey Street Mills, which was later converted into tenements.

Salford Archaeology was commissioned to undertake an archaeological strip map record investigation within the proposed development area. This was conducted over 39 days between 2nd January 2024 to the 23 of February 2024. The excavations went to a maximum depth of 1.88m and revealed archaeological deposits dating from the early 19th century to 20th century. The earliest remains were those of Hugh Beaver's mill initially constructed c.1824-31, expanded in the early to mid-19th century and converted into tenements in the 1890s. The survival of key components of the textile mill together with evidence for the mill's residential conversion have generated an important dataset pertinent not only to the study of textile mills but urban living conditions in the 19th and 20th centuries. It is recommended that this report should serve as the final archive report. An article examining the development of the mill and its conversion would constitute an appropriate means of dissemination.

1 INTRODUCTION

1.1 Circumstances of the project

- 1.1.1 Salford Archaeology was commissioned by Manchester Life Development Company 3 Ltd to complete an archaeological evaluation. This report details the results of the investigation which took place within Jersey Wharf, Ancoats, Greater Manchester (centred on NGR 385266 398767). This work was undertaken as part of the development and erection of 190 residential apartments together with amenity space, car and cycle parking provision, hard and soft landscaping, access, servicing and other associated works.



Plate 1: Aerial view of Eliza Yard

- 1.1.2 The requirement for the programme of archaeological investigation as part of the planning process as described in the National Planning Policy Framework paragraph 205 which states that 'Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible.'
- 1.1.3 In response, a programme of archaeological evaluation was proposed in order to inform the Client and Local Planning Authority, Greater Manchester Archaeological Advisory Service (GMAAS) of the location, extent and

significance of any potential surviving archaeological deposits. This was achieved by the excavation of, Areas A, B, C and D within the site area.

2 AIMS AND OBJECTIVES

2.1 Academic Aims

2.1.1 The academic aims of the project were to establish the presence or absence of any buried remains of archaeological interest within the proposed development area and where present to characterise the level of preservation and significance and provide an understanding of their potential. Following consultation with Greater Manchester Archaeological Advisory Service (GMAAS) it was recommended that the evaluation would involve the excavation of a large evaluation area and followed by a watching brief as indicated in Figure 2. The evaluation trench was targeted on the location of the proposed works and were to be excavated to the maximum depths required by those works, only being exceeded where additional information was deemed necessary to an understanding of the stratigraphy and structural sequences encountered.

2.2 Objectives

2.2.1 The principal objectives of the archaeological investigations were:

- To record, as far as is reasonably possible, the location, extent, condition, significance, and quality of any surviving archaeological remains observed;
- To provide sufficient information to enable an informed decision to be made about the need for any additional archaeological mitigation;
- And to make available the results of the work

2.3 Research potential

2.3.1 Further, more detailed research aims may be generated and developed from the results of the archaeological evaluation, with specific reference to the North-West Regional Research Framework (NWRRF). It is envisaged that the evaluation may potentially improve our understanding of the following research questions:

3 LOCATION, GEOLOGY AND TOPOGRAPHY

3.1 Location

3.2 The Site (centred on NGR SJ 85266 98767) is situated in the Ancoats area of Manchester (Plate 1; Fig 1). The Site is bounded by Jersey Street to the north, a grassland area to the east, the Rochdale Canal to the south, and the Flint Glass Works and Flint Glass Wharf (now converted for office and residential use) to the west. The eastern part of the Site is currently vacant and comprises hardstanding and open grassland. The western area of the Site is occupied by a low-rise warehouse and associated parking spaces. There is also a small amount of shrubbery and trees within the Site boundary. The Site lies at a height of approximately 49.7m above Ordnance Datum (aOD).

3.2.1 Topographically, the Manchester conurbation as a region lies within an undulating lowland basin, which is bounded by the Pennine uplands to the east and to the north. The region as a whole comprises the Mersey river valley, whilst the rivers Irwell, Medlock, and Irk represent the principal watercourses in Manchester (Countryside Commission 1998, 125).

3.3 Topography

3.3.1 The underlying solid geology of the area comprised the Manchester Marls Formation, consisting of mudstone, which is overlain by superficial deposits of till (British Geology Society). Due north of the site the solid geology comprises the Collyhurst Sandstone Formation and to the south of Site the solid geology consists of sandstone of the Chester Formation.

4 HISTORICAL BACKGROUND

4.1.1 The following is based on information provided in a desk-based assessment produced by Salford Archaeology in 2023 (Poundall 2023).



Plate 2: Laurent's 1793 map of Manchester and Salford showing the location of the site.

4.2 Beaver's Mill / Jersey Street Mills

- 4.2.1 The development of the Site may be traced reasonably well from the sequence of available historic mapping. The earliest maps that show the study area are Laurent's 1793 map of Manchester and Salford (Plate 2), and Green's map of 1787-1794 (Plate 3; Fig 3). The maps show the streets in Ancoats laid out in a grid pattern, creating a series of regular plots, with development apparently focused on Great Ancoats Street and Newton Lane (Oldham Road) area.
- 4.2.2 Some of the larger streets were named after the original landowning families (George and Henry Cornwall Legh) (Rose et al 2011, 8). The maps indicated that the Site was still rural land in the late eighteenth century. Union Street and New Islington Mill were situated to the south of the Site and houses or businesses were to the north. Jersey Street, which at the time was named Elliot Street, had also already been established.

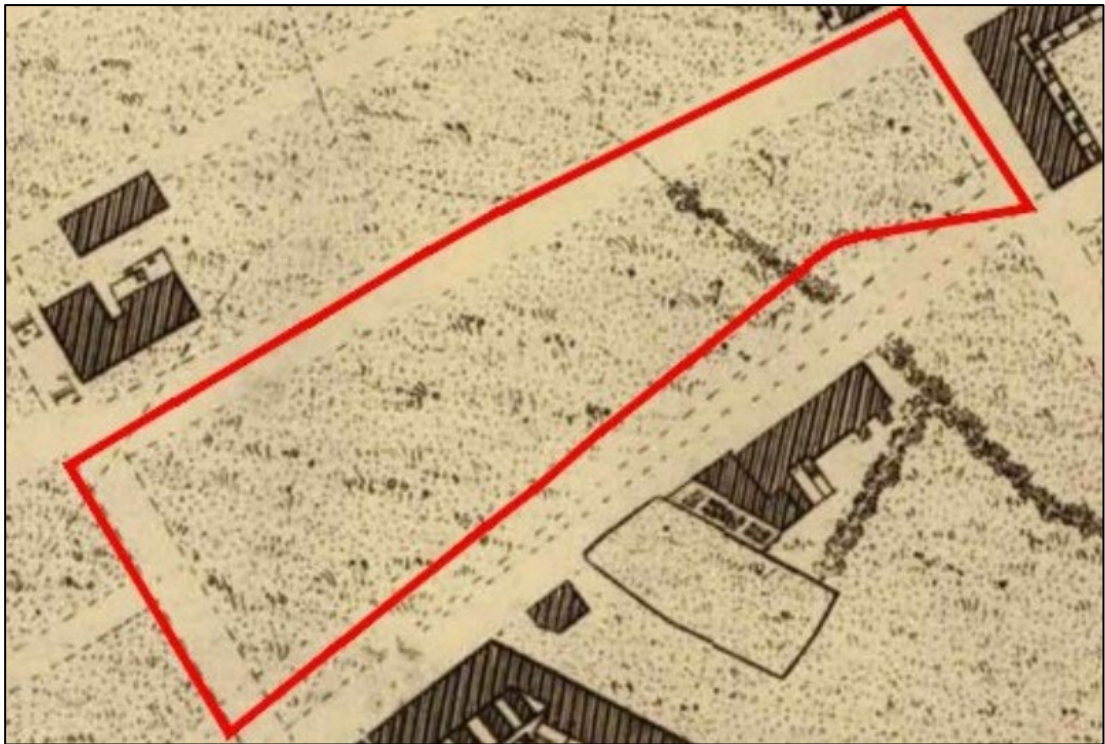


Plate 3: Site boundary superimposed onto Green's map of 1787-1794.

- 4.2.3 By 1820 the Prussia Street arm of the Rochdale Canal had been constructed through the centre of the Site, dividing it into two (Plate 6). The arm was built by 1808 and ran northwards towards Oldham Road and split west into the Bengal Street Arm (Arrowsmith 2005).

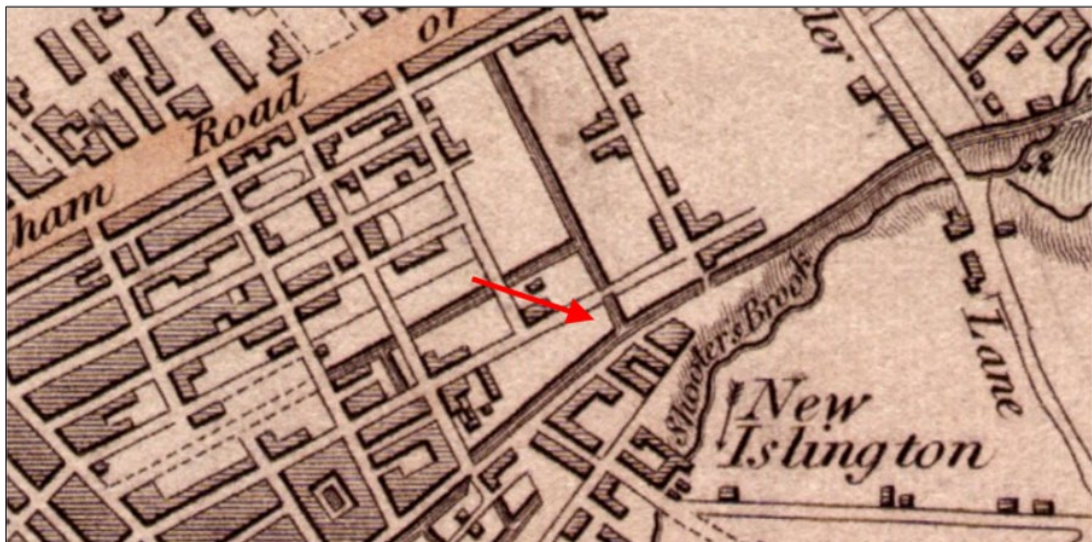


Plate 4: An extract from Johnson's map of 1820 showing the Prussia Street Arm of the Rochdale Canal bisecting the site

4.2.4 However Swire's map shows that by 1824 Elliot Street had been renamed Jersey Street (Plate 5; Fig 4). A rectangular building had been built along the northern boundary of the Site, to the west of the canal arm and the eastern section remained rural. By 1831 the rectangular building had been replaced by Beavers Cotton Mill (Plate 5; Fig 5). The 1831 map also showed the canal arm passing north of the Site, with a narrow bridge crossing it at Jersey Street. Beavers Cotton Mill was opened on Jersey Street by Hugh Beaver as a 'principal mill' by 1825 and it is therefore possible that the rectangular building on the 1824 map was an early depiction of the construction of the mill. By 1829 a 'small mill' had also been added to the complex. The 1831 map showed the largest building at the mill fronting Jersey Street and its eastern end had a short narrow extension along the canal arm. Later mapping showed that this section was seven-storeys high (Plate 16, p. 31). It is possible that the mill's original engine and boiler house were situated at the eastern end (Arrowsmith 2005). The second area ran along the western boundary of the Site, with a short continuation along the canal and was labelled in later mapping as threestoreys. Adjoining this section, running towards the south-west end of the main mill range, was another smaller rectangular building that was five-storeys high. It is possible that this was the 'small mill' added in 1829 (HER 13698.1.0; Arrowsmith 2005). Beavers Cotton Mill was constructed at a time when the market was favourable and numerous new textile mills being established around the fringes of Manchester. It was built amongst a concentration of mill buildings around Jersey Street that contributed to Ancoats' place as an important landmark in the industrial revolution. Murray's Mill complex was built 214m west of the Site from the late-eighteenth century (Historic England 2021a; HER 2043.1.1) and Sedgwick Mill was also established by 1820 308m west of the Site (HER 2130.1.0; Historic England 2021b). Further, Beehive Mill was completed by 1824 140m north-west (HER 2121.1.0; Historic England 2021c).

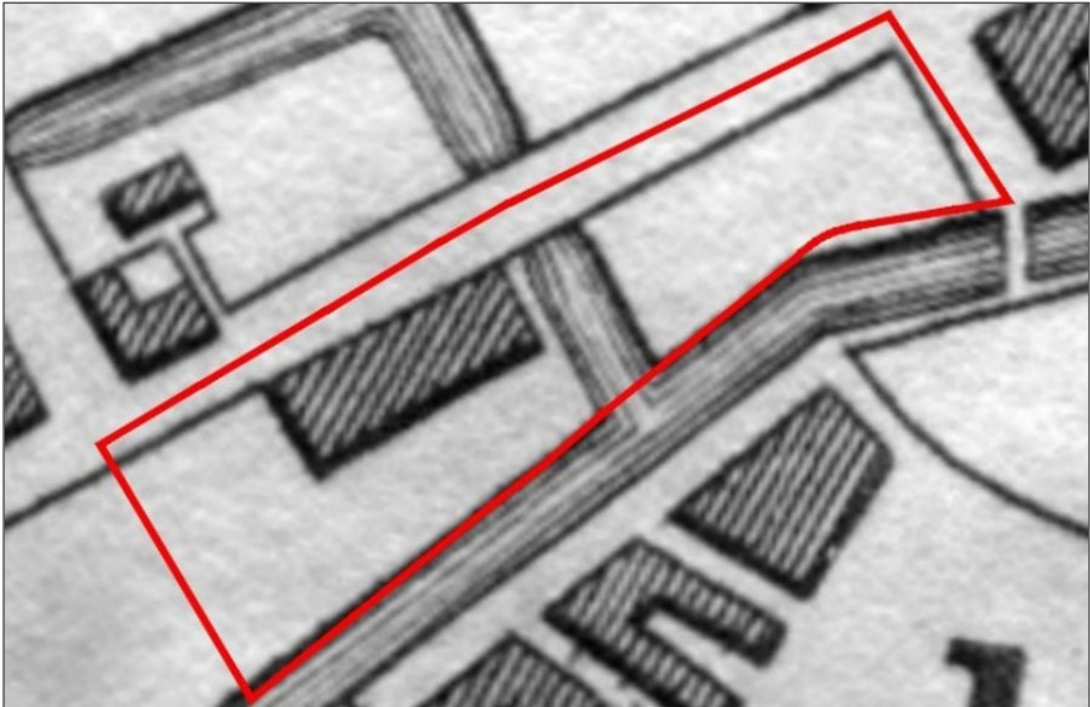


Plate 5: Site boundary superimposed onto Swire's map of 1824, representing the earliest cartographic evidence for the construction of Hugh Beaver's mill/

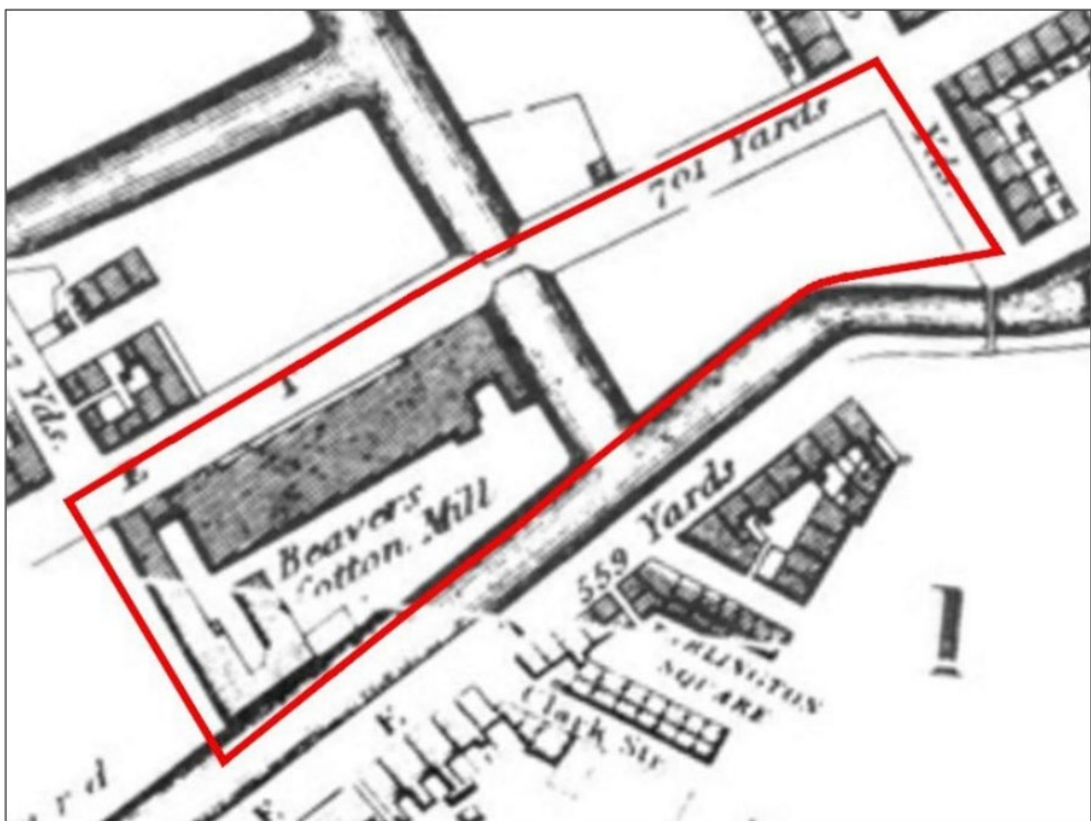


Plate 6: Site boundary superimposed onto Bancks & Co.'s map of 1831

4.2.5 In 1826 it was reported that the cotton mill was damaged as part of the power loom riots. The riots had taken place around various mill towns in Lancashire in protest against the introduction of the more efficient power looms to mills. The introduction of power looms had left many hand weavers out of work. The mill was described as containing 'a considerable number of power looms' and that the rioters: 'immediately began to demolish the windows of the counting-house, and of the lower story of the factory, through which pieces of burning cotton were thrown. The counting-house and the first story were immediately set in flames, which had communicated to the room where the grey goods were kept, before the arrival of the engines.' The damage inflicted at the mill was estimated at a worth of three to four thousand pounds (Edinburgh Annual Register 1826). Another article also stated that the building adjoining the mill was in use as a store-room and housed around two thousand pieces of calico cloth that were also burnt. It claimed that it was only due to the fact that the mill was fireproof that the whole buildings were not damaged (Yorkshire Gazette 6 May 1826). Bancks & Co.'s 1831 map also showed a smaller square building, fronting Jersey Street, that connected the main range of the mill and the store. It is possible that this building was in use as a counting house or an office. The damage caused was not enough to close the mill and in 1829 Hugh Beaver was listed in a directory as a spinner and manufacturer 'by power' at New Cannon Street and Jersey Street (Pigot 1829). It is likely that Hugh Beaver retained ownership of the mill until at least the mid-nineteenth century, when he remained listed as a cotton spinner at 64 Jersey Street (Slater 1850). Detailed maps of the area were produced in the mid-nineteenth century, including the Ordnance Survey town plan of 1851 and Joseph Adshead's map of 1851. The Ordnance Survey town plan showed Beavers Cotton Mill labelled as 'Jersey Street Mills' (Plate 7; Fig 6). A circle was depicted in the south-west of the mill on the map, indicating a possible stair tower. Another building had been constructed at the rear of the mill, adjoining the canal and the stores, and was labelled with an engine house to the south-east. The extension was described as a weaving shed in a later newspaper and had been constructed as early as 1832 (Manchester Times 15 February 1890; HER 13698.1.0; Arrowsmith 2005). The 1851 map also showed that the south-east area of the main original

range of the mill had been extended and labelled with another engine house and boiler at the southeast, which had been added in 1845 (HER 13698.1.0). A chimney was also depicted in the northern section of the building. Within the eastern boundary of the Site a coal wharf associated with Prussia Street had been constructed, where the coal brought to Manchester via the canals was unloaded. Two potential warehouses or stores were also depicted in the wharf. An iron drawbridge was labelled carrying Jersey Street over the canal arm. Adshead's map showed the same layout as the ordnance survey but identified the mill as 'Hugh Beaver's Cotton Mill' and the extensions to the mill could be seen more clearly (Plate 8).

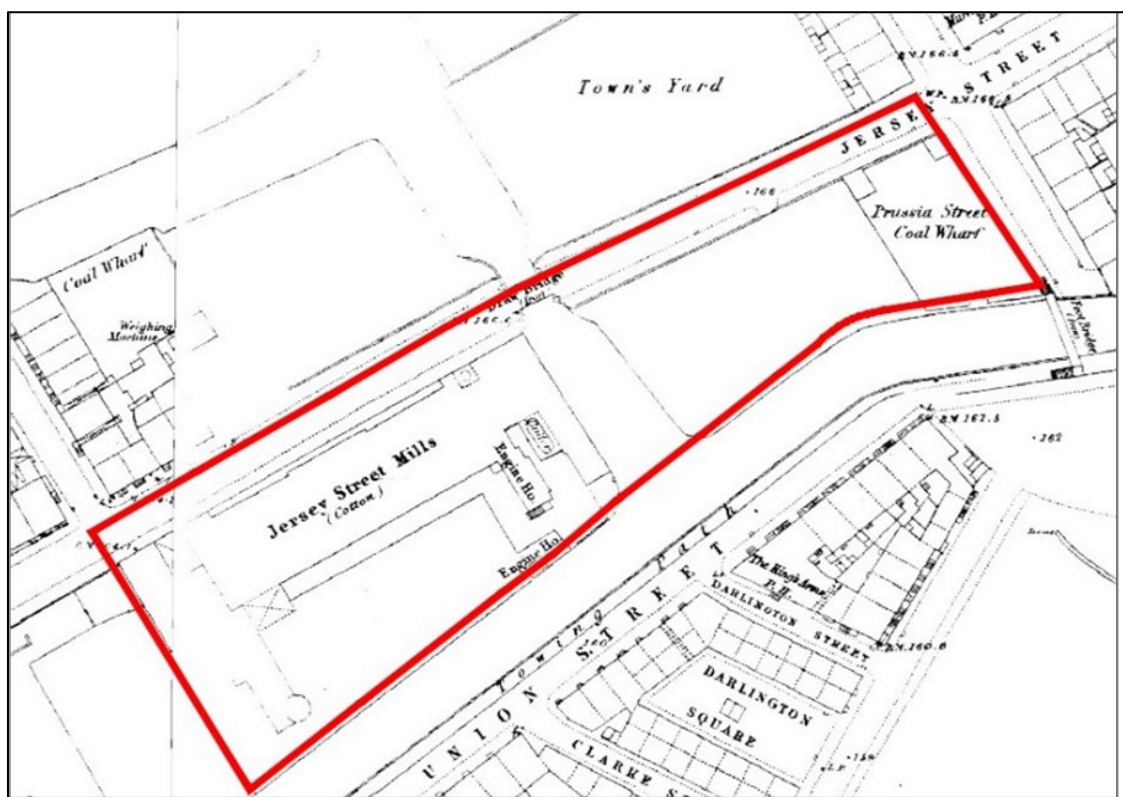


Plate 7: Site boundary superimposed onto the Ordnance Survey Town Plan of 1851 showing Jersey Street Mills

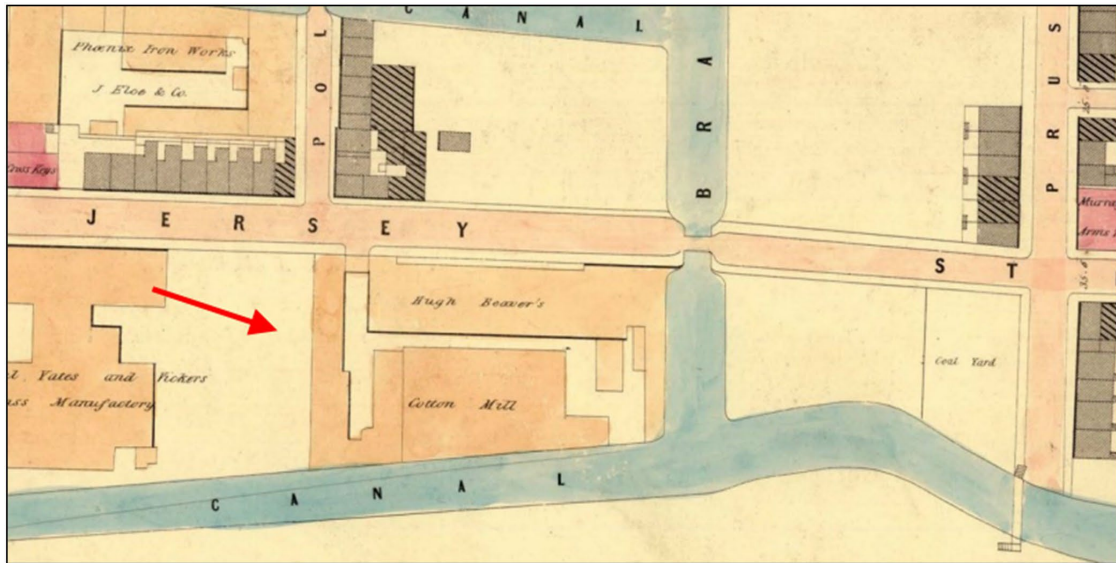


Plate 8: Adshead's map (1851) showing Jersey Street Mills labelled Hugh Beaver's Cotton Mill

- 4.2.6 In the 1860s Thomas Percival & Co. cotton spinners were listed as occupants of the mill on Jersey Street (Arrowsmith 2005). The company were still registered at the mill, under the new name of Percival and Patteson in 1873 (Seyd & Co 1873). It is possible that this was a relative of the Percival that was involved in the neighbouring flint glass works. The Flint Glass Works situated adjacent to the Site boundary has been established by Thomas Percival and William Yates in 1844. They were joined in 1851 by Thomas Vickers and Percival, Vickers & Co Ltd would operate the neighbouring site as a glass manufactory until 1880 (OA North 2004). However, Thomas Percival passed away in 1875 and shares for his part of the business were advertised for sale in a newspaper. Those interested were directed to 'Mr Thomas Percival, Jersey-Street Cotton Mill', amongst others (Manchester Evening News 30 November 1875). It appears that Thomas Percival, a likely relative or son, took control of the Jersey Street Mill through the 1860s and '70s. The mill then became under multiple occupancy (HER 13698.1.0).
- 4.2.7 By 1891 the eastern section of the Site had undergone extensive development (Plate 9). A row of double-depth terraced houses had been constructed along the eastern boundary, fronting Prussia Street and occupying the footprint of the former coal wharf. The buildings were labelled in later maps as 90-100 Prussia Street. Properties had been built to the north of the Site on In the 1860s Thomas Percival & Co. cotton spinners were listed as occupants of the mill on

Jersey Street (Arrowsmith 2005). The company were still registered at the mill, under the new name of Percival and Patteson in 1873 (Seyd & Co 1873). It is possible that this was a relative of the Percival that was involved in the neighbouring flint glass works. The Flint Glass Works situated adjacent to the Site boundary has been established by Thomas Percival and William Yates in 1844. They were joined in 1851 by Thomas Vickers and Percival, Vickers & Co Ltd would operate the neighbouring site as a glass manufactory until 1880 (OA North 2004). However, Thomas Percival passed away in 1875 and shares for his part of the business were advertised for sale in a newspaper. Those interested were directed to 'Mr Thomas Percival, Jersey-Street Cotton Mill', amongst others (Manchester Evening News 30 November 1875). It appears that Thomas Percival, a likely relative or son, took control of the Jersey Street Mill through the 1860s and '70s. The mill then became under multiple occupancy (HER 13698.1.0).

- 4.2.8 By 1891 the eastern section of the Site had undergone extensive development (Plate 9). A row of double-depth terraced houses had been constructed along the eastern boundary, fronting Prussia Street and occupying the footprint of the former coal wharf. The buildings were labelled in later maps as 90-100 Prussia Street. Properties had been built to the north of the Site on Prussia Street as early as 1841 (Census returns for Prussia Street, 1841). However, it is likely that 90-100 were built between 1861 and 1871, when they first appear in the census returns listings. In 1871 those living at the houses on Prussia Street were listed as employed in the textile industry, mechanics, a shoemaker, clerk and tin plate workers (See Table 3). No census returns were listed for the larger irregularly shaped building that would later be labelled as 100 Prussia Street, suggesting that it may have been in use as a store or business. It was irregularly shaped in order to follow the line of the canal. The houses were depicted on the 1891 ordnance survey map with small yards and outbuildings, accessed via a passage from Jersey Street. The properties would see little further development throughout the early twentieth century and remained on the Site until at least 1953 (Fig 11).
- | Address | Household Name(s) | Number of Residents Listed | Occupations of Residents |
|---------------------|-------------------|----------------------------|--------------------------|
| 90 Prussia Street | Beckett; | Royle | 7 |
| Mule Spindle Maker; | Office Boy; | Rough Linen Worker | 92 Prussia Street |

Stapleton; Teby; Pownall 7 Shoemaker; Scholars; Piecer; Warehouseman 94 Prussia Street Young 9 Factory Operative; Servant; Warehouseman; Mechanics 96 Prussia Street Smith 6 Smiths 98 Prussia Street Beattie; Hancock 9 Tin Plate Worker employing 2 boys and 2 men; Tin Plate Worker; Clerk; Sewing Machinist; Scholars Table 3: 90-98 Prussia Street, Ancoats, Manchester, Lancashire, England, 1871 By the late nineteenth century the City of Manchester Screw Bolt Works had also been constructed within the Site, shown with a chimney in the north-west (Plate 9). To the east, a stone mason's yard had also been established. The two-storey building fronted Jersey Street with a rear yard that had open-sided sheds on either side and a travelling crane was labelled in the centre (HER 13699.1.0). It is likely that these buildings were constructed between 1865 and 1869 when William Archibald was listed as a screw and bolt maker at Jersey Street, and Clapham & Kirkham were listed as stone masons (Arrowsmith 2005). Archibald was also listed at Jersey Street in 1876 as a screw bolt and rivet maker 'by new and improved machinery' (Slater 1876).

- 4.2.9 A potential store/building was also constructed in the yard of the south-west section of the Jersey Street Mill between 1851 and 1891. Further, the areas previously labelled as an engine and boiler house were removed. A permanent full width bridge also passed Jersey Street over the canal arm at the north of the Site, and partially fell within the Site boundary. The 1891 map also showed the canal arm with a more narrow and straight alignment than that on the 1851 map. It is possible that the canal arm was modified when the works were constructed in the eastern half of the Site (Arrowsmith 2005).

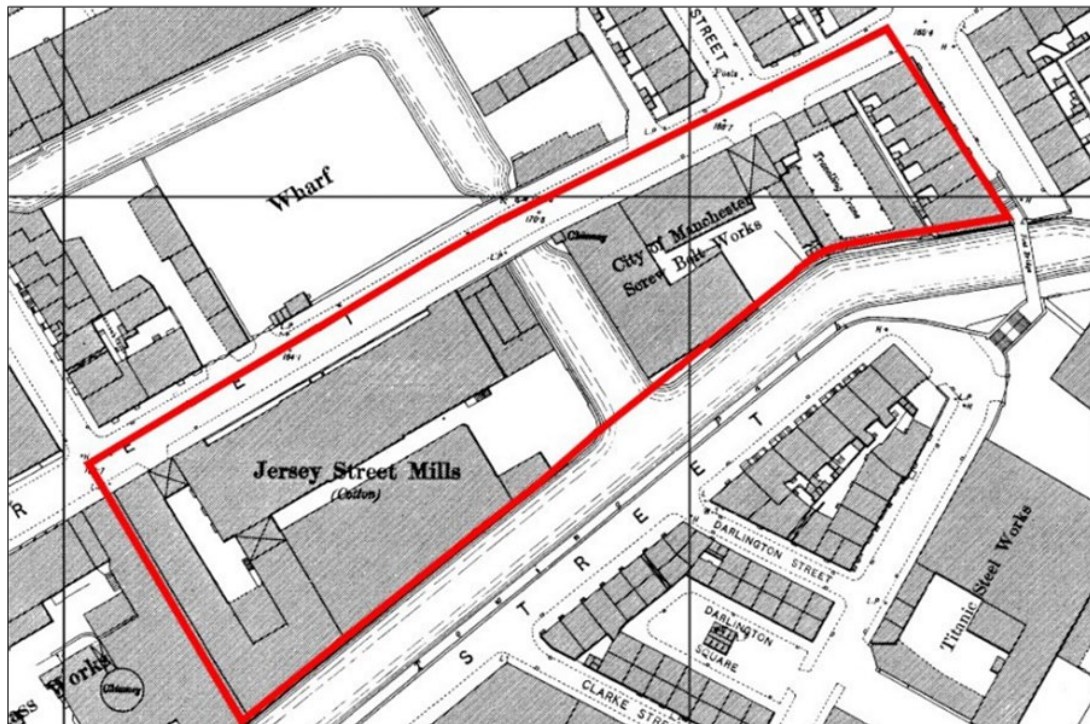


Plate 9: Jersey Street Mills shown on the OS Town Plan of 1891

4.2.10 In 1888 the Jersey Street Mills were advertised for a yearly rent of £132.18s (Manchester Courier and Lancashire General Advertiser 13 October 1888). By 1890 it was described as an 'old disused Manchester Mill' and plans had already been passed to convert the 'shell' of the seven-storey mill into 'a great block of dwelling houses' (Manchester Courier and Lancashire General Advertiser 5 February 1890; Manchester Times 15 February 1890). There had been significant acts introduced during the nineteenth century to improve living conditions in Manchester. However, by the 1880s a series of medical reports produced by the medical officer at the time, Dr Leigh, had described the slums of Manchester and the still prominent issue of housing and sanitation. In 1890 the Artisans and Labours Dwellings Improvement Act was amended, meaning that the local authority was to take responsibility for the construction of new dwellings, and it was only after this that slum clearance and regeneration began in earnest in Manchester (Pearlman 1956). Soon after, the first municipal housing development, known as Victoria Square, was constructed in Ancoats (Gould 1895; Historic England 2021d; HER 8504.1.0). The block was built to house the mill workers of Ancoats who were moved from the slums

and was followed shortly by the development of model housing in adjacent Sanitary Street, now Anita Street.

- 4.2.11 The architect, C. J. Maycock, visited Manchester and Liverpool to assess the practicality and financial security of the new model housing schemes. He suggested that new buildings should only be constructed in Manchester under exceptional circumstances and believed that the only way to house families of the lower classes comfortably and cheaply was to find a suitable old building that could be remodelled instead into a flat system. This concept would also not need as much ground as it would to construct new cottages. Plans were then prepared by Maycock to convert the then unused Jersey Street Mill into dwellings. Unlike the Victoria Square and Anita Street developments, which were new purpose-built schemes, the conversion of the mill for residential use which was to be the first act of its kind (Gould 1895). Maycock's plan was supported by the Medical Officer of Health and the Corporation, and was described as 'a much needed reform in work-people's dwellings' (Manchester Courier and Lancashire General Advertiser 17 March 1891). The Manchester Times newspaper reported on the proposed scheme and claimed that the whole cost of transforming the mill into dwelling houses was estimated to cost £20,000. The article described the state of the buildings before they were converted and some of the changes that were to take place, including that the chimney was to be removed and cleaners and painters would remove the 'sooty tinge' from the brick walls. The windows were also to be fitted with larger panes, making the rooms brighter and the provisions of the Factory Act dictated that the walls be washed with white lime to stop the spread of disease. To further enhance cleanliness, the stone flags on the floors were to be replaced with concrete which was warmer and easier to clean. The weaving shed at the rear of the Site was also to be demolished to make space for a children's playground (Manchester Times 15 February 1890). The Manchester Times wrote a follow up article four months later and included a copy of Maycock's plan of the proposed scheme (Plate 10). The plan showed that the dwellings were to be reached via external balconies and four staircases, two at each end of the main mill building and the proposed outdoor children's playground in place of the former weaving shed (Manchester Times 14 June

1890). It was also proposed that a Co-operative Provision Store was to occupy part of the premises (Manchester Courier and Lancashire General Advertiser 21 January 1891). By 1891 the Manchester Labourer's Dwellings Company was registered and entered into an agreement to purchase the mill. The company's objective was 'to provide for labourers and others resident in Ancoats and elsewhere healthy and sanitary dwellings at the lowest possible cost', something which Maycock's plan for the Jersey Street Mill would provide (Manchester Courier and Lancashire General Advertiser 21 January 1891).

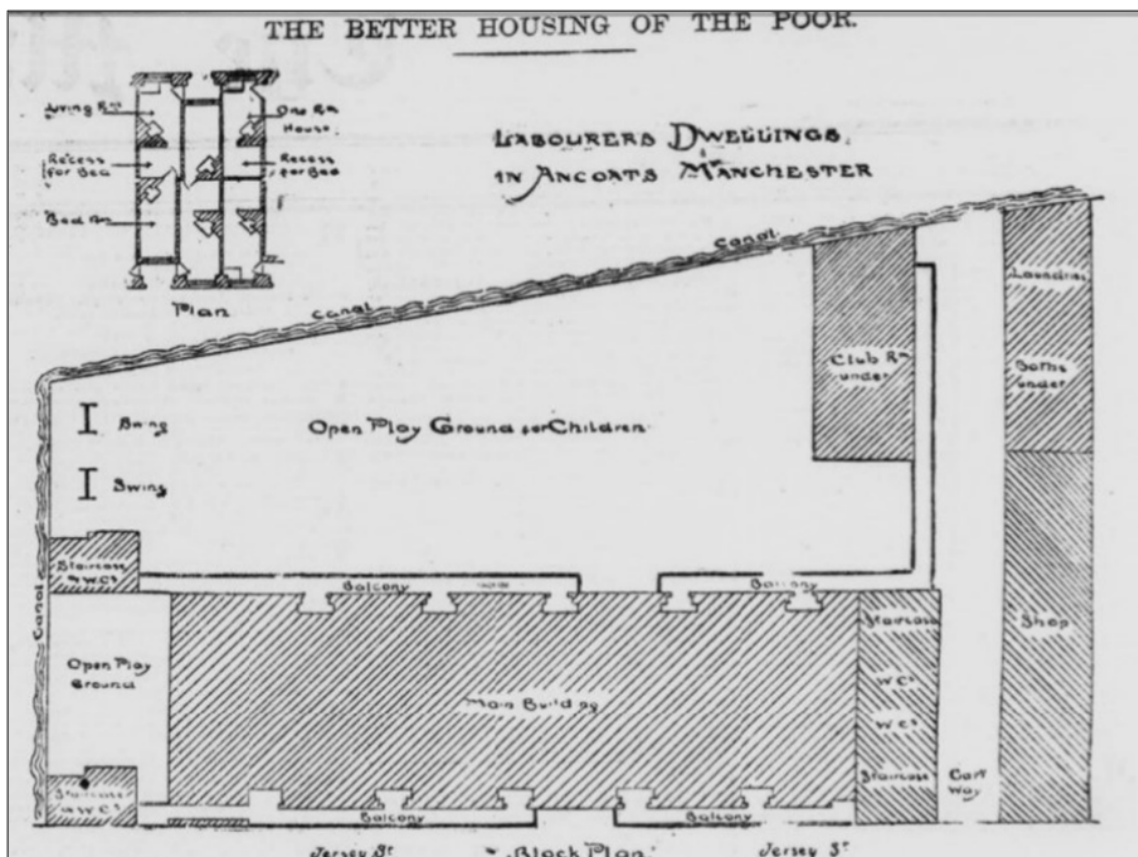


Plate 10: Copy of a plan of the proposed dwellings (Manchester Times 14 June 1890)

4.2.12 The Jersey Street Mill was converted into 149 dwellings and the homes were opened by the Mayoress of Manchester in 1892, by which time 105 of the flats had been let (Coventry Evening Telegraph 31 May 1892). They were 'intended as a first step towards the provision of sufficient healthy accommodation for those of our artisans who are compelled to live in crowded portions of the city' (Empire News & The Umpire 29 May 1892). Writing the year after the mill was

repurposed, the architect Thomas Worthington described the 'original undertaking' and provided a useful description of the dwellings. He stated that: *'The several tenements are entered from balconies, which are reached by 4 staircases, one at each angle of the main building. Single-room dwellings are provided on two floors of the main building, and have a recess screened off for the bed. On the remaining floors are provided two and three-roomed dwellings, each having one of two recesses for beds, thus practically adding one or two more compartments to each dwelling. Sinks are provided for each house, with hot and cold water supply; gas being laid on to each tenement, stairs, etc. Each dwelling is provided with a receptacle for coals. The water-closets on each landing are flushed automatically, and dust-shoots extend from landing to landing. Laundries and drying room, with club-rooms for men and women, and a co-operative store are provided'* (Worthington 1893, 154-155).

- 4.2.13 Worthington also included a drawing of the layout of the built flats (Plate 13), which showed two of the four main staircases and toilets with dust-shoots at the back of each and an ash-pit adjacent. These were placed at the end of each balcony and were separated from the main structure by heavy brick walls. There were also no internal corridors or staircases in the buildings and the balconies were separated at the middle.

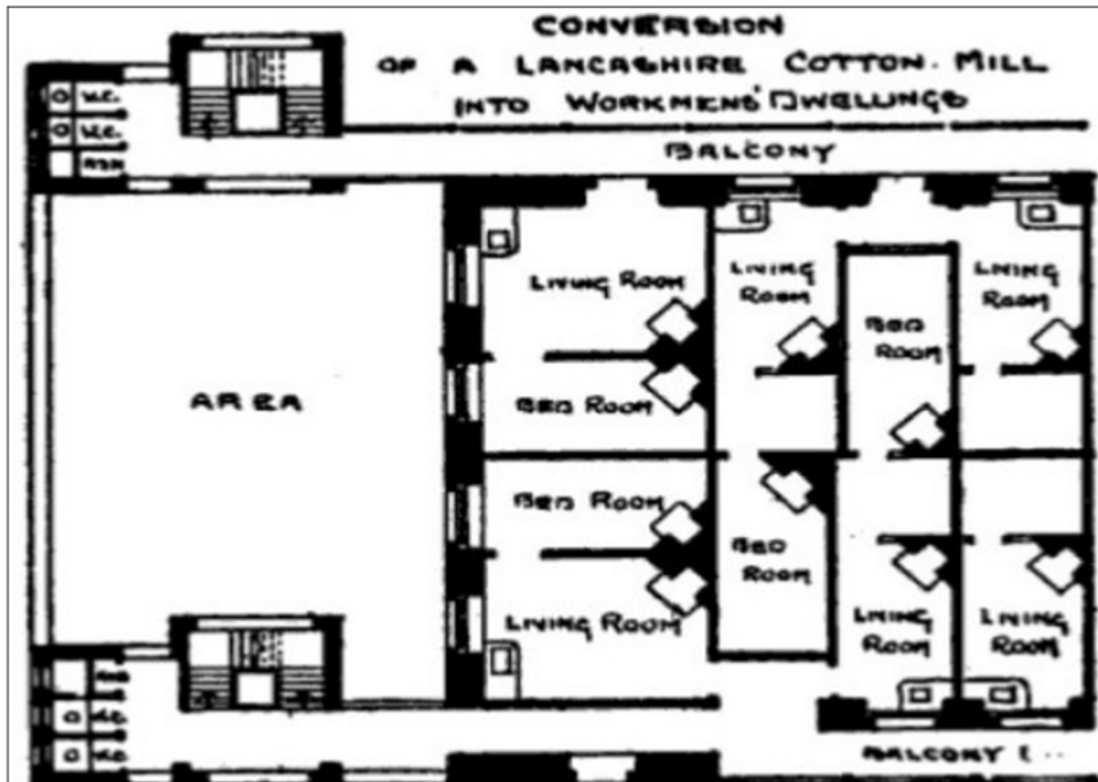


Plate 11: Plan of the dwellings (Worthington 1893, 81)

4.2.14 This meant that tenants at the flats could only access their property via one set of stairs at either side of the rear or the front balcony. Between four to seven families would use the same corridor (Gould 1895). Each tenement had a wedged shaped fireplace that jutted out from the wall with a space at the end that could be used as a bed recess, creating the appearance of two or three rooms (Manchester Times 15 February 1890).

4.2.15 In 1895 Gould wrote a report on the houses of working people, within which he provided another plan of the block buildings (Plate 14) and an in-depth description of the converted mill at Jersey Street. He stated that:

'the area of the property is 28,202 square feet, about 44 per cent of which has been covered with buildings. The courtyard is covered with cinders, and there is besides a stone paved walk. The principal building contains seven stories, and the smaller five stories. Brick is the material of construction. The roofing is of slate, and the stairways are of concrete and iron. The floors are concrete laid upon brick vaulting, so that every arrangement has been made to secure fireproof quality. There is a cellar, which is likewise concreted, and in which

there has been placed a large boiler for the purpose of supplying hot water' (Gould 1895, 257).

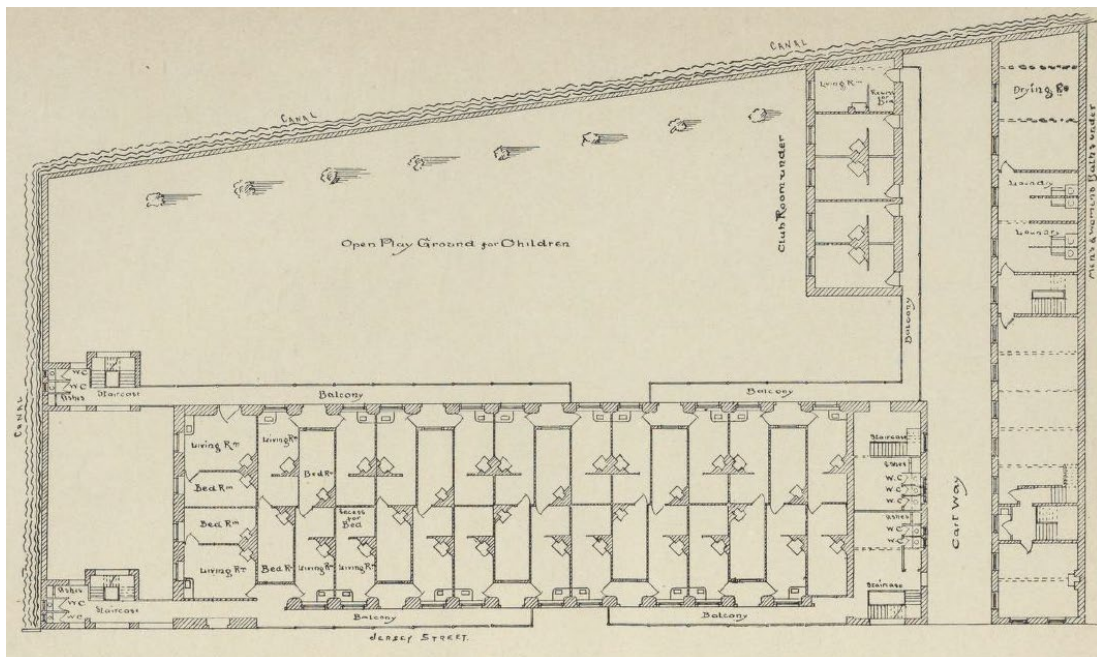


Plate 12: Plan of the dwellings (Gould 1895, 256)

4.2.16 Gould also claimed that 'every detail of arrangement has been subjected to the approval of the municipal authorities and the model sanitary conditions have been complied with' (Gould 1895, 258). The mill was converted to provide better and safer housing for those residing in it. The toilets automatically flushed, and the seats were hinged and weighted so that they didn't need to be touched. Hot and cold water was continuously supplied to every kitchen for no charge and sinks were placed under the taps. Gas was turned off at 11pm but was also supplied for free. Residents were also supplied with cooking ranges, kitchen cupboards and a fire grate in each bedroom. The fuel box was filled from the outside through an opening in the wall. Further, the company removed any waste daily (Ibid).

4.2.17 The layout of the flats was also designed to ensure that there was good ventilation. The ceilings were 9-ft 6-in high and each two-room dwelling was between 3,092- 3,677 cubic feet and had ventilation through from the front to back, with windows and doors that opened on to the street and court. One-room dwellings were 1,700 cubic feet and were built back-to-back with ventilators opening to the chimney. It was believed that air would enter through

the windows and gratings were placed on the ceilings to remove impure air into flues and carried above the roof. The stairways were also kept partly open to encourage air flow (Ibid).

- 4.2.18 Gould's plan showed the full L-Shaped form of the buildings (Plate 12). 'Club Rooms under' was labelled near to the five-storey tenements adjacent to the canal. A fund was set up by the company to provide social activities at the dwellings and clubrooms for both men and women were included on the premises with entertainment and lectures provided by the company. Newspapers and games were also prominent in these areas. The two buildings were shown as separated by a cartway and drying and laundry rooms were also labelled. Use of the laundry facilities would cost residents 1d. per hour. Another label stating 'Men and Women's Baths Under' was also present on the plan. As well as laundry facilities, the people of Jersey Street dwellings were able to make use of both hot and cold-water baths which would also cost them a fee of 1d (Ibid).
- 4.2.19 Three photographs were taken outside the Jersey Street dwellings. The first photograph showed children outside of the dwellings in 1893 (Plate 13). The second was taken the same year and showed a children's service being held (Plate 14). It is likely that the images were taken at the rear of the building, in the children's playground. The service is being held by the Manchester and Salford Wesleyan Methodist Mission who were based at Central Hall, built in place of Oldham Street Chapel in 1886. The mission carried out a lot of social work around Manchester and also ran a number of homes and hostels for the lowest sections of society that were in need (https://secure.manchester.gov.uk/info/448/archives_and_local_history/7383/methodist_records). A third photograph was taken in 1900 of another children's service held by the mission, suggesting that it was a re-occurring event at the dwellings (Plate 13). In the background of the images the external balconies running along the converted mill can be seen with residents talking, watching the service, and hanging washing.



Plate 13: Housing at Jersey Dwellings, Ancoats, 1893
(<https://images.manchester.gov.uk/index.php?session=pass>)



*Plate 14: Central Hall, children's service Jersey Dwellings, Ancoats, Manchester, 1893
(<https://images.manchester.gov.uk/index.php?session=pass>).*



*Plate 15: Photograph of children at Jersey Street, 1900
(<https://minerva.manchester.ac.uk/manchester-art-museum/items/show/140>)*

5 METHODOLOGY

- 5.1.1 The archaeological works was undertaken according to the written scheme of investigation. The principal aim of the archaeological evaluation was to establish the presence or absence of buried archaeological remains on the site and, if present, characterise the nature, date, level of preservation and significance, and provide a good understanding of their potential. The excavation was concentrated on areas likely to contain archaeological remains important to the North West Research Framework. This information was obtained from mapping on the area. The trenches were designed around the areas with the most industrial development containing former back to back workers housing associated with the Jersey Mill and other growing industry in the immediate area.
- 5.1.2 All archaeological work was conducted following the Chartered Institute for Archaeologists' (CIfA) '*Standards and Guidance for an Archaeological Evaluation*' (CIfA 2020 [a]). Prior to the commencement of any excavation works, the location of the area targeted for archaeological investigation was laid out accurately with respect to the Ordnance Survey national grid. The position of the trenches was then scanned for live services using a cable avoidance tool. The excavations were regularly scanned as work progressed.
- 5.1.3 Machine excavation was used to carefully define the extent of any surviving structures, features, and other remains. This was carried out using a mechanical excavator of appropriate size and power, under the supervision of an experienced archaeologist. Thereafter, remains were cleaned manually to define their extent, nature, form, and where possible, date.
- 5.1.4 Once the extent of buried archaeological remains was established, they were then subject to detailed archaeological excavation and recording by trained professional archaeologists.
- 5.1.5 All contexts were recorded using *pro-forma* sheets, and details were incorporated into a Harris matrix. All written recording of survey data, contexts, photographs, artefacts and ecofacts were cross-referenced from record sheets using sequential numbering.

- 5.1.6 A full and detailed photographic record of individual contexts was maintained and similarly general views from standard viewpoints of the overall site at all stages of the excavation was generated. Photography was undertaken in accordance with Historic England's guidance, '*Digital Image Capture and File Storage Guidelines for Best Practice*' (Historic England 2015). All frames will include a visible, graduated metric scale. Photograph records will be maintained on photographic *pro-forma* sheets.
- 5.1.7 The precise location of all archaeological remains encountered was surveyed using a GPS survey. This process generated scaled plans within AutoCAD, which were then subjected to manual survey enhancement. The drawings were generated at accuracy appropriate for 1:20 scale but can be output at any scale required. All information was geo-rectified to the Ordnance Survey National Grid and all levels were tied into Ordnance Datum.
- 5.1.8 The finds recovery and sampling methodologies were undertaken in accordance with current ClfA guidelines '*Standards and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials*' and were subjected to expert advice in order to minimise deterioration (ClfA, 2020). Finds storage during fieldwork and any site archive preparation will follow professional guidelines.
- 5.1.9 Following the completion of the evaluation, each trench was backfilled and compacted with the machine bucket.

6 ARCHAEOLOGICAL SEQUENCE

6.1.1 Introduction

6.1.2 The archaeological investigation of Jersey Wharf comprised a large open-area excavation targeted on the mill complex known as Beaver's Mill, also Jersey Street Mill and latterly converted into the Jersey Street Dwellings. The mill buildings were exposed across four contiguous areas, A-D, which encompassed the mill's engine and boiler houses and later stair tower (A), the principal mill (B), part of the western range (C) and the small mill, circular stair tower and part of the adjoining weaving shed (D).

6.1.3 The mill and later buildings were attributed to five archaeological phases which are described below:

- Phase 1: Early-19th century
 - Canal arm construction (c. 1808)
 - Phase 1a: Bengal Arm of the Rochdale Canal
 - Construction of the Early Mill (1824-31)
 - Phase 1b: Principal mill, engine and boiler houses and western range (1824-5)
 - Phase 1c: Small mill (1829)
- Phase 2: Mid 19th-century alterations (1832-45)
 - Phase 2a Weaving shed (1832)
 - Phase 2b Engine and Boiler House (1832-45)
- Phase 3: Mid to late 19th-century alterations (1845-1890)
- Phase 4: Late 19th-century conversion (1891-1893)
- Phase 5: Modern
 - Late-19th to Mid-20th-century use and demolition (1893-1948)
 - Erection of the engineering works / warehouse (1960s)

6.2 Geology

6.2.1 The natural (214) consisted of firm mid yellowish-orange silty boulder clay with infrequent inclusions of small angular and sub angular stones.

6.3 Phase 1: Early 19th century

6.4 Phase 1a: Construction of the Bengal Arm of the Rochdale Canal

6.4.1 The Prussia Street Arm of the Rochdale Canal was built in the intervening years between 1805 and 1808. It ‘ran northwards towards Oldham Road, along the former route of Buckle Street, shown on Laurent’s plan of 1793’ and ‘split west towards Bengal Street, known as the Bengal Street Arm’.

6.4.2 Archaeologically, only part of the stone coping of the canal arm was observed during the excavation [2077]. The copings [2077] comprised dressed sandstone blocks, each measuring 8.84m in length. A more thorough investigation of the canal arm was completed in 2023 as part of the canal bridge dismantling (Addis and Stitt 2023), confirming the construction and dimensions of the canal arm as it passed under Jersey Street. The wall uncovered in the eastern half of the excavation runs along the same alignment as the structures investigated in 2023.

6.5 Construction of the Early Mill 1824-31

6.5.1 Documentary and cartographic evidence demonstrates that the earliest mill buildings were constructed over approximately five years between 1824 and 1829. The excavated remains of the mill, as initially constructed during this period (c.1824-29), included the foundations of: the seven-storey ‘principal mill’ completed in 1825, which was built along Jersey Street; a narrow 3-storey western range, believed to be broadly contemporaneous with the main mill; and the five-storey ‘small mill’ constructed in 1829, which stood immediately to the north of the Rochdale Canal.

6.6 Phase 1b: Principal Mill (1824-5)

6.6.1 A large portion of the principal mill’s original footprint was exposed during the excavation. The principal mill consisted of a rectangular building, which had an overall length of 52.33m (171 ft 8 in) and measured between 12.80m (42 ft) and 14.84m (48 ft 8¼ in) in width, with two slightly projecting wings on the Jersey Street elevation. Internally, the mill was divided into three areas. The south-western end was taken up by a cellar, with an internal footprint of 10.77m

(35 ft 4 in) by 4.53m (14 ft 10½ in). The remainder of the mill's internal footprint covered an area of 45.91m (150 ft 7¼ in) by 12.80m (42 ft) with part of the north-eastern end (4.53m) given over to an internal engine house.

- 6.6.2 **The mill walls:** some of the earliest structural remains included remnants of the mill's four large external walls, which formed the north-western [252]=[269]=[2023], north-eastern [2090], south-eastern [250]=[255]=[2063] and south-western [241] sides of the building. The walls comprised red hand-made red brick (brick dimensions: 240mm x 110mm x 80mm) set in lime-based mortar and laid in English Garden Wall bond. The north-western and south-eastern walls ranged in width from 0.83m to 0.98m, whereas the north-eastern and south-western walls were slightly slenderer and ranging in width from 0.61m to 0.75m.
- 6.6.3 **Cast iron columns:** the excavation revealed evidence for the mill's cast-iron framing in the form of column bases, which were ascribed a group number [271] (Plates 16-17). The column bases were arranged in two rows along the longitudinal axis of the building. This arrangement originally incorporated around 30 columns, of which only 11 were exposed during the excavation. The surviving bases likely consisted of a brick foundation, although not observed, with overlying sandstone pads. The upper surface of the pads had recessed attachment points for rectangular cast-iron plates (17 ½ in x 16 ½ in) featuring cupped cast-iron sockets (internal diameter: 0.112m), designed to receive the foot of a cylindrical column. Several retained a hemispherical collared foot, which sat neatly within the socket. The foot was clearly detached from the upright column, representing a deviation from the Type-1 columns recorded elsewhere in Manchester, such as at Salford Twist Mill (Miller 2024).
- 6.6.4 The columns were each spaced at 2.74m (9ft) intervals. The rows of columns were set 14ft from mill's external walls and 14ft apart.



Plate 16: Plate [271] in context, facing northeast, 1m scale

6.6.5 **Mill Floor:** Overlying the natural was bedding layer (260) of firm black clinker, above which was a flagstone surface [266] original to the mill. The surface survived sporadically and mainly survived as rows of flags, which were retained as foundations for internal divisions and fireplaces installed during the later conversion of the mill (Phase 4). The floor [266] comprised sub-rectangular cleft sandstone flags of varying sizes (Plates 16 and 18). The floor surface [266] was recorded over an area of approximately 17.50m x 10.25m and was typically 0.18m thick.



Plate 17: Column base [272] with iron plate and socket. Note the retention / reuse of the flagstones from the original mill floor (1m, 0.50m and 0.25m scales)



Plate 18: detail shot of surface 266 with cut holes for machine fittings, vertical, 1m scale



Plate 19: Engine House looking north-west (2 x 1m scales)



Plate 20: Detail shot of iron holding-down bolt within [2094] vertical photo, 0.25m scale

- 6.6.6 **Power Systems:** a 60-hp double-acting crank (beam) engine was installed within the mill in 1824/5.
- 6.6.7 Two fine-grained, possibly granite, mounting blocks [2094]/[2097] surviving at the north-eastern end of the mill, close to its eastern corner, appear to form part of the engine's foundations (Plate 19). The placement of the mounting blocks in relation to the mill walls seems to suggest the engine house occupied an internal end or corner position (Giles and Hoddall 1992, 146 [Fig 237]).
- 6.6.8 The larger block [2094] measured 2.40m by 2.20m in plan. It was rectangular in shape with recesses on the blocks south-eastern and south-western faces. The upper surface of the block had four equally spaced (0.69m / 2 ft 3½ in apart) 108mm-wide, vertical holes, into which had been set four iron holding-down bolts (Plate 20).
- 6.6.9 The smaller block [2097] lay to the north-west of the large block [2094] and measured 1.92m by 0.83m. Two roughly circular 81mm-diameter perforations (set 0.97m / 3ft 2in apart) had been drilled into the upper surface of the block to receive upright holding-down bolts.
- 6.6.10 No direct evidence for power-transmission survived. The wall [2100] to the south-west of the engine bed [2094] showed signs it had been rebuilt during the mill's later conversion (Phase 4) and the surviving wall – only two brick width's – was certainly not robust enough to have acted as the gearing wall. The north-eastern face of the wall [2100] is likely to have been constructed roughly in-line with the wall's original position; it defined a c. 4.50m-wide room, which closely mirrors the size and shape of the cellar at the mill's opposing end. In spite of the lack of upstanding fabric retaining evidence of power-transmission, it is possible the smaller of the two surviving mounting blocks [2097] supported the base of the engine's upright shaft, used to transfer rotative power from the steam engine to the line shafting on the weaving / spinning floor. The middle of this block was aligned with the centreline of the column bases exposed across the ground floor of the mill. The mounting blocks alignment with the columns, would imply the upright columns had line shaft supports, a feature which was increasingly common in Manchester textile mills by the mid-1820s (Williams and Farnie 1992, 70).

- 6.6.11 **Boiler House:** an L-shaped boiler house, measuring approximately 18m x 9m, attached to the north-eastern side of the principal mill, was shown (but not labelled as such) on Bancks and Co's map (published 1831). Of the surviving structural arrangement only the building's north-eastern wall [2073] can confidently be ascribed to this phase. The surviving wall fragment [2073] measured 4.69m x 0.56m. It was constructed of handmade red brick with a skin of firebricks along its internal, south-western face.
- 6.6.12 **Cellar:** a cellared room occupied the south-western end of the principal mill and was demarcated by four walls [241]/[243]/[253]/[250], all of similar construction, comprising hand-made red brick set in sandy lime-based mortar, and laid to English Garden Wall bond (Plate 21). The cellar walls [241]/[243]/[253]/[250] survived to a maximum height of 1.77m above the cellar floor [248].
- 6.6.13 The internal elevations of the cellar walls warrant some further discussion. All retained traces of whitewash. The north-eastern wall [253] featured several rectangular cut-outs. A round-headed arched opening was built into the north-western wall [243] at its junction with wall [253]. Internally, the opening was 0.37m wide and 0.43m tall. It is unclear whether this functioned as a coal chute or conduit for pipework (Plates 22-23). The opening was blocked-up at a later stage. The south-eastern wall [250] had two vertical wall scars, which likely correspond to an internal stairwell placed in the corner of the cellar. The south-western elevation provided significant evidence for modification in the form of three inserted cellar lights [242], rectangular cut-outs and inserted wrought-iron or steel joists. A wall forming part of an internal stairwell and a rectilinear brick structure [246] were built against the face of the cellar wall [241].
- 6.6.14 Internally, the cellar was floored with hand-made brick, extending across an area of 10.87m long and 4.51m wide. An area of 1.98m x 2.08m in the northern corner of the cellar retained a flagstone floor [244]. A corresponding area of flagstones was revealed at the cellar's south-eastern end but was more fragmentary.
- 6.6.15 A rectangular brick pillar [245] located at the north-western end of the cellar was constructed in a similar fabric to the cellar walls. It likely relates to a stairwell. A later wall was constructed between the pillar [245] and the cellar's

south-western wall [241]. The brick pillar [245] stood to height of 1.85m above the cellar floor [248].



Plate 21: The cellar at the south-western end of the principal mill



Plate 22: North-western wall of the cellar (2 x 1m scales)



Plate 23: Detail of the arched opening and later blocking (0.25m scale)



Plate 24: Aerial shot of the cellar taken using a UAV, looking south-west

6.6.16 It is possible the cellar originally functioned as a conditioning room for unspun cotton or yarn.

6.7 Phase 1b: Western Range

- 6.7.1 The exact date of construction for the mill's three-storey western range is unclear but it was certainly extant by the time of Bancks and Co's plan of 1831. The north-eastern side of the building was partially exposed during the excavation.
- 6.7.2 The external wall [204] of the western range survived in two sections and extended over a maximum length of 40.20m. The wall [204] was 0.51m and survived to a maximum height of 0.56m. The wall was constructed from handmade brick bonded in yellow sandy lime-based mortar. Towards its south-eastern end, the wall foundation widened to 0.84m in width and contained a doorway.
- 6.7.3 Two internal dividing walls [211] were keyed into the external mill wall [204]. A further substantial wall [233]/[236] survived in sections and was parallel to mill's external wall.
- 6.7.4 Vestiges of brick and flagstone flooring [232] survived within the western range. These were seen to represent original surfaces within the building.
- 6.7.5 A stone-built structure [203] running north-east / south-west within the southern part of the building may have represented the upper part of a stone drain.
- 6.7.6 Running parallel to the outer wall [204] were two walls [205]/[206] both orientated north-west / south-east. These were the same feature but had been truncated by later wall [201]. The southernmost wall [205] measured 3.07m long, 0.50m wide with a height of 0.18m and was constructed from sandstone blocks of varying sizes with the largest approximately 0.60m long, 0.37m wide with a thickness of 0.18m and the smallest 0.24m long, 0.13m wide with a thickness of 0.09m. The sandstone blocks to wall [205] were roughly finished with some not completely rectangular, with the smaller stones irregular to sub-angular. One course survived with no bonding material present. [206] was a continuation of wall [205] to the northwest on the same alignment, constructed from the same materials and measured 2.80m long, 0.46m wide with a height of 0.26m.

6.8 Phase 1c: Small Mill (1829)

6.8.1 The small mill was constructed to the south of the principal mill and to the east of the western range of buildings, and immediately north-west of the Rochdale Canal. From documentary evidence it is known this was built in 1829 and comprised a five-storey building. Three sides of the small mill and a large portion of its internal footprint were exposed archaeologically. The mill walls [209]/[213]/ were constructed from handmade brick bonded with a yellow sandy lime-based mortar.

6.8.2 The south-western wall [209] was oriented north-west / south-east and traced in plan as two sections of wall, with a combined length of 11.58m. The wall varied in width from 0.56m to 0.60m. The north-eastern wall [213] measured 10.55m long, 0.62m wide with an excavated height of 0.36m. The north-western side of the mill measured 0.50m. A notable difference in the mortar used in wall [xxx] suggests this may have been substantially rebuilt during the mill's conversion (Phase 4).

6.8.3 No original floor surfaces survived within the small mill.

6.8.4 Phase 2: Mid 19th-century alterations (1832-45)

6.8.5 Cartographic and documentary evidence allude to the construction of a weaving shed, built in 1832, adjoining the north-eastern side of the 'small mill'; the installation of a 60hp, side lever marine engine c.1831-2, likely within the new weaving shed. The original engine house was also extended to the south-east during the intervening years (1832-1845), during which time a third 25hp engine – built by the Manchester firm Peel and Co. – had been installed. An addition to the small mill, constructed after 1831, was a circular stair tower.

6.9 Weaving Shed

6.9.1 A large, presumably single storey weaving shed was constructed in 1832 on the north-eastern side of the small mill. Whilst none of the external walls survived within the area of the excavation a number of square brick foundations were identified and were seen to represent the foundations of stone and cast-iron column bases.