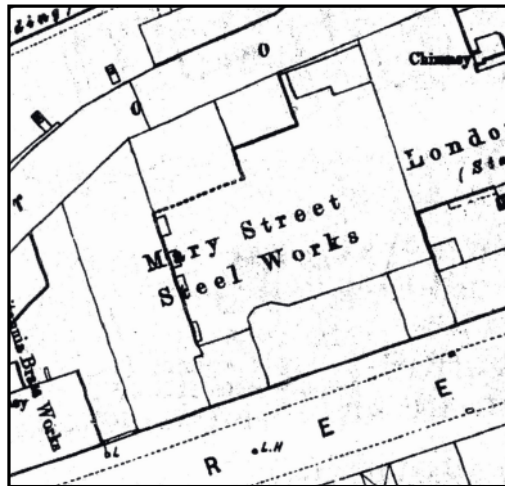


**AN ARCHAEOLOGICAL ASSESSMENT
AND BUILDING APPRAISAL
OF THE SITE OF THE FORMER
MARY STREET STEEL WORKS,
SHEFFIELD, 2006**



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*by
Richard Sheppard*

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Trent & Peak Archaeological Unit
University Park
Nottingham
NG7 2RD

Tel: 0115 951 4823

Fax: 0115 951 4824

E-mail: TPAU@nottingham.ac.uk

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SUMMARY

- **Background.** This archaeological assessment and building appraisal was carried out by Trent & Peak Archaeological Unit on a commission arranged through Franklin Ellis Architects.
- **Location and description.** The site lies near the southern edge of the city centre of Sheffield, close to St Mary's Road, part of the inner ring road. The north edge of the site runs alongside Porter Brook.
- **Proposed scheme.** New residential units are planned, together with a possible leisure establishment. The development involves the refurbishment of some of the original structures and the replacement of modern ones with new units.
- **Post-medieval development.** In the 18th century the south-east part of the town centre was on open land known as Alsop Field. Residential development started in the 1770s in a grid pattern of streets, but the intended plan was never finalised. Streets south of Matilda Street (including Mary Street) were laid out in the 19th century and attracted a mixture of steel and associated manufacturers. Mary Street was probably laid out in the late 1860s – early 1870s.
- **Steel Works.** The site was built in about 1878 as a small specialist steelworks using the crucible method of production. It was designed around an open courtyard and the buildings included a crucible house, an office and adjacent warehouse and workshop(s).
- **Ownership.** The site was originally owned by Mr James Rhodes, junior and known as the Mary Street Steel Works. It made steel for chains and wire. In 1890 the works was sold to Marsh Brothers Ltd. It was then described as 'a compact steel works, consisting of 20 hole melting furnaces, with every convenience, a caretaker's house, large yard, finished steel warehouse, offices, and a 10-ton weighing machine. The site was sold again in 1925 and became Walker Steel Works Ltd. This firm specialized in alloys and ceased production in the 1970s.
- **Post-war development.** The site is still in commercial use but is now within a Conservation Area known as the Cultural Industries Quarter. The general area is slightly run-down but is close to Hallam University and is seen as having development potential.
- **Archaeological potential.** The site has minimal archaeological potential, having been open ground prior to 1878 and with no known archaeological sites in the area. Few alterations have occurred to the ground-plan of the site since.
- **Buildings.** Although much altered within, the crucible house retains its cellarge and chimney flues. The crucible furnace holes probably remain intact beneath a raised floor area. The south range still retains the original office and open warehouse / workshop area. Other parts of the complex have been altered and have little remaining historic merit.
- **Recommendation.** Although not listed the crucible melting house is one of a small surviving number of such structures and should be retained and sympathetically restored to its new function.

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1. Project background

This archaeological assessment and building appraisal was carried out by Trent & Peak Archaeological Unit (TPAU) on a commission arranged through Franklin Ellis Architects. It is in relation to the proposed partial refurbishment / redevelopment of a site on the north side of Mary Street, Sheffield (Fig. 1). The site lies near the southern edge of the city centre of Sheffield, close to St Mary's Road, part of the inner ring road (see Fig. 1). It is here referred to as Site A, part of a larger potential development area, and covers a roughly rectangular area of about 900 sq. metres that corresponds with the footprint of the former Mary Street Steel Works, as originally built in the 1870s (Fig. 2). This was a self-contained crucible steel works, built around an open courtyard, that continued in use as a steel works up until the 1970s. The straight south frontage of the site is on Mary Street and the more irregular north side borders Porter Brook, a tributary of the River Don.

Although none of the buildings within the site are listed, the site lies within the Cultural Industries Quarter Conservation Area of Sheffield. As such, planning regulations require that a detailed assessment of archaeological importance and potential, together with an appraisal of architectural and historic interest of the site and its buildings are made to inform the planning process. To this end a documentary search at the Archives Office and Local Studies Section of Sheffield Central Library was made, and during a site visit a photographic record was compiled and drawings produced from measurements taken. Although the photographs were taken in digital form, a set of black and white prints will be included in the site archive for long-term storage. The TPAU site code is MSS.

2. Historical background

In the 18th century the south-east part of Sheffield's town centre was on open land known as Alsop Field, as shown on Gosling's map of 1736 (reproduced in Fine 2003, 55). Select residential development of the area was started by the Duke of Norfolk in the 1770s in a grid pattern of streets, but the intended plan was never finalised (Harman and Minnis, 2004, 135). Following the lifting of restrictions, various trades appeared in the area and workshops were built alongside or close to houses, and large cutlery manufacturers moved into the area in the 1820s. Streets south of Matilda Street (including Mary Street) were laid out in the early to mid 19th century and attracted a mixture of steel and associated blade and tool manufacturers.

Mary Street, does not appear on Leather's map of 1823 (reproduced in Fine 2003, 66), although by then the town had extended southwards as far as Sylester Street (first shown on a map in 1808), just to the north of Polder Brook; the town had yet to extend beyond this natural boundary. This is again shown on a large-scale Ordnance Survey map of the town surveyed in 1851 (Fig. 3). This shows the future site as an open area, crossed by a solitary field boundary. The Polder Brook is shown with adjoining leets that fed or flowed from nearby dams or reservoirs and had powered waterwheels. However, by mid-century steam power had replaced

water power as an energy source and these local features would shortly be filled in or be demolished (Crossley, 1989, 89).

The first mention of Mary Street is in the Post Office Directory of 1865 although White's Directory, the longer-established source of local information, first mentions the street in 1876. The earlier entry lists several concerns which were probably situated on St Mary's Road and backed onto Mary Street (if it had indeed been fully laid out). The 1876 Directory lists on Mary Street a spring-knife manufacturer, a wood cooper, a joiner and builder, a cabinet case maker and brass-founders Searle & Gozzard. The Mary Street Steel Works is first mentioned in White's 1879 Directory, along with the name James Rhodes, junior. It was listed on the north side of Mary Street along with Searle & Gozzard (then also manufacturers of engineers' fittings) and Boswell Brothers, file forgers. The former concern was probably immediately to the west of the steel works, on the site later called Britannia Brass Works (Fig. 4). Rhodes continued to be mentioned in Mary Street in White's directories until 1903, but by then he was also linked to an address in Rotherham. A description of the man and his steel works appeared in a publication in 1888. This was in 'Industries of Sheffield. Business Review' published by the British Industrial Publishing Company 1888. On page 92 it states:

James Rhodes, Steel Manufacturer, Mary Street.

*A prominent house in Sheffield connected with steel manufacturing, and one well deserving special mention in a review of the trade, is that under the experienced proprietorship of Mr. James Rhodes, Mary Street, a gentleman who for many years has shown unusual skill and enterprise in advancing the welfare of this great industry and who has achieved a justly commensurate success in his business career. It has been the constant aim of Mr. Rhodes to place the very best quality of steel on the market, and that he has succeeded in an eminent degree is proved by the large and steadily increasing demand now experienced. Besides being a large manufacturer of nearly every variety of best cast and other steel for all purposes, a special business is made of importing Swedish and other iron for manufacturing the same, and Mr. Rhodes, being in direct communication with the best sources of supply, is enabled to obtain the best quality, and thereby ensure perfect reliability in all his productions. A large stock is also kept for dealing, and in this connection a valuable trade is being done. **The premises utilized cover fully a quarter of an acre of ground, and possess a frontage of about one hundred feet in length to Mary Street. They are chiefly one-storied, substantially built and admirably arranged, comprising nice offices, spacious warehouses, and works.** The latter are fully equipped with the best improved machinery plant, and every description of the best labour-saving appliances have also been secured. This admirable equipment, with the aid of a large number of skilled hands, is especially conducive to the expeditious despatch of all orders, and at the same time ensures that precision and accuracy which has ever been a marked feature of the productions of this house. Mr. Rhodes also pays especial attention to the manufacture of the best crucible cast-steel rods used in winding ropes for underground haulage and ploughing purposes. He also has gained a great reputation for his best music wire, which is used very extensively by pianoforte manufacturers. Mr. Rhodes personally supervises all operations, and is certainly sparing no effort to maintain the honourable lead he has achieved. He possesses a thorough*

practical knowledge of the trade, and is a man of indefatigable energy and sterling integrity of character.

The description of the premises in the middle of the piece, whilst not mentioning the Work's official name, would appear to fit with Mary Street Steel Works. However, just two years later in 1890 the site may have been acquired by another concern, Marsh Brothers & Co. They are recorded as then buying a new property at Mary Street, described as 'a compact steel works, consisting of 20 hole melting furnaces, with every convenience, caretaker's house, large yard, finished steel warehouse, offices, and a 10-ton weighing machine. The building was only twelve years old and could easily be adapted or extended. In view of this additional capacity steel melting at Ponds Works was abandoned and the steel for Marsh Brothers was cast at Mary Street.' (Pollard 1954, 45). This too fits the description of Site A, the only steel works mentioned in directories and shown on maps of Mary Street from the late 19th century onwards.

Pollard continues (p.60): 'The making of steel by the crucible process suffered after 1918, both from the competition of the new electric furnaces and from the shortage of men possessing the high degree of skill and experience necessary to work them, as very few young men entered what appeared to be a dying trade. For some years the firm had the considerable advantage of possessing two furnaces, one on Mary Street, and one on Shoreham Street. Gradually, however, it came to be felt that the capacity exceeded the needs of the firm, and as a measure of economy the Mary Street furnace was sold in February 1925.' Marsh Brothers & Company are indeed mentioned in directories in Mary Street during this period. The layout of the site shown on the Ordnance Survey map of 1923 (Fig. 5) differed little from that of 1890.

By the time Marsh Brothers sold up the 'traditional route into Sheffield steel, a back-street works with a few crucible holes and a small gang of teemers and labourers was becoming a thing of the past.' (Tweedale 1995, 220). The old process declined in the inter-war years, although Marsh Brothers still worked the method as late as 1957 on another site.

The Mary Street works was to become Walker Steel Works Ltd, with listings in White's directories up until about 1972. It started as a high-speed steel manufacturer, specializing later in alloy castings and brake drum manufacture. During their tenure the east part of the site was rebuilt and the courtyard contracted in size (Fig. 6). In recent years the site has been used by a wood-turning business and the inner courtyard is now completely covered over.

3. Site context

The south-east district of the town centre, with Mary Street close to its southern extent, in recent years has been designated as the Cultural Industries Quarter, in line with its gradual colonization by artists and various creative businesses (Harman and Minnis 2004, 136). An appraisal of the area by Sheffield City

Council states that the area was developed relatively late, from the 1860s onwards. It retains numerous examples of the courtyard workshop building type and much of the original character of the street (including its original cobbles). Sylvester Works, a former cutlery works, is the one listed building, although now converted to student flats. On the north side of the street Universe Works and Hawks Works are still open courtyard complexes. The former steel works was a third such layout before being completely roofed over.

4. Archaeological Assessment

There is no known archaeological aspect to the site. The buildings as built in the 1870s are still largely intact and have changed little. The site was open ground as shown on maps before this period. However, its close proximity to Porter Brook means that earlier archaeological remains on the site cannot be fully ruled out. The river's course may have meandered through the site in earlier times. Nevertheless, the steel works will have damaged much of the site, including as it does extensive cellarage on the west side, and the site must be considered to have a very low archaeological potential.

5. The buildings

The buildings on the site consist of a long west range that was formerly a crucible house, a separated south range that housed offices and a workshop or warehouse, and a north range of uncertain usage. These remain from the original build, although much adapted internally since. There is also a modern east range and a two-section build over the inner courtyard. The south frontage has two large vehicular entrances and two office doorways. The build is predominantly of brick, both red and London yellow (and some modern breezeblock), and the roofing is of Welsh slate or corrugated iron / asbestos. The site is currently used to make wooden garden furniture etc, so incorporates working areas with machinery and storage, office space, toilets and an electrical plant. Much of the upper floor space of the west range is not used.

West range.

This has a street frontage which betrays its original monopitch roof, which would have featured skylights to light the ground-floor working area below (Plate 1). The building has since been adapted to include a first floor area, although part of the original pitch remains towards the rear of the building. It was not possible to view the roof structure and part of what was probably fireproof metal truss roof may remain. The street frontage includes tall recessed panels and round-headed windows, including a tall one altered to include a doorway. The brickwork includes a sloping dentilled course and the roofline has been raised at the east end to a flat line, in keeping with the eaves of the adjacent office. At the top left a truncated chimney with four flues remains; other chimneys will have existed along the same line further to the rear (Plate 2). There is also what appears to be a blocked opening.

Inside, the building has a suite of offices on two floors, now largely unused, and a storage area towards the north end. The east wall of the building has been much altered with much of the brickwork and former openings replaced by breezeblock. On the west side the long line of chimney flues remain intact although no longer obvious from within and the floor space has been raised by three courses of what may be old fire bricks

This probably covers the crucible furnace holes where the crucibles were enclosed and heated. At the north end the building has been blocked off and shortened and an open space probably exists up to the brook. This end bay may have been where the pot-shop for producing crucibles was situated, adjacent to the water supply of the brook.

The best evidence for the former use of the building is below ground in the cellars. Two long brick-arched cellars with cross-openings exist. The east cellar is partly filled with rubbish but there are three visible openings, now blocked, which extend below the former courtyard. These may be where air entered the cellars to assist the combustion of coke in the crucible holes (their principal purpose). Four such openings can be seen on the 1890 map (Fig. 4). The present stairs down into the cellar probably mask the fourth hole, as the original entrance was probably at the south end of the second cellar, near the street frontage.

Along the west side of the second cellar there are 20 tall recesses, each 18 inches (45cm) wide and 51 inches (1.28m) deep (Plates 3, 4). The arches spring from large stone blocks, behind which metal plates can be seen; these will have supported the crucibles in the firing process (Fig. 8). A former brick wall towards the south end divided off an area with four recesses. These now contain columns to support four iron ribs acting as roof supports. Elsewhere in the cellar the brickwork has evidently moved, and one of the openings between the cellars is filled with a large brick support. The cellars are relatively clean, although white-washed, and the firing process may have been changed at some stage from using coke to using gas.

South range

The south range included offices and a 3-bay open workshop / warehouse area, entered from a central doorway on the north side, now blocked off. The ground-floor office projected with a window bay towards the yard, allowing full view of what was occurring (Plate 6). The office was lit by a fire and had tall sash windows; the original decorative scheme and floor boards still exist. An entrance lobby with store exists behind this room. Above the office there is another room lit on three sides by 20th century metal-framed windows; this room, now the present manager's office, was reputedly used as a drawing office. This upper room may have been added later. The large open section was more likely to have been the warehouse than a forge or grinding house as it was poorly lit. Although now with a clear corrugated roof, it would originally have been slated.

On the street frontage the range features includes two recessed panels with dogtooth brickwork, a tall window, office doorway and large vehicular access doorway. The

brickwork is English garden bond. Between this range and the crucible house, what may have originally have been a covered entrance was probably raised for extra office space when the original office was heightened; both sections are of yellow London brickwork, although sash windows and slate roofs suggest a date not that long after the original construction.

North range

The early maps suggest three separate structures in this part of the courtyard. The north-east structure may have been the caretaker's quarter, and the west section (which retains a raised solid floor) may have housed the weighing machine, mentioned above. It may have included a grinding shop, although this would have required additional power supply and there is no evidence for steam power having been available on the site. Now housing only toilets and an electrical power plant, the building still has a slate roof and original timberwork shows in the east gable end (Plate 5). However, it is largely subsumed within the modern infill of the courtyard and retains little of historic interest.

6. Recommendation

The site includes historic structure of a former crucible melting house and an original office and warehouse range, although both have been altered and adapted to some degree. Relatively few crucible houses remain in Sheffield – only eight are listed on the Images of England website hosted by English Heritage. These have varying degrees of surviving original structure, one principally being just the remaining stack. The Mary Street site is thus of some importance, especially its cellars, where structural repairs and damp-proofing are now probably necessary. The south range is also of interest, especially the ground-floor office, which has changed little since its first use. However, whether it is worthy of protection and retention is another matter. Otherwise, the remaining structures are of little interest or importance. The street frontage is also of value as a strong reminder of the site's original function and although it has suffered from added paintwork it is in itself worthy of retention.

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ILLUSTRATIONS

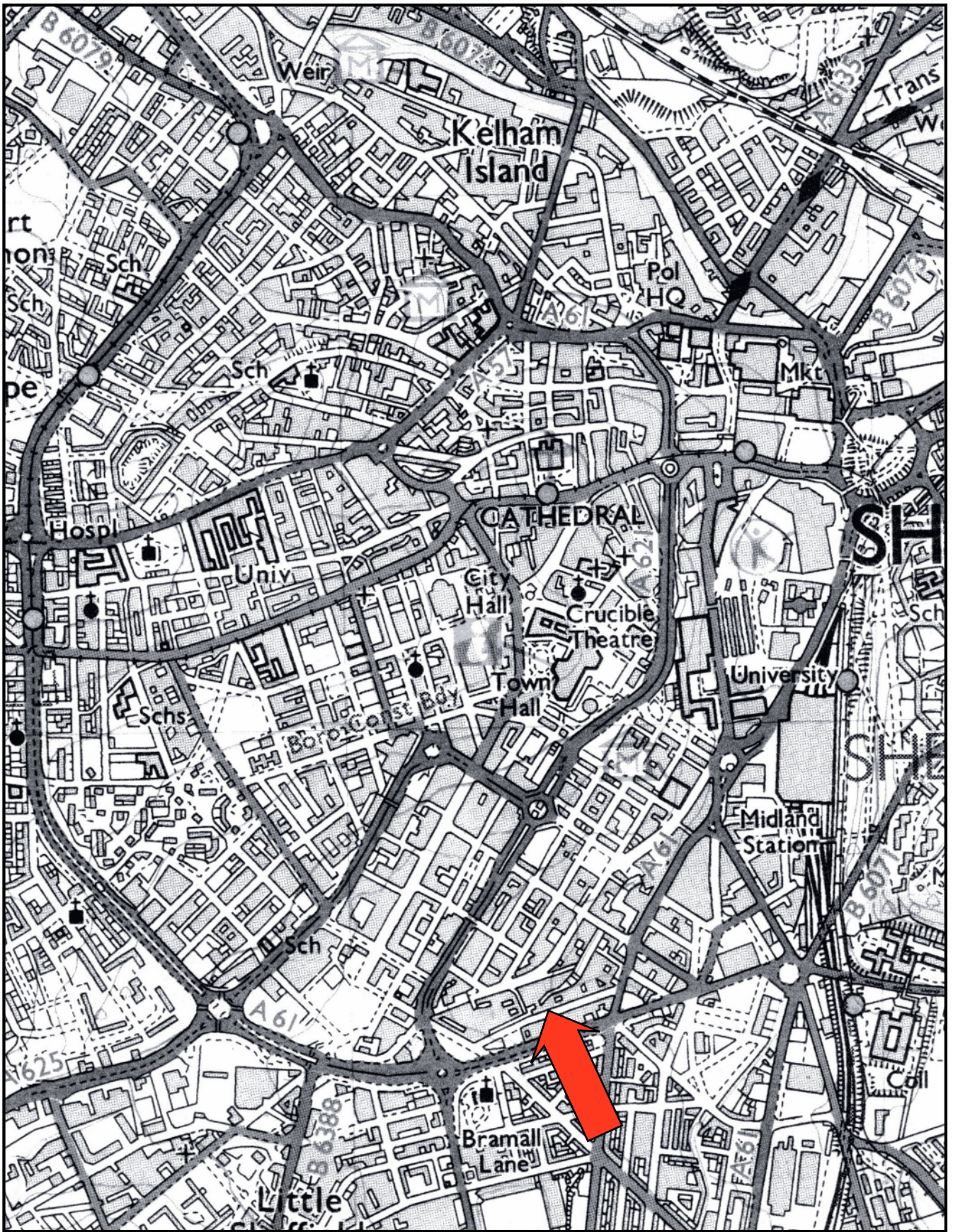
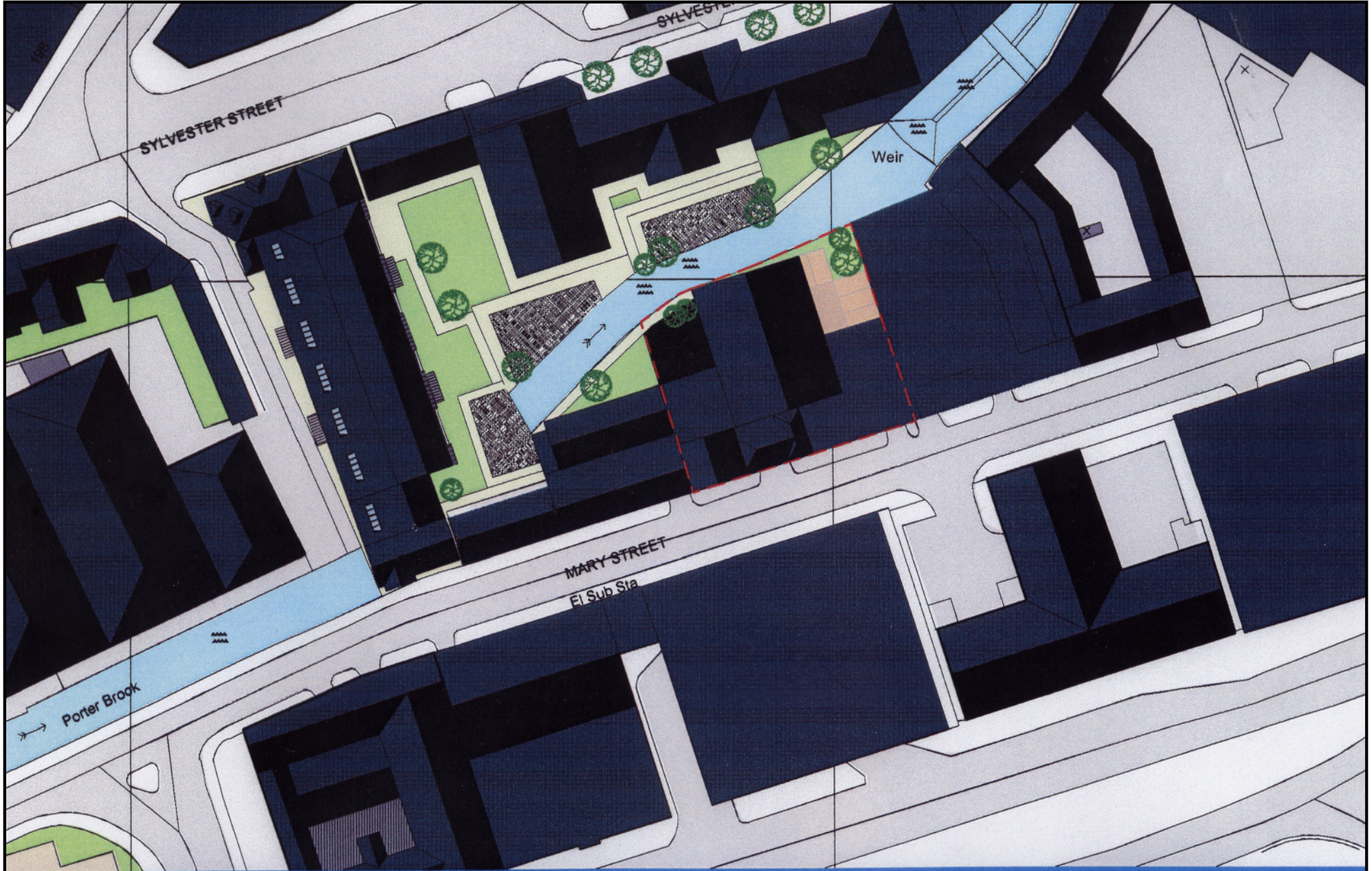


Fig. 1 Location of the Mary Street Site A near the centre of Sheffield. Scale 1:10.000 (Ordnance Survey map reproduced with the permission of Her Majesty's Stationery Office © Crown Copyright Licence No. AL 100020618).



Mary Street, SHEFFIELD

FIG. 2

JOB NO: 1016 DRAWING NO: SK01 REV NO: SCALE: 1:500 @ A3

DRAWING TITLE: SITE PLAN
DATE: 2006.01
DRAWN BY: RCF

Frankie Ellis Architects 16 The Ropewalk, Featherstone, NG1 5DT
Telephone: 0115 941 9475 Fax: 0115 941 9475 Email: info@faa.co.uk

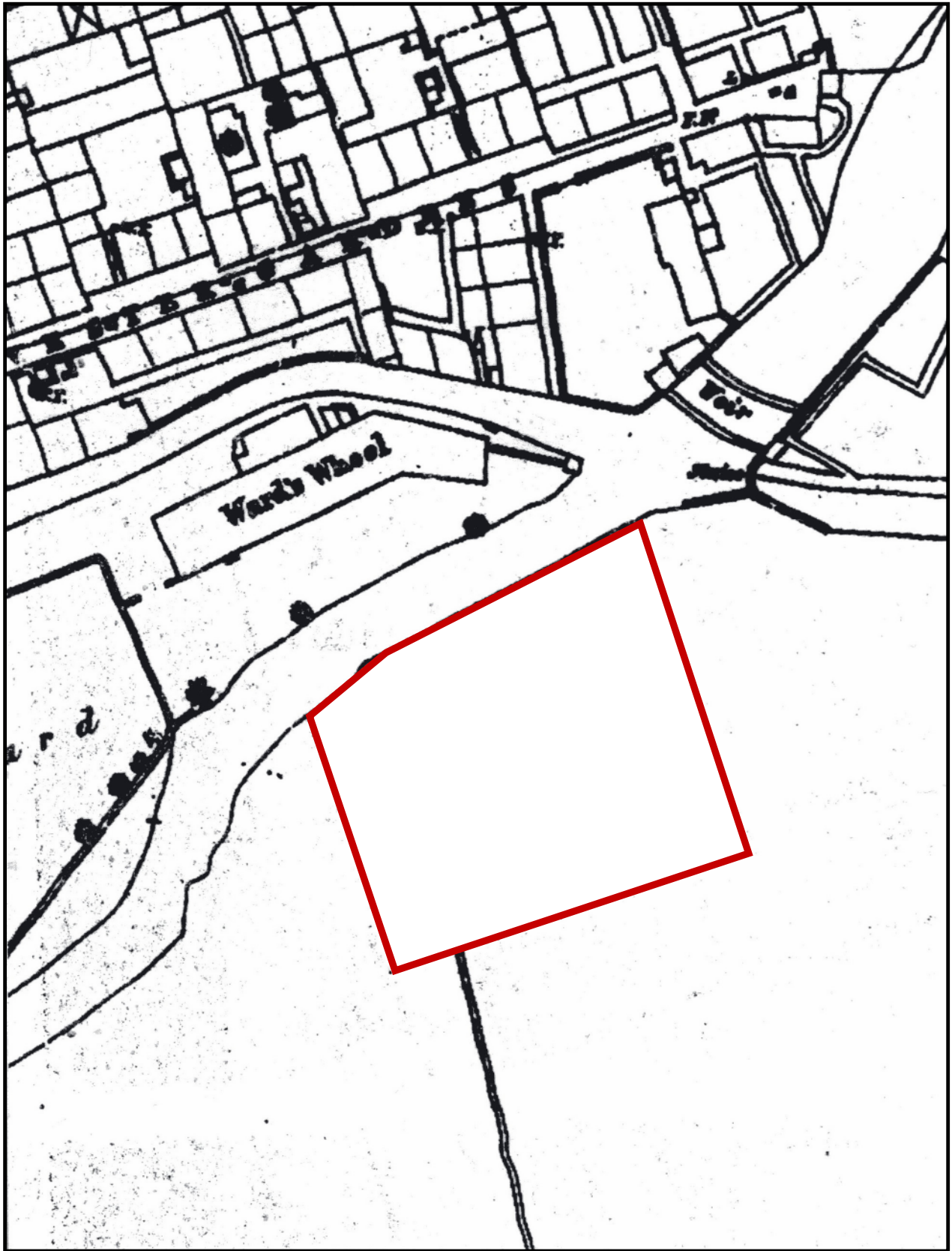


Fig. 3 Location of Site A on an Ordnance Survey map of Sheffield dated to 1851 (scale 5 feet to the mile; 1:1056). Scale 1:500.

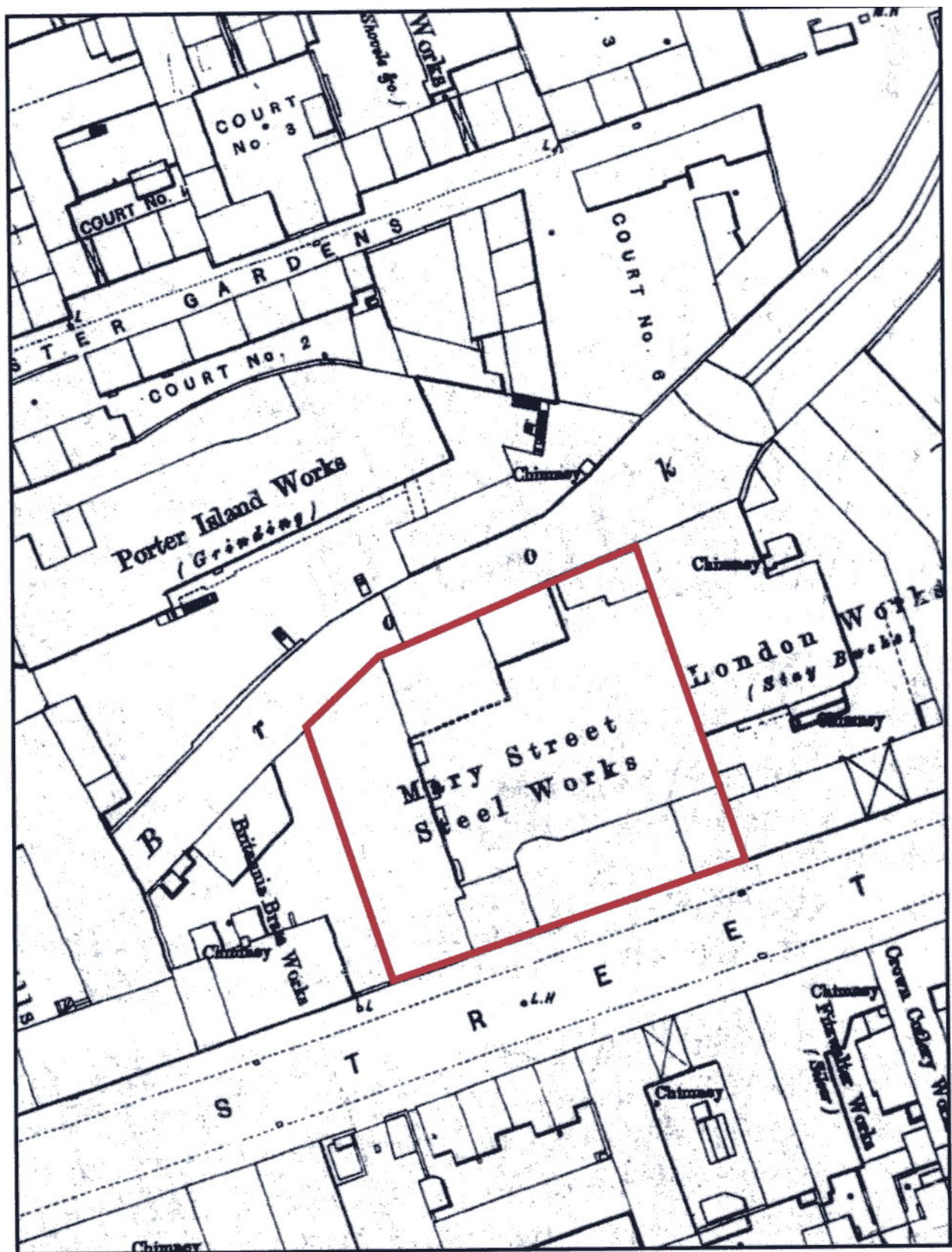


Fig. 4 Location of Site A on an Ordnance Survey map of Sheffield dated to 1890 (scale 10 feet to the mile; 1:528). Scale 1:500.

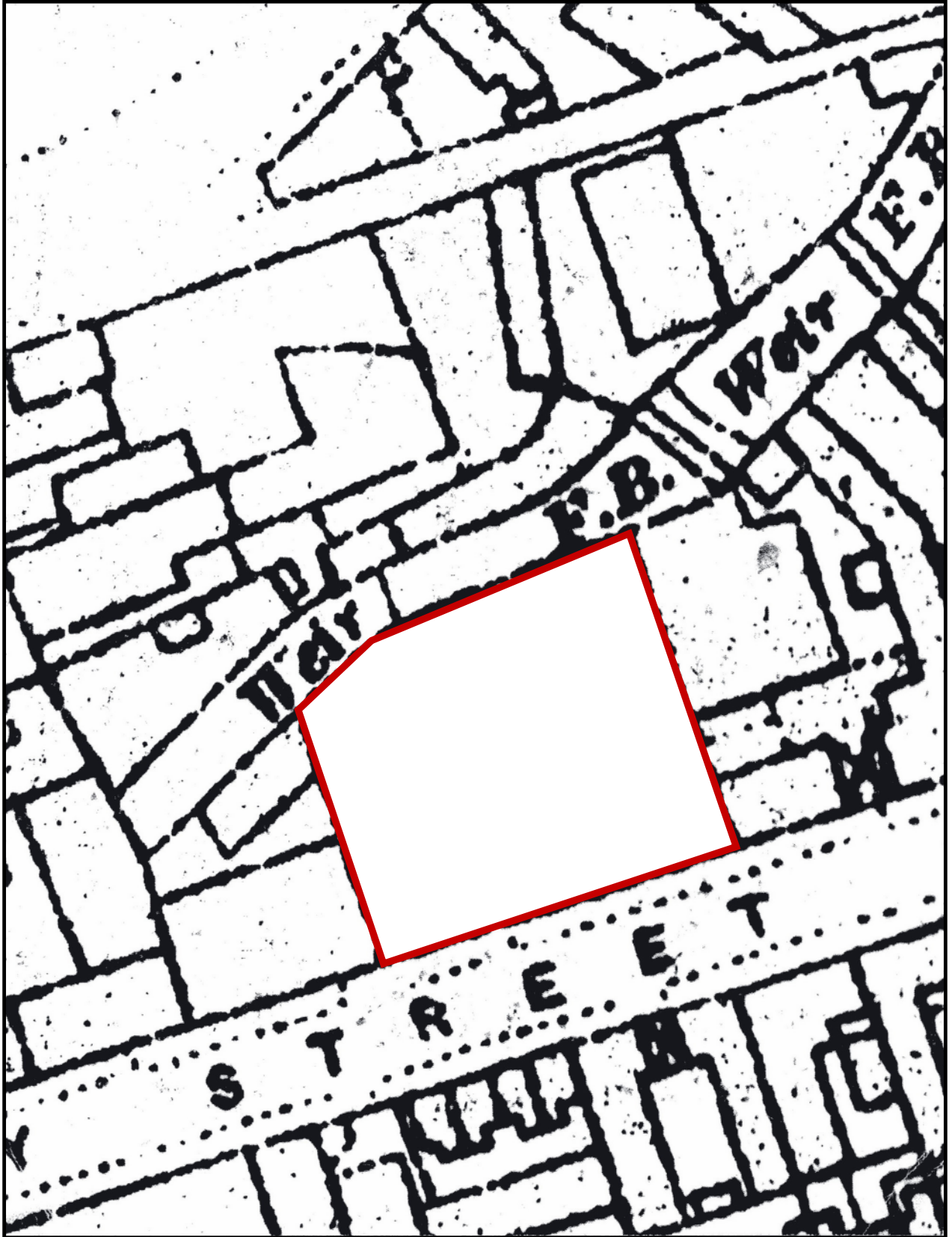
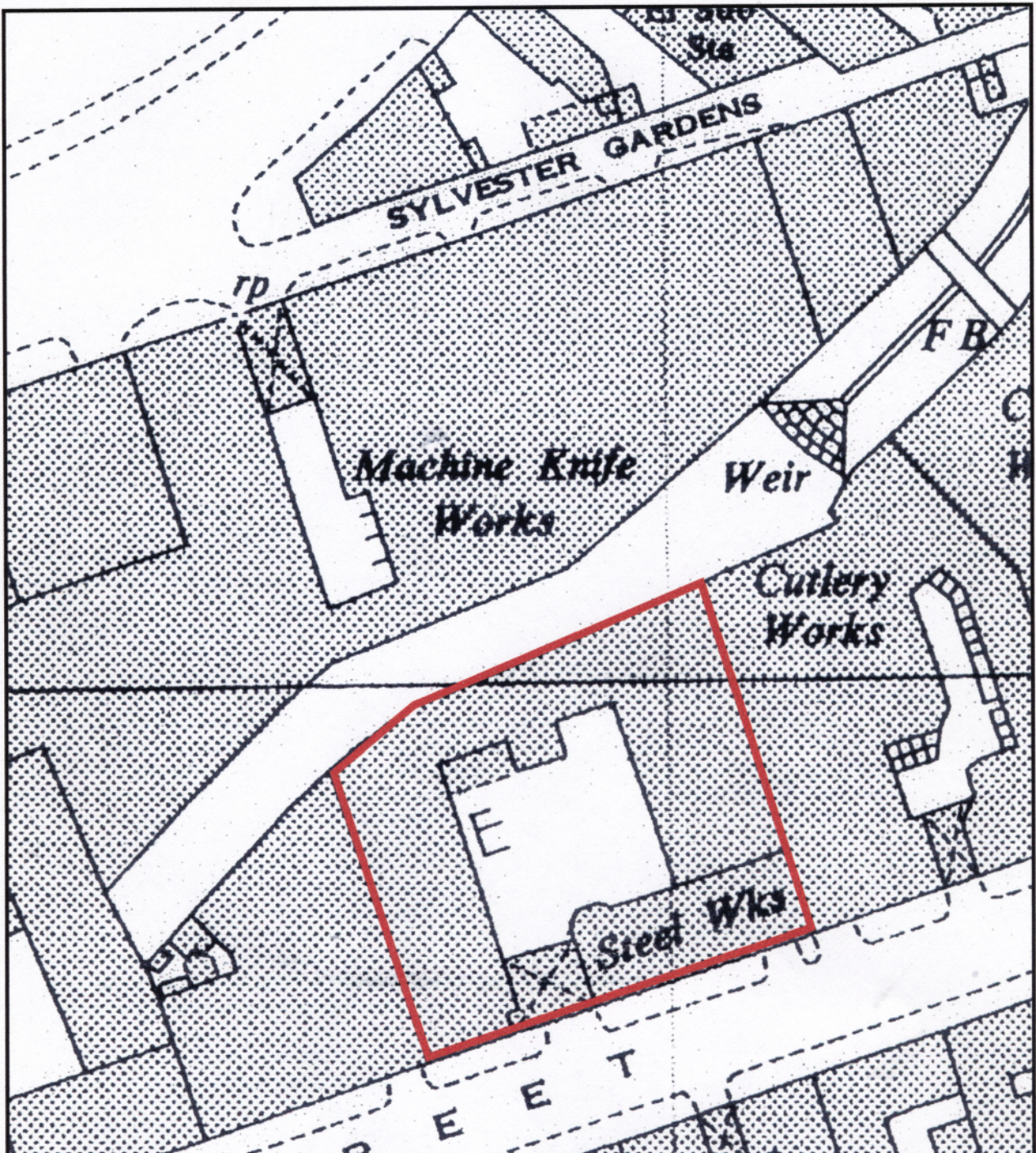


Fig. 5 Location of Site A on an Ordnance Survey map of Sheffield dated to 1923 (scale 25 inches to the mile; approx. 1:2500). Scale 1:500.



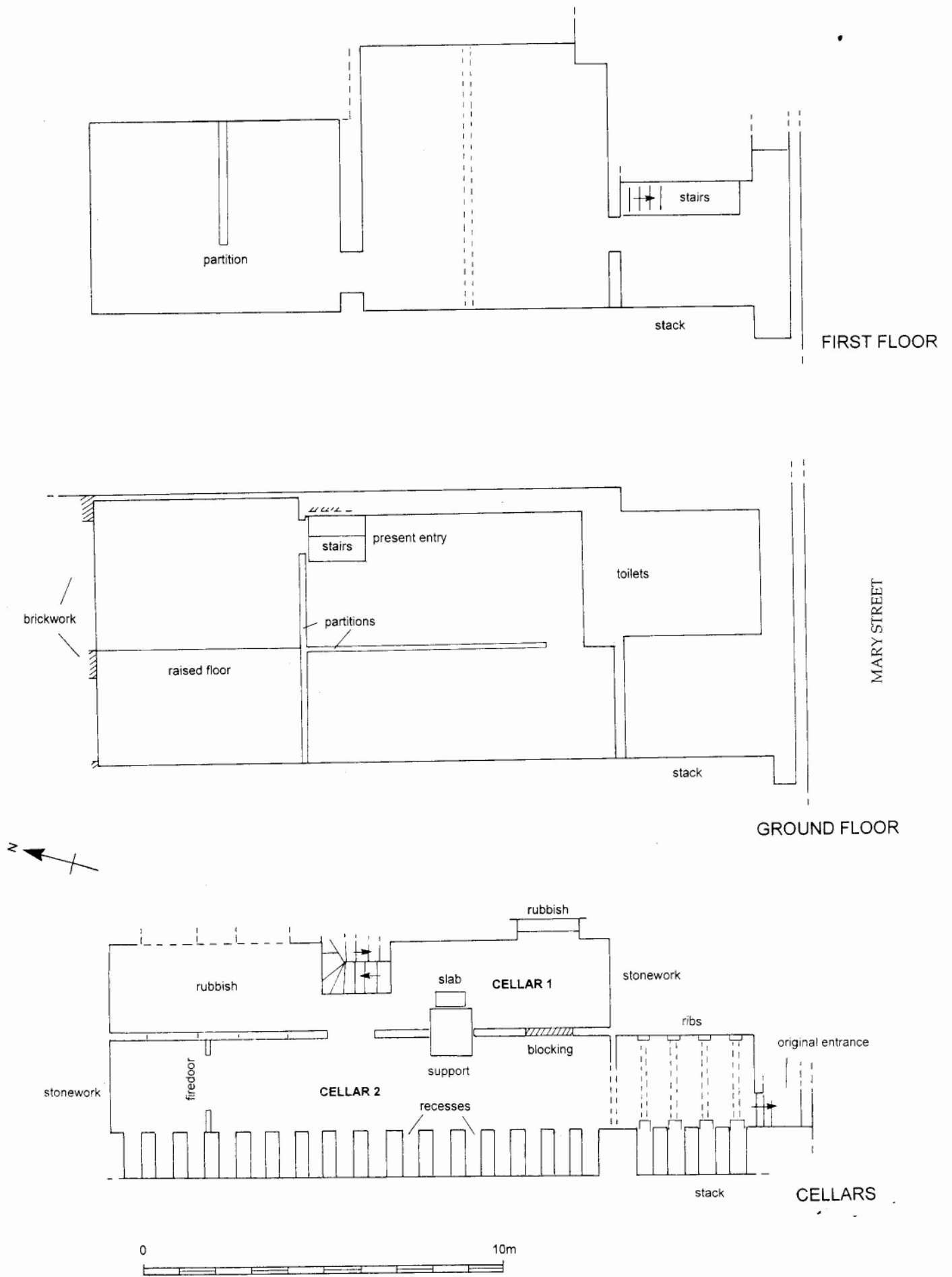
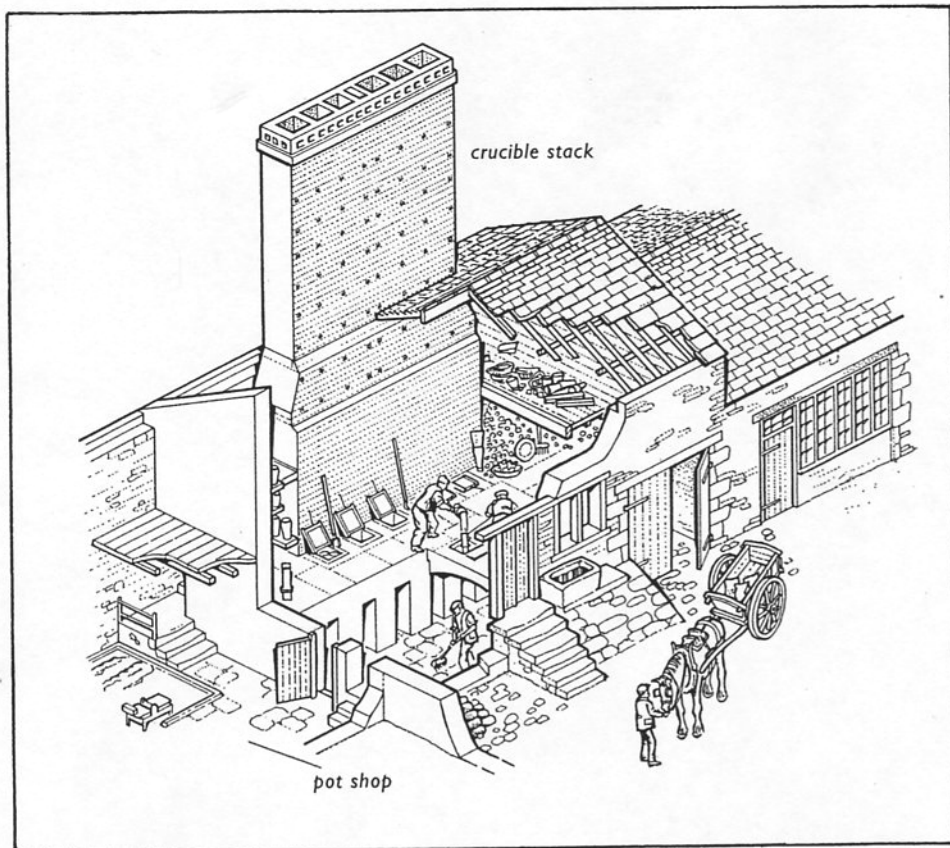
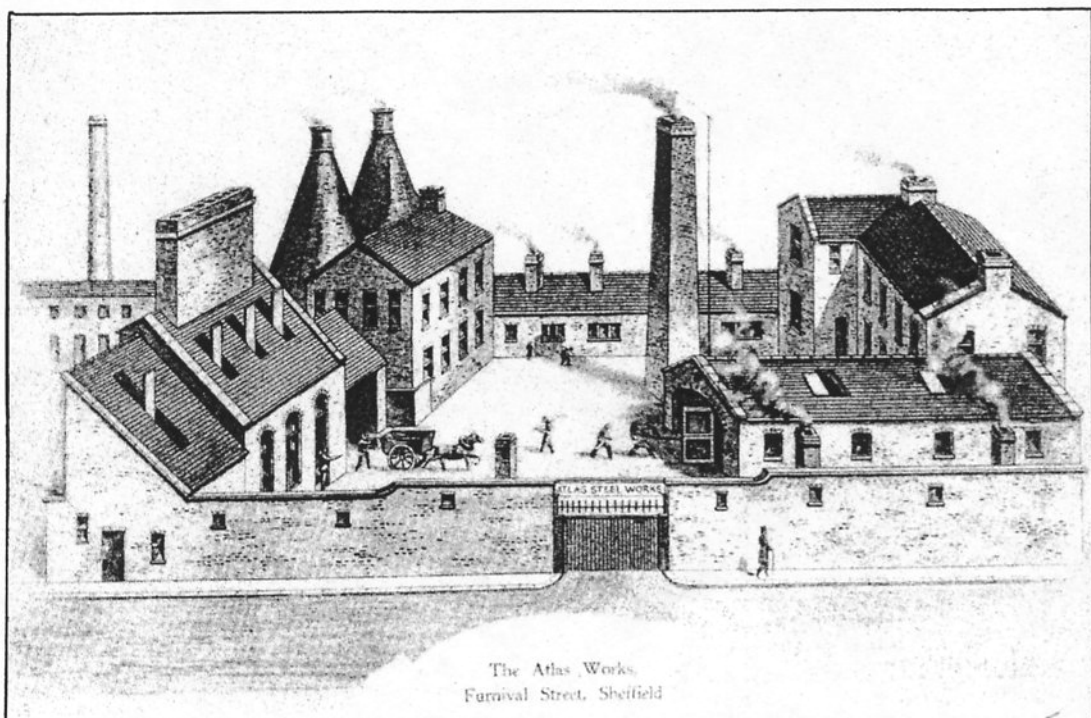


Fig. 7 Cellar, ground-floor and first-floor plans of the former crucible house on the west side of Site A, the former Mary Street Steel Works. Scale 1:100.



A



B

Fig. 8 A: Cutaway view of how a crucible house functioned (from Wray *et al.* 2001, 18). **B:** A view of c.1848 of the former Atlas Works in Furnival Street, showing a crucible house with monopitch roof and a tall multi-flue stack in the bottom left corner of the courtyard (from Barraclough 1976, 55).

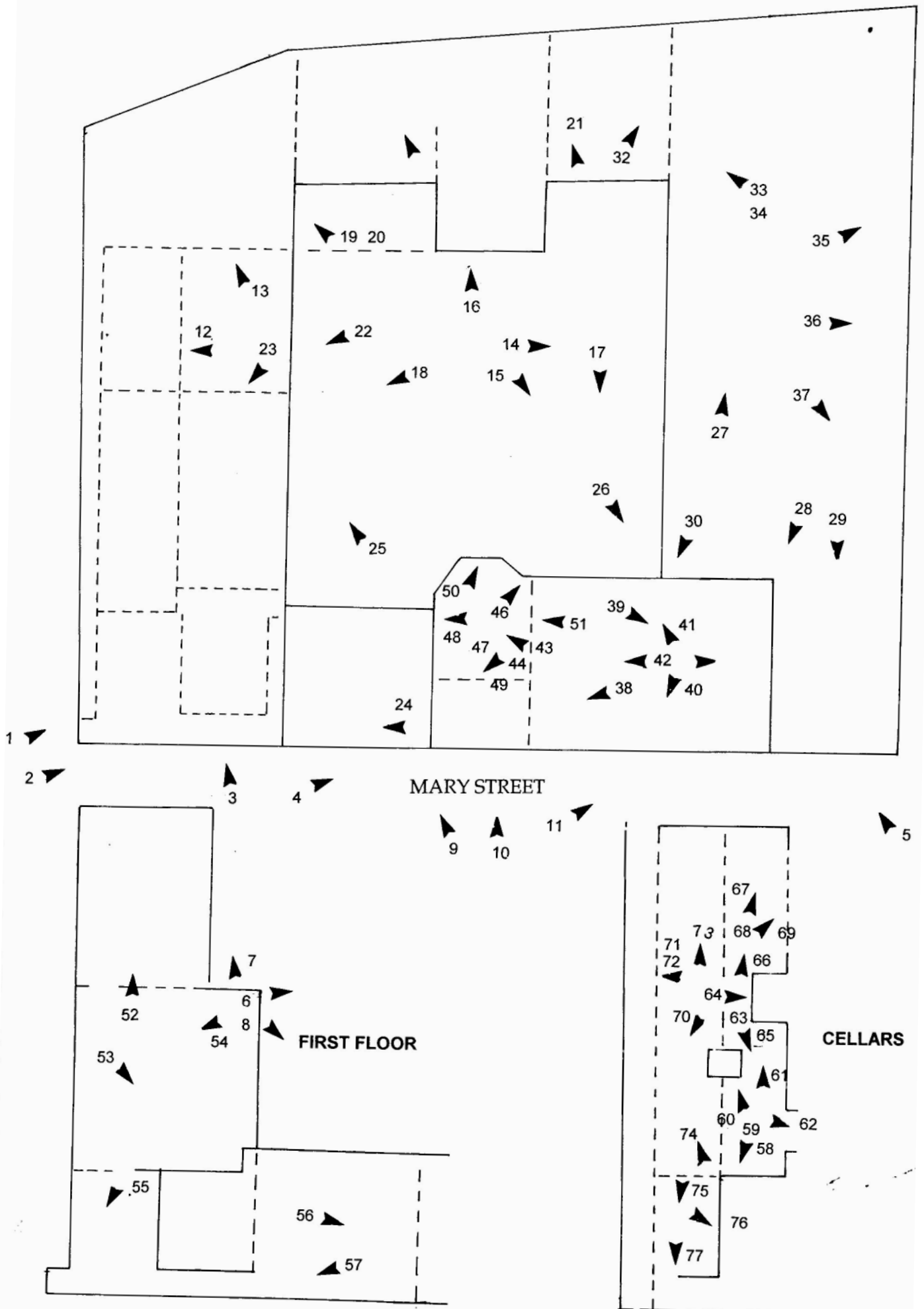


Fig. 9 Plans showing viewpoints of site archive photographs. Scale 1:200.

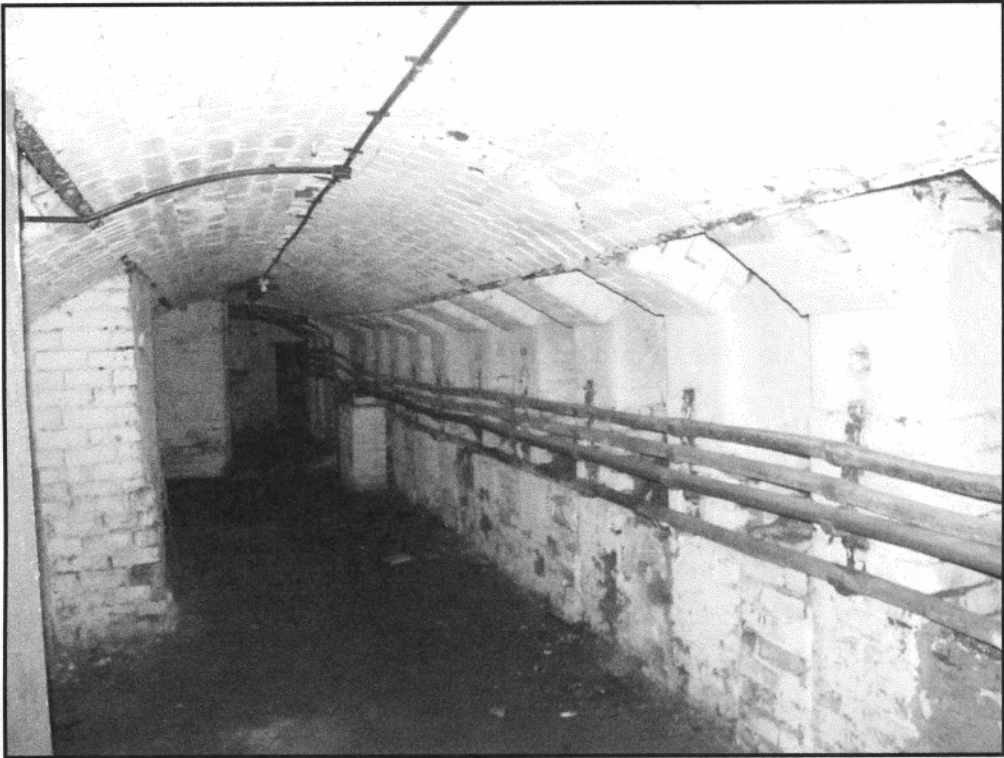


1



2

Plates 1-2: Views of the street frontage of the former Mary Street Steel Work, Sheffield
1: the full frontage; 2: a remaining though much reduced chimney with four flues.

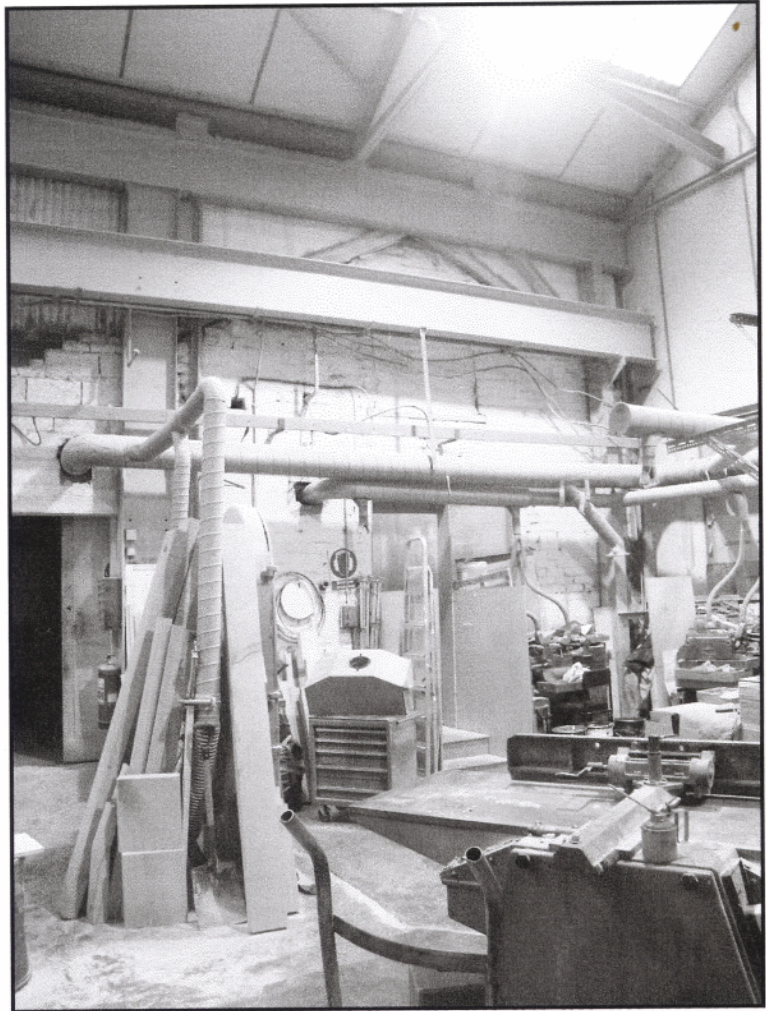


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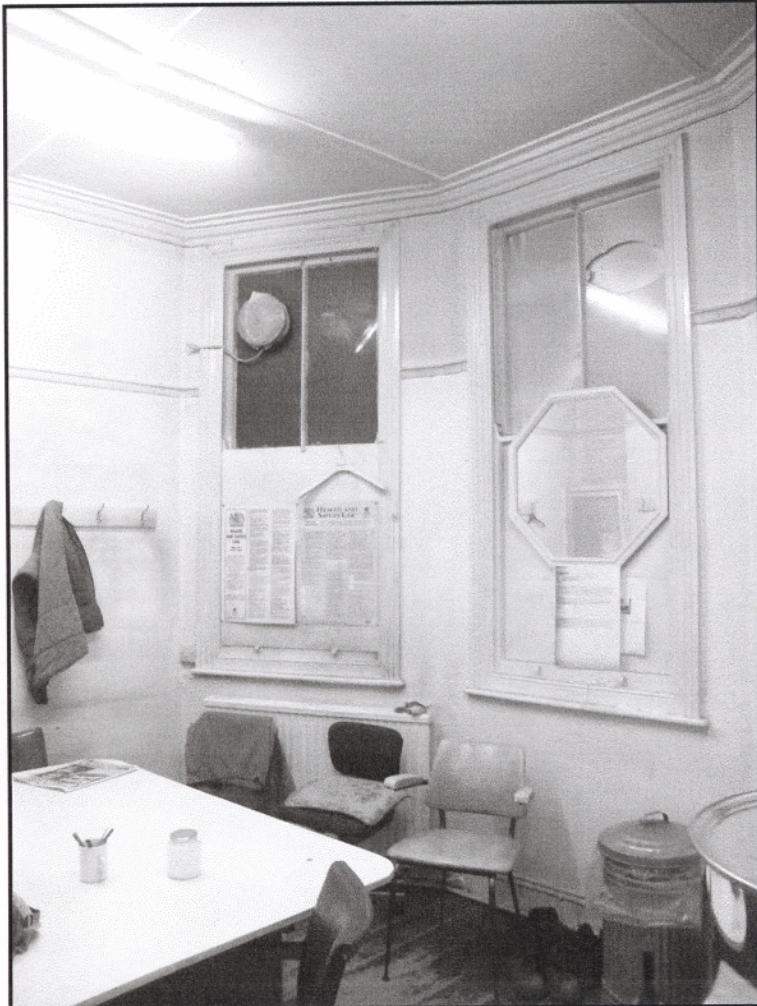


4

Plates 3, 4: Views of the cellarage of the former Mary Street Steel Work, Sheffield.



5



6

Plates 5, 6: Views of the interior of the present site of the former Mary Street Steel Works, Sheffield. **5:** part of a truss (behind the beam) at the east gable end of the north building; **6:** sash windows and decorative scheme in the ground-floor office.