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HAWK WORKS, MARY STREET, SHEFFIELD

by Huw Pritchard and Mark Stenton

Report Number 2010/66



ArcHeritage

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Non-technical Summary

ArcHeritage were commissioned by Cordonier Escafeld to conduct historic building recording at Hawk Works, a late 19th - to early 20th-century engineering works at Mary Street, Sheffield (NGR SK 3540 8660). The works are in the process of conversion into flats. The current report incorporates information from an earlier desk-based assessment by ARCUS and includes additional historical research. The conversion of the works commenced prior to a full historic buildings survey being undertaken and many details of the former fixtures and fittings were obscured. South Yorkshire Archaeology Service therefore agreed to a less detailed assessment being conducted as a programme of remedial works at the site. Photographs taken prior to the conversion were used to supplement the survey. For the purposes of this report, the complex has been divided into four buildings which broadly reflect the phasing but these should not be taken as entirely discrete structures.

The earliest known development within the site was a goit which channelled water from the Porter Brook to the Cinderhill Wheel, a cutlers' workshop that was first recorded in 1588. The site was undeveloped land in 1841 but contained several gardens or allotments by 1850. Mary Street was laid out in the period between 1866 and 1879; the site had been developed by the latter date when it was occupied by the Boswell Brothers, file manufacturers. The Boswell's premises were named as the Cyprus Works in 1890, while the eastern part of the plot was occupied by the Hammer Works tool factory. By 1905, the western part of the site had acquired the name Hawk Works, while the eastern block was the Guion Works tool factory, which subsequently expanded as the Union Works, a machine knife factory. The latter were demolished during the mid-20th century, with their site being utilised as the Hawk Works' car park. The standing buildings have been modified and restructured throughout the 20th century and retain few features relating to the 19th-century works.

Key Project Information

Project Name	Hawk Works, Mary Street, Sheffield
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1 INTRODUCTION

In June 2010, ArcHeritage were commissioned by Cordonier Escafeld to conduct historic building recording at Hawk Works, a late 19th- to early 20th-century engineering works at Mary Street, Sheffield (NGR SK 3540 8660) (Figures 1 and 2). At the time of the survey, the works were in the process of conversion into flats. The current report incorporates information from a desk-based assessment of the site that was carried out previously by ARCUS, but includes additional historical research. A series of photographs taken during the site visit, along with floor plans, are included on CD-ROM.

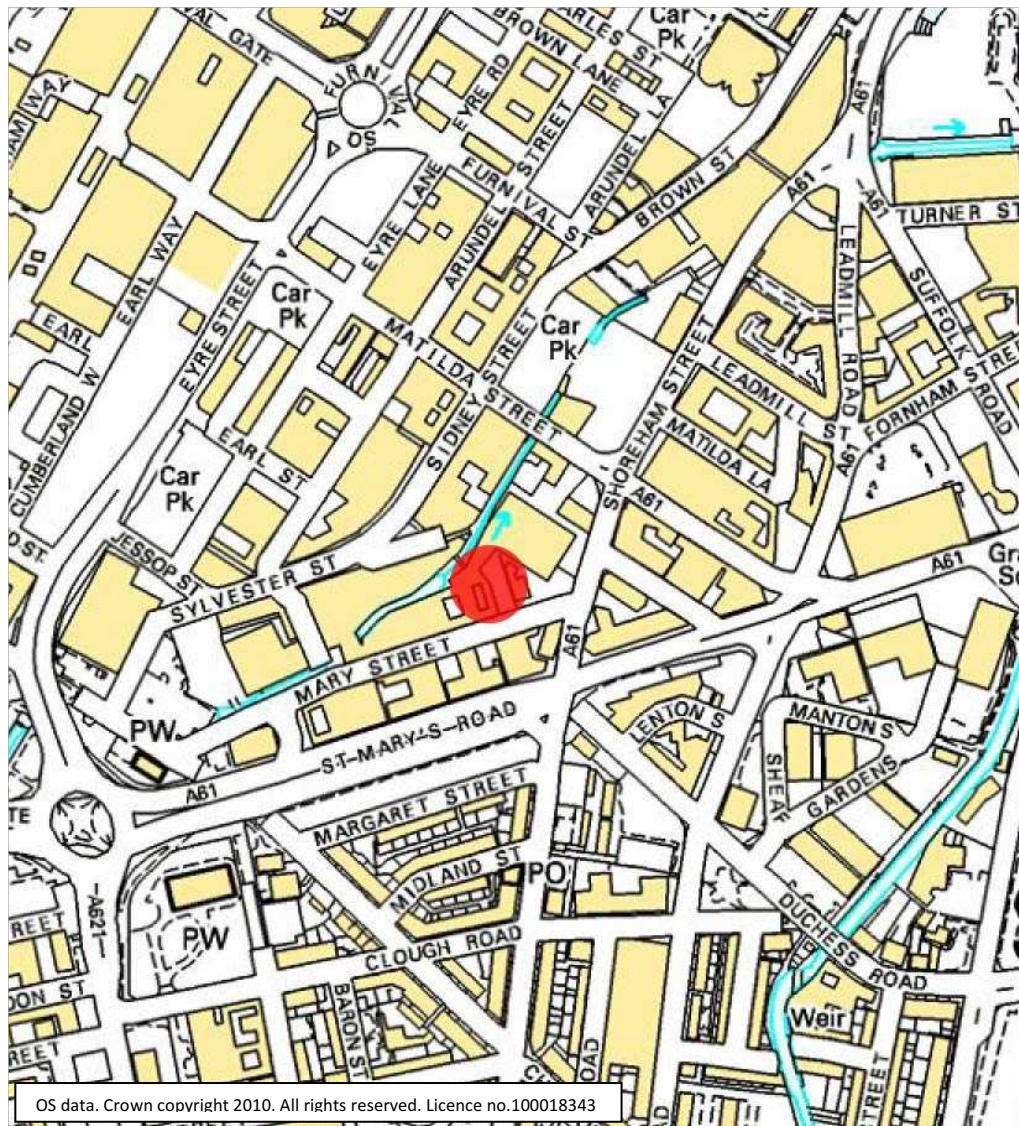


Figure 1: Site location

2 METHODOLOGY

This report describes the building as it stood during the programme of building recording. The conversion of the works commenced prior to a full historic buildings survey being undertaken and many details of the former fixtures and fittings were obscured. South Yorkshire

Archaeology Service therefore agreed to a less detailed assessment being conducted as a programme of remedial works at the site. A great reliance has thus been made on photographs taken by the developer's agent taken prior to the conversion taking place. A further set of photographs that were taken during the early stages of the refurbishment work were also consulted. This report is thus more descriptive than analytical and, where possible, the phasing relies mostly on visible changes in the external fabric, supported by map evidence.

For ease of description, the complex has been divided into four buildings which broadly reflect the phasing but should not be taken as entirely discrete structures (Figure 9). The report describes the complex externally and then internally, from the ground floor upwards, and relates the existing spatial arrangements to the photographic record and the map evidence and comments on any original features where surviving.

3 LOCATION, GEOLOGY & TOPOGRAPHY

The Hawk Works are located to the south of Sheffield city centre (Figure 1) and are bounded by the Porter Brook to the north, the Universe Works to the west, the now vacant site of the Union Works to the east and Mary Street to the south. Mary Street is located within Sheffield's Cultural Industries Quarter Character Area. The underlying geology of the site is Upper Carboniferous Lower Coal Measures. Mary Street is largely flat, with a very gentle east-west slope.

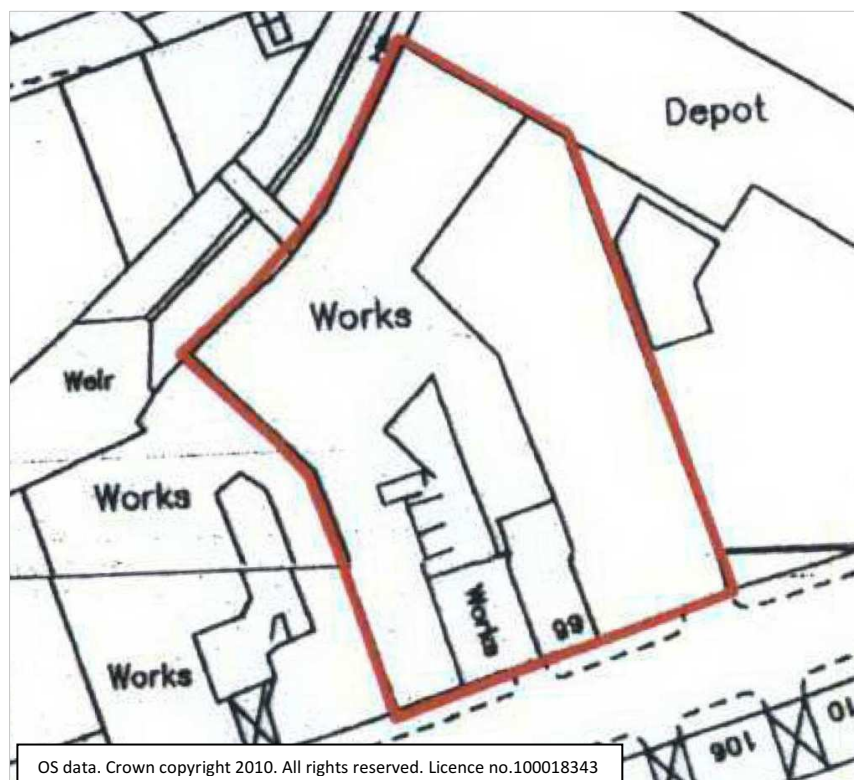


Figure 2: Site plan

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1 Prehistoric to Medieval

There are no prehistoric, Roman or medieval sites or findspots within the site. There are no cartographic sources or documentary references to the general location of the proposal area and the site lies outside the known limits of both the medieval town and the Great Park, a deer park maintained by the manorial lords of Sheffield. The site was located within an area known as 'the Pastures' during the early post-medieval period and is thus likely to have been undeveloped land used for the grazing of livestock during the medieval period.

4.2 Sixteenth to Eighteenth Centuries

There are no recorded 16th- to 18th-century sites or findspots within the site. The earliest surviving references to development in the vicinity of the site date from 1581. Rentals from the estate of George Talbot, sixth earl of Shrewsbury, indicate that by that date five waterwheels had been constructed in the site's general area (S114). The 'Sinderheap wheel', to the east of the site, was recorded among the 'wheels in the Pastures' in 1588 (S117).

The Sinderheap Wheel was a cutlers' workshop, which was fed by a goit or artificial watercourse that channelled water from the Porter Brook at the west. The goit crossed the future site of the Hawk Works and is the earliest known feature within the site. The date of the goit's construction is unknown; however, as the Sinderheap Wheel was water-powered, the channel is likely to have been constructed in association with the mill's original development. As an artificial water course, the goit may have contained stone- or wood-lined sections, perhaps around the waterwheel and at the head and tail.

John Gelley's 1721 plan of 'Stones Pastors' contained the earliest known depiction of the site (ACM SheS 1929L). Gelley showed only the southern part of the site, which was separated from the land to the north by the Sinderheap Wheel goit. The mill was known as the 'Cinderhill Wheel' during this period. The 1721 map indicated that the southern part of the site formed parts of two large fields, 'Rail Field' at the east and 'Farr Rail Field' at the west. The derivation of these names is unclear, although the boundary between the fields was marked by a prominent post-and-rail fence. None of the remaining field boundaries were depicted in this way on the 1721 map and it is possible that the two fields derived their names from the particular form of boundary that was used to subdivide them.

Rail fences were typically used in fields where horses were kept and it should be noted that a stable was marked within the eastern field, to the south-east of the site boundary, on William Fairbank's 1764 plan of the area. With the exception of the fence, however, no features were

marked within the site on the 1721 map. Both of the fields were owned by the duke of Norfolk, who had succeeded to the Shrewsbury estate, although only Rail Field was being leased by the tenants of the Cinderhill Wheel.

The Cinderhill mill dam had not been constructed by 1721 but had been built, immediately to the east of the site, by the time of William Fairbank's 1752 plan of the Cinderhill Wheel (ACM SheS 1926S). The site was not shown on that plan, although Fairbank named the areas that bordered the dam; the area of the site to the north of the goit was named as 'Upper Mill Close', while the south-east area of the site was part of a field belonging to 'J. Broadbent's Farm'.

The area had acquired the name 'Stand Leys' by the time of William Fairbank's 1764 plan (ACM SheS 1927S). The two large fields that had been shown in 1721 had been subdivided by 1764 and the boundary that separated the two plots was marked in the same manner as the area's remaining fields, rather than by the rail fence that had been shown in 1721. Fairbank named the former Rail Field as 'Lower Close', with Farr Rail Field marked as 'Upper Close, with Stable'. A weir and a shuttle were shown at the junction of the Porter Brook and the Cinderhill goit, immediately to the west of the site. A shuttle was a wooden structure that could be opened or closed in order to control the flow of water into a goit. The land to the south of the goit was being leased to James Whitham in 1764.

Joshua Wigfull, who had acquired the Cinderhill lease in 1774 and had renamed it the 'New Pond Mill', was renting the land to the south-west, in addition to the south-east, of the goit at the time of Fairbank's 1788 plan of the lower reaches of the Porter Brook (FC MB 387). The 1788 plan contained the earliest known depiction of the land to the north of the goit and showed that the course of the Porter Brook ran immediately to the south of the site's northern boundary.

The 1788 plan contained the earliest known depiction of land within the site to the north of the goit. This area, listed as plot no.158, was formerly known as 'Round Lands' and in 1788 was being leased by the White Lead Company, who operated a lead works to the north-east of the site. The White Lead Company had been founded in 1759; however, the date at which they began to lease the land in the northern part of the site is unknown. The part of the site to the south of the goit was marked as part of plot no.166, a field known 'formerly as Stand Ley'.

William Fairbank's 1790 plan of Stand Ley Closes indicated that, in addition to leasing the land in the south-east part of the site, the proprietors of the former Cinderhill Wheel had also begun to rent the south-west part of the site by that date (ACM SheS 1928S). The land to the

north of the goit was not shown on the 1790 plan and it is not clear if the Porter Brook's course through the northern part of the site had been canalised by that date.

4.3 Nineteenth Century

The site remained undeveloped land at the time of William Fairbank's 1808 map of Sheffield (Figure 3). The Porter Brook had been canalised by that date and the realignment of its course had created the site's present-day north-west boundary.

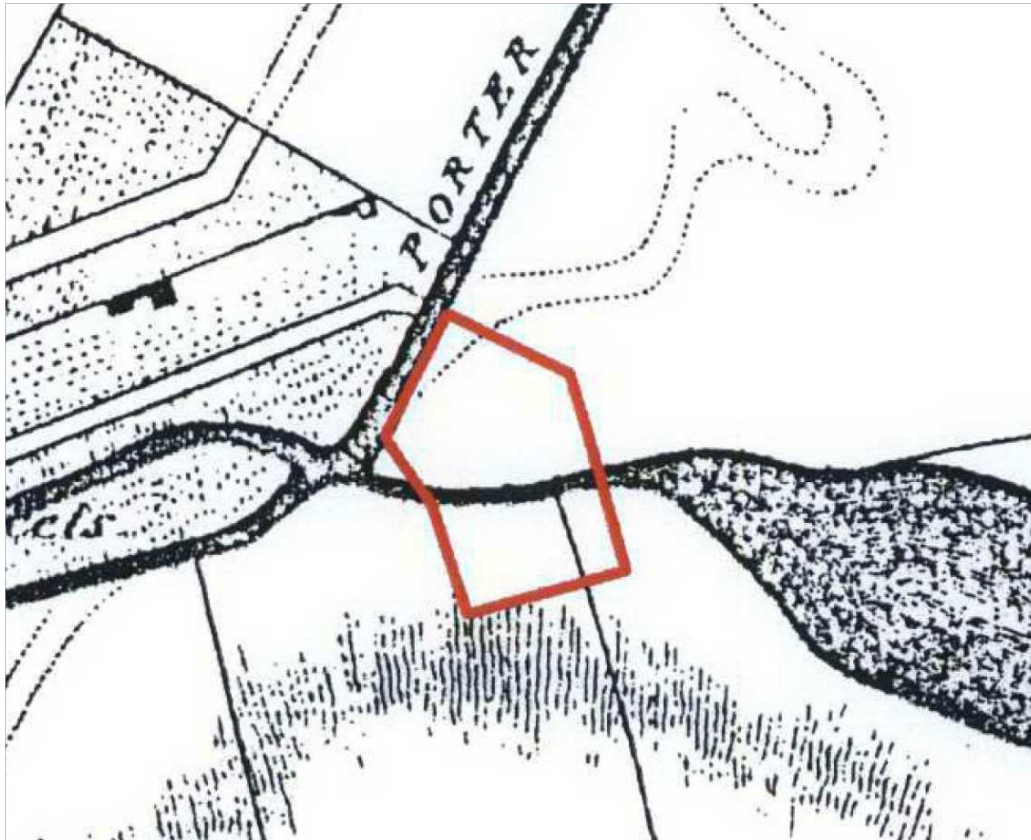


Figure 3: 1808 Fairbank map

The brook's former course within the site is likely to have been infilled rather than covered over during the canalisation process. Field boundaries had also been realigned by 1808; this had brought the eastern boundary of plot no.166 within the site, thus establishing the property division that would mark the site's two plots following the construction of Mary Street.

No changes were shown within the site on John Tayler's 1832 map of Sheffield or on the map included with White's 1841 directory of Sheffield. The northern part of the site appears to have been sold as building land by the Norfolk estate during this period. John Watson, a Sheffield solicitor, purchased the land to the north of the goit in 1835 (385/K120/127a; Flavell 2003). A series of gardens or allotments were shown to the north of the goit on the 1850

Ordnance Survey map (Figure 4). This development accords with a widespread practice throughout south-west Sheffield during this period, when many of the plots that were sold off for building by the Norfolk estate 'were cultivated wholly or partly as gardens until eventually built up' (Flavell 2003, 100).

The gardens ran south-east in parallel plots at the rear of Mudford's Terrace, a housing development to the north-east of the site. The only structures within the site in 1850 were a small series of open walls adjacent to a more substantial wall along the frontage of the canalised Porter Brook, and a rectangular structure containing three internal spaces that was located at the south of the central plot. The area between this feature and the goit to the south comprised three larger, irregular plots and a pathway along the northern bank of the water course. Several of the Hawk Works' future boundaries appear to have been established in relation to the alignment of various paths that were shown within the site on the 1850 Ordnance Survey map (Figure 4). The goit remained an open channel in 1850, although the pathway may suggest that the north bank had been reinforced. To the south of the goit, the site remained an undeveloped field.

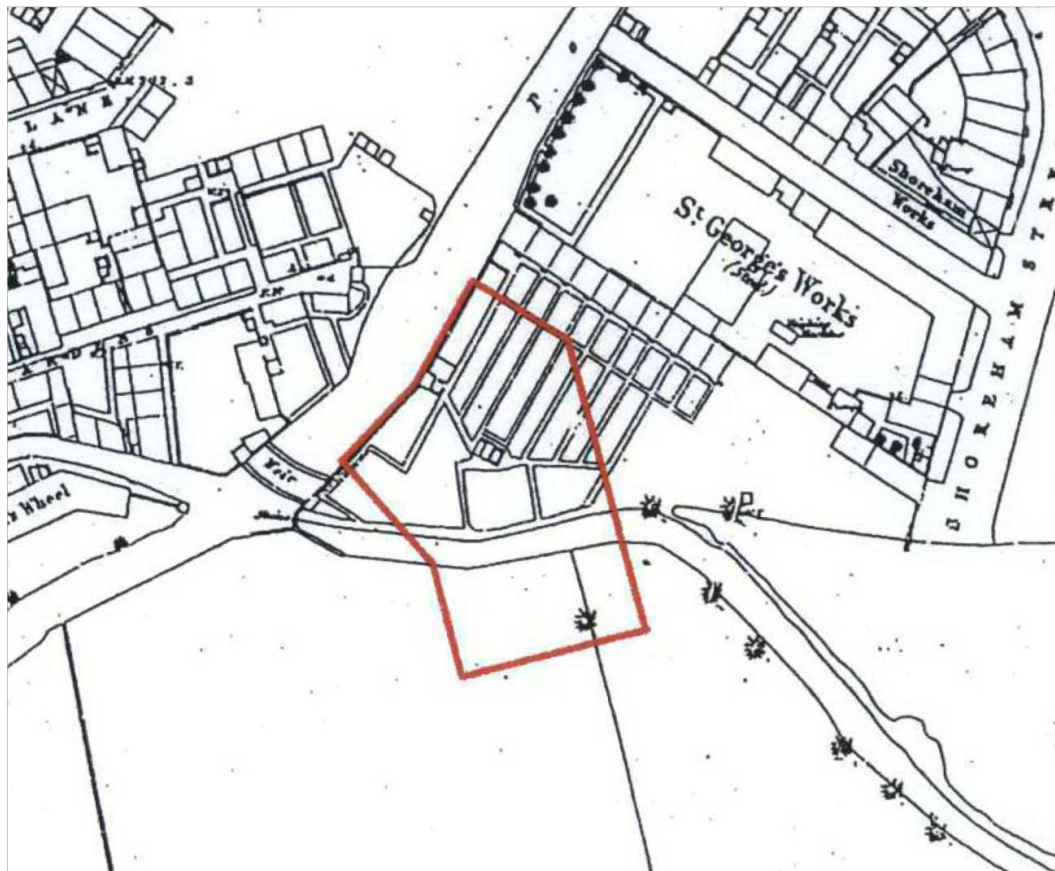


Figure 4: 1850 Ordnance Survey map

Norfolk estate documents indicate that several parcels of land within the Stand Leys area were being leased to tenants during the first quarter of the 19th century (ACM/SD/473-489; ACM/SD/875/85). The surviving leases do not cover the site, which suggests that the southern half of the site may have remained under the control of the Cinderhill/New Pond Mill tenants during that period. The mill closed in 1860. Mary Street was constructed between the infilling of the former mill dam in 1866 and the publication of White's 1879 trade directory, which included an entry for Boswell Brothers, file manufacturers, at Mary Street.

The first appearance of Boswell Brothers at Mary Street, along with the Norfolk estate's lease of the site in that year (385/K120/127a), may indicate that the works were newly-constructed in 1879 and that Boswell Brothers were the first occupiers of the premises. An 1883 lease between the Boswells and the Norfolk estate suggests that the company had rented further land in order to expand the works (385/K120/127a). The location of the additional plot is unclear.

Both plots within the site had been developed by the time of the 1890 Ordnance Survey map (Figure 5). The present-day site perimeters had been established, although several internal divisions were different from their 20th-century counterparts and the north-west section of the western plot was part of the works yard within the eastern plot at that date.

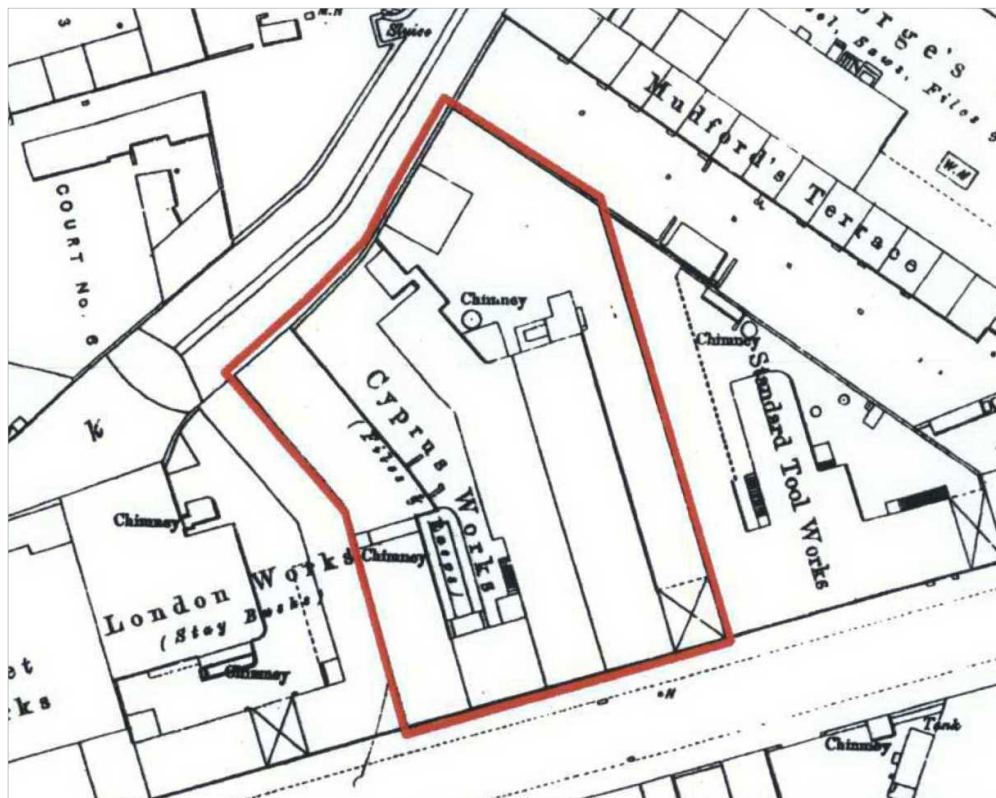


Figure 5: 1890 Ordnance Survey map

The name 'Cyprus Works' was printed over the western plot, with 'files and rasps' indicating the nature of production at the site. This was confirmed by the Sheffield ratebooks for 1891-1892 which named Thomas and Albert Boswell as the owners and occupiers of premises on Mary Street comprising an office, warehouse, workshops and machinery, and White's 1893 trade directory entry which listed Boswell Brothers as file manufacturers based at Cyprus Works.

Four blocks were shown around a central plot on the 1890 Ordnance Survey map, along with three buildings along the street frontage and a fourth overlooking the Porter Brook. Two ranges were located along the western perimeter, separated by a square chimney. A boiler, possibly the steam boiler that was depicted subsequently on the 1905 Goad fire insurance plan (Figure 6), was shown in the works yard to the rear of a small square building that was located centrally along the street frontage. No further features were contained within the yard, with the exception of an external stair leading to a square structure abutting the eastern range. The latter extended from the Mary Street frontage along the majority of the plot's eastern perimeter. Cyprus Works did not appear to have a cart passage or goods entrance at this date.

The 1890 OS map did not name the works within the eastern plot. However, the 1891-1892 ratebooks listed the neighbouring plot as a workshop owned and occupied by Joshua Barnes. This man had been listed at Mary Street as a smith in Kelly's 1883 directory and was named subsequently in the 1893 directory as a hammer manufacturer based at Hammer Works. This suggests that the site's eastern plot had been known by this name prior to it becoming Guion Works. This is supported by the presence of another hammer manufacturer, Murfin Brothers, who were listed at Mary Street in White's 1898 directory, while hammer production certainly took place within the eastern plot by 1912. Features within the Barnes site in 1890 included a single rectangular building with an adjacent covered entry at the east; a works yard; a circular factory chimney; and a boiler. Two small structures abutted the north face of the main block, while a square building abutted the wall that formed the Porter Brook boundary.

4.4 Twentieth Century

The site's western plot had acquired the name 'Hawk Works' by the time of Goad's 1905 fire insurance plan. These works were marked as a cutlery works occupied by Boswell Hatfield and Co. Ltd. Hawk Works was constructed of brick and had a three-storey street frontage with windows facing into the central yard. A covered entry had been inserted into the central area of the street frontage, while a steam boiler stood below a wooden canopy in the yard.

North of the factory chimney, a brick building ran to the site's Porter Brook perimeter. This range contained a slate roof, with windows facing both into the works yard and over the brook. A wooden bridge had been constructed over the Porter Brook leading from the works yard to further Boswell Hatfield premises on the opposite bank of the river. Since the production of the 1890 ordnance Survey map, the Hawk Works had taken over the northern area of the Hammer Works' yard. By 1905, this location contained a three-storey, flat-roofed structure marked as workshops. These housed a gas-powered engine and had two strips of central skylights, with a series of windows along the Porter frontage and water tanks situated on the roof.

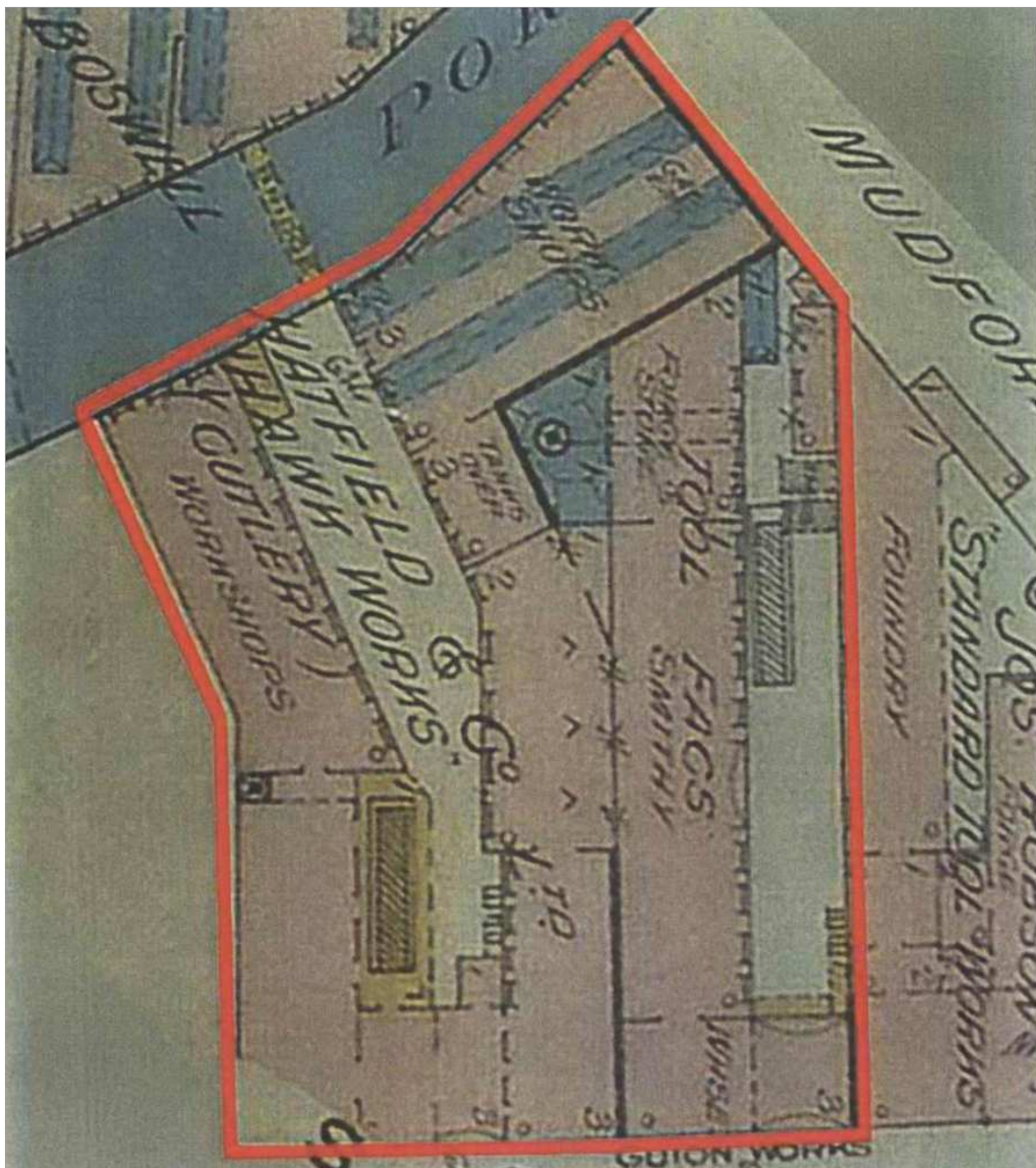


Figure 6: 1905 Goad fire insurance plan

The site's eastern plot was marked as the 'Guion Works', a tool factory, on the 1905 Goad plan. The rectangular building depicted on the 1890 map had been extended to the north and was marked as a three-storey brick-built block containing a smithy, a forge and stores. The extension of this building had enclosed the factory chimney with a tight, angular space, while the works yard contained a metal steam boiler set in a brick casement, two metal tanks and three small buildings.

White's 1912 directory listed Boswell Hatfield and Co. Ltd at Hawk Works, with Cornelius Wilkinson, hammer manufacturer, at Guion Works. A 1915 Land Valuation Return indicated that the leasehold of the Hawk Works was held by the duke of Norfolk and 'the successors' of John Watson, while Boswell Brothers had acquired the freehold of only a small part of the site (385/K120/127a).

The 1915 return gave the land value of the Hawk Works as £1,200, with the buildings bringing the total value to £5,920. The last recorded sale of the works, comprising 'all the premises, including fixed plant and machinery' had brought £5,500 in 1907. Given the retention of leasehold by the Norfolk estate and Watson's successors, the works' purchaser and the terms of the sale, are unclear.

The Guion Works were not listed in Kelly's 1929 or 1931 directories and the updated additions produced by Goad in 1934 named them as the Union Works, a machine knife factory occupied by F. Mountford and Sons. Contemporary trade directories listed this company at Wellfield Works to the south-west, but the Goad plan revealed the latter to have been the Mountford storehouse. The main block abutted Hawk Works and contained stores and grinding areas. The former works yard contained several brick and wooden structures with corrugated iron roofs abutting the eastern perimeter. These included forges and an open-fronted structure that may have been a garage or vehicle storage area.

The Hawk Works were marked as a cutlery factory occupied by Samuel Pearson and Co. Ltd on the 1934 Goad plan additions. The street frontage of the western block contained a first-floor office, with a cutlery case factory on the second and third floors. The steam boiler shown on the 1905 plan had been removed and sunken tanks had been inserted into the works yard at its former location. Several areas were specified as having concrete floors. It is not known if these had been present at the time of the 1905 Goad plan or were new insertions and thus indicated rebuilding. In addition to Samuel Pearson, several other firms were listed at Hawk Works in Kelly's 1939 directory. These included Alfred Wainwright, cutlery manufacturer; the Handsworth Razor Company; and the Porter Grinding Company, table blade grinders. Of these,

only Pearsons and the Porter Grinding Company were listed at the site in Kelly's 1948 directory.

Hawk Works were marked as a cutlery factory on the 1952 Ordnance Survey map (Figure 7). A goods entrance had been inserted in the centre of the street frontage by 1952, while several buildings had been constructed in the northern half of the works yard. Two sets of stairs were shown attached to the facade of these structures, indicating external access. The 1952 map marked the Union Works as an 'Agricultural Implement Works', although the 1959 Goad additions indicated that the site remained a machine knife factory occupied by F. Mountford and Sons Ltd.

The 1959 Goad additions showed that the main block remained a grinding shop, with stores at the north; however, the factory chimney first shown on the 1890 Ordnance Survey map had been removed and a structure with a corrugated-iron roof occupied its former location. A building at the north-west of the plot was shown as a machine shop, while the variety of structures marked along the eastern site perimeter on Goad's 1934 additions had been consolidated into a grinding shop with an asbestos roof.

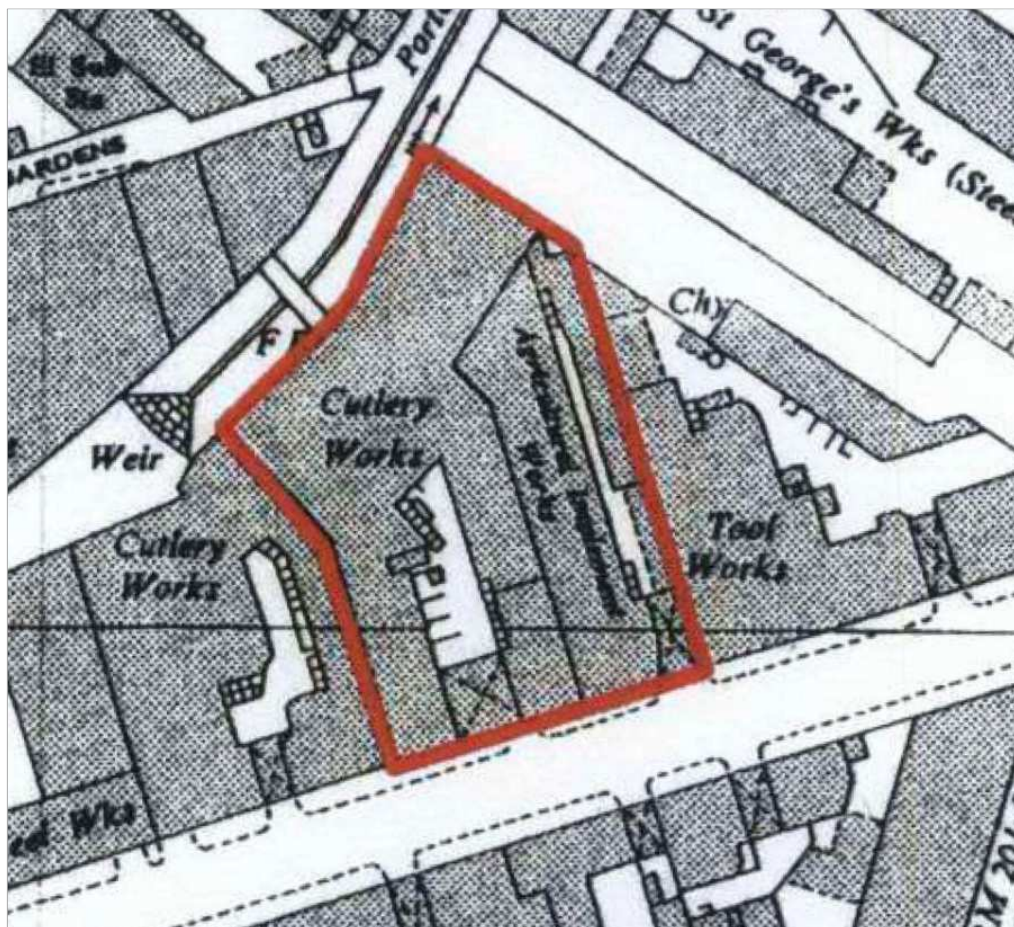


Figure 7: 1952 Ordnance Survey map

The building adjacent to the covered entrance from Mary Street was shown as an iron store in 1959, while a mark-maker occupied the upper floors of the street frontage. This is likely to have been R.F. Pasley, who had been recorded as a mark letter-maker in the Mary Street directory listings since 1948. A wooden gangway at the rear of these buildings may have been associated with the Pasley premises; this feature was accessible via an external stair which had been installed at the rear of the iron store.

Pearsons remained at the Hawk Works in 1959. The street frontage had been remodelled by that date and contained first-floor offices, with a showroom on the second floor. The latter contained a hoist or lift in the north-west corner and had a wooden floor, while the remaining rooms retained their concrete floors. This suggests that internal restructuring had occurred by 1959, perhaps in relation to the creation of the showroom.

A structure located on the site of the former factory chimney contained a second-floor celluloid store; this was accessible via an external stairway that was located in the works yard. The large blocks along the western site boundary remained apparently unchanged, while die-stamping operations took place on the eastern block's second floor. Both of the plots within the site were marked simply 'Works' on the 1963 Ordnance Survey map.

Kelly's 1969 directory did not refer to the Hawk Works by name but gave the address as no.99 Mary Street, which it retains at the present day. A number of changes of usage may be indicated by the presence of the Skinner Property Company and A.T. Brooks, an oil merchants. F. Mountford and Sons remained in the adjacent plot, while William Cook and Sons (Glasgow) Ltd, saw manufacturers, were also present. The site visit suggested that several aspects of the building's street frontage had been rebuilt during the mid-20th century; however, it is not clear if these structural changes occurred in relation to changes of usage within the site in this period or in association with its occupation by Arkote Ltd during the last quarter of the 20th century.

Both plots within the site were marked as 'Engineering Works' on the 1970 Ordnance Survey map, although it is not clear from the contemporary trade directories which of the firms listed at the site were engineering companies. Each of the companies listed in Kelly's 1969 directory remained at the site in 1974, when the trade directories ceased publication. The Union Works was shown on the 1979 Ordnance Survey map but had been demolished by the time of the 1986 map (Figure 8). No further changes appear to have occurred within the proposal area by the time of the 1995 Ordnance Survey map.

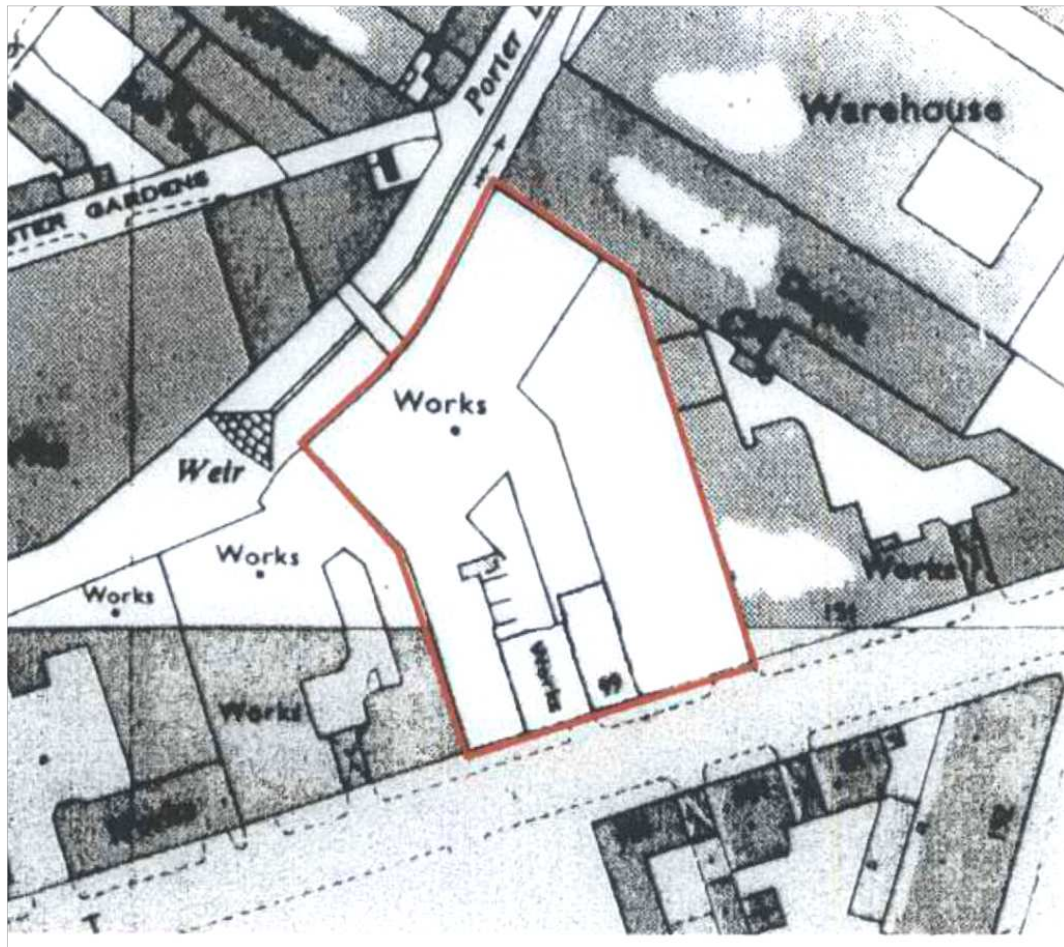


Figure 8: 1986 Ordnance Survey map

5 RESULTS

The Hawk Works is a complex of former industrial buildings associated with the metal trades, with its origins in the mid- to late 19th century with later alterations and additions. It is brick-built with some stone and concrete elements confined on the exterior to decorative trims. The bulk of the buildings are on three floors, with a mix of flat and pitched roofs. The plan form of the building is broadly an inverted 'L'-shape, with one arm on a north-east to south-west axis, parallel to the brook (Building D), with the other arm fronting onto Mary Street and formed by two wings (Buildings B and C). These ranges surround a central yard, with Building A forming the west side of the south frontage (Figure 9).

The yard area has a crane hoist across it; the photographs show that much of the yard was formerly covered with corrugated asbestos. The Hawk Works do not contain basements. The site of the former Guion and Union Works has been cleared of buildings and, until recently, was in use as a car park by Arkote Ltd, who occupied the Hawk Works.

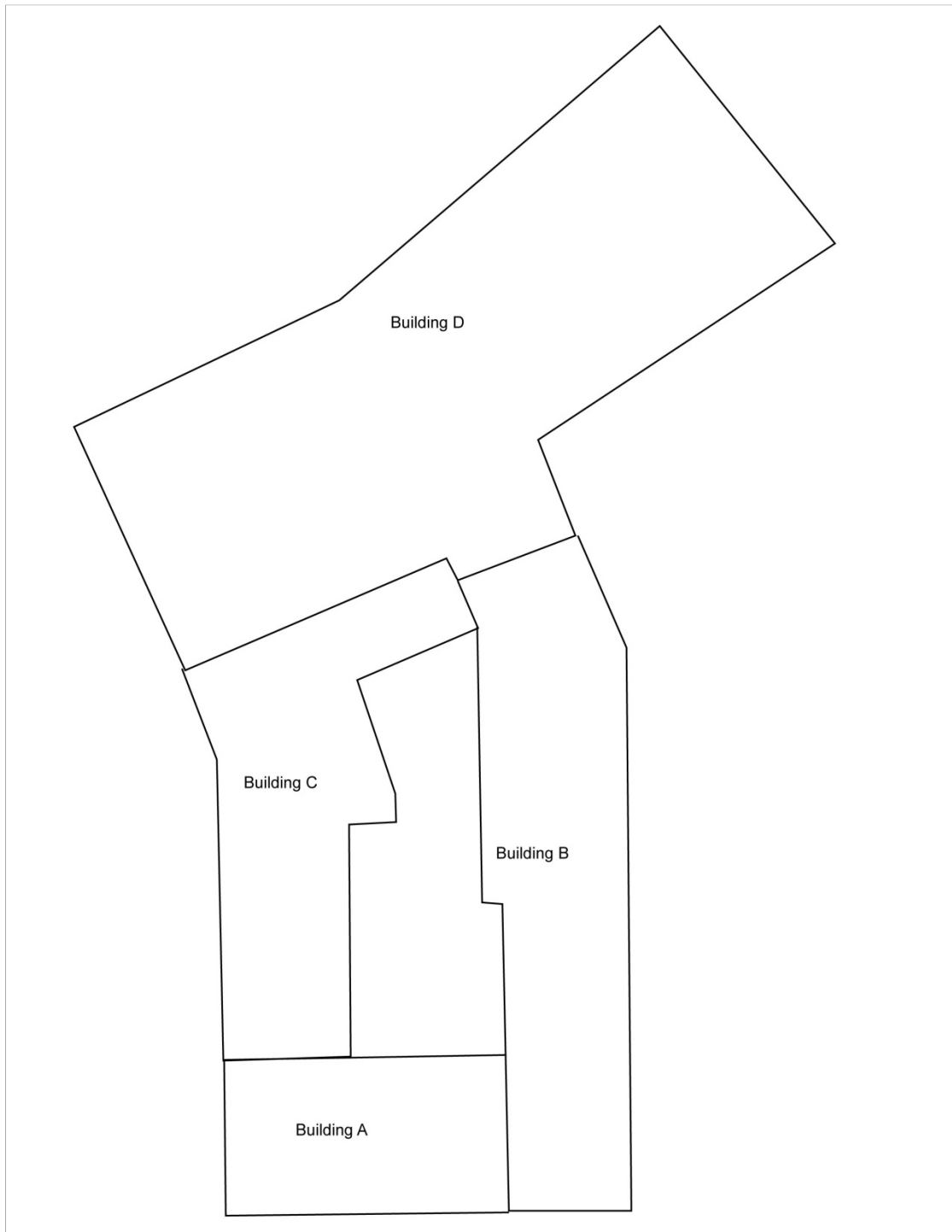


Figure 9: Site plan, showing Buildings A-D

5.1 The External Elevations

The main elevation is on Mary Street. This range contains the only entrances to the complex; vehicular access is via a large goods entrance, which appears to be a 20th-century insertion that replaced an earlier entrance at this location. As the principal façade, it is here that the majority of decorative elements can be found. These are muted and plain, with the whole of the rest of the building being entirely utilitarian in appearance and eschewing any of the

ostentatious displays found on other industrial buildings in Sheffield. On this elevation, two distinct building phases can be identified. These comprise two separate three-storey structures, which abut but are not keyed-in to each other.

5.2 The Interior

Access to the interior is through a large, arched opening which spans the width of Building A. The yard area extends as far as the south-west end of Building D, where there is a flat-roofed, single-storey, angled building across the end of the yard. This building forms the north end of Building C.

5.3 Building A

Building A occupies the western part of the Mary Street frontage and is a six-bay block with a pitched roof parallel to the street (Plate 1). A goods entrance was not shown as part of this building on the 1890 Ordnance Survey map (Figure 5), although a covered entrance was depicted in the eastern half of the building on the 1905 Goad plan (Figure 6).



Plate 1: Mary Street elevation of Building A

Prior to 1952, the ground floor in the north-west part of Building A and that in the southern part of Building C appear to have formed a single interior space.

The upper floors have regular-spaced windows with stone sills and lintels. On the second floor, these are large, flat panes with a tilting top light. On the first floor, those to the left have

single-opening casements, while those to the right have large-paned sash windows. This latter trio of windows are the only set which display any decoration, namely a larger lintel with a rounded lower edge curving off a stone springer. The sill on this floor is a continuous stone band across the full face of the building.

The central of these is a double window, separated by a wooden mullion with a decorated capital. This minor decorative element and the larger central window suggests that the room behind was at some point the main office or board room for the building. However, the floor plan of the interior has this room shown as a cloakroom, shower and storeroom, with the boardroom on the floor above. This arrangement is considered to be a later re-ordering, as the higher status functions are more likely to have taken place on the first floor, behind the best window in the building. A wide, flat-topped vehicle opening to the right is present on the ground floor, while a surviving stone lintel indicates the presence of a further blocked-in opening to the left. There are three more windows within the blockage and a single multi-pane window in the centre.

Mid-20th-century offices are located on the ground floor of Building A. These include a series of rooms formed by veneered hard wood and glazed partitions. The earlier concrete ceiling can be seen behind a false suspended ceiling. The floors above in this range were inaccessible at the time of the site visit. The photographic evidence shows some of the detail of the first and second floors offices, including whitewashed brick walls, *in situ* fireplaces and doors. The existing furnishings are late 20th-century in date and no earlier fabric was visible. On the top floor, the roof structure comprised common rafters, principal purlins, tie beams and raking struts.

5.4 Building B

Building B is situated at the east of the Mary Street frontage and is a smaller structure than Building A. With the exception of its northern terminus, Building B retains the footprint of the structure shown at this location on the 1890 Ordnance Survey map and had acquired its present-day footprint by 1905.



Plate 2: West elevation of Building B

This range, which extends northwards and forms the eastern side of the complex, has a pitched roof end-on to the street where it steps down to a flat-roofed structure further to the north. There are three bays with evenly-spaced windows in the first and second floors.

On the east side of the courtyard, the west elevation of Building B shows a range of original fabric. There are three rows of windows, the lower two of which open onto the high-ceilinged ground floor. The upper row of these windows appear to be have been altered or are later insertions, as the adjacent brickwork shows signs of vertical jointing infilling and there is a continuous lintel over the central two windows, possibly from a former loading bay (Plate 3).



Plate 3: West elevation of Building B, showing altered or added windows

The three floors are separated by a decorative stone band. The first floor windows are multi-paned, right-opening single casements with an arched lintel. Those on the upper floor are single panes with wooden lintels. All the wood work is painted green; this is consistent with the colour scheme throughout the buildings.

At the east side of Building B, a continuous plain brick wall extends north with a dog-leg at the northern end. The first part, corresponding with the pitched roof, is entirely plain. Beyond this, a set of four blocked windows on the first floor are located above a stone band, with seven larger windows on the floor above.

Internally, this is reinforced by the presence of a steel girder in front of these windows. The plan shows this area to have been a steel store and there are hoists in place for this purpose. The floor and ceilings are both formed by the original reinforced concrete.

At the south end of Building B, evidence of the original 19th-century structural form survives. The first floor was formed by timber had been reinforced by vertical steel girders. On the floor above, the canteen had a timber tongue-and-groove ceiling resting on wooden joists supported by timber uprights. In places, these were clamped together with metal straps. The use of timber, rather than steel and concrete, indicates that these parts of the building were never intended for industrial use.

5.5 Building C

Building C rises up to two floors and has a pitched roof end-on to Building A. Building C retains the majority of the southern half of the footprint of a cutlery workshop that was shown at this location on the 1890 and 1905 plans. The northern part of the workshop extended to the Porter Brook boundary and was demolished during the mid-20th century in association with the construction of Building D. It is not clear to what extent the southern part of the cutlery workshop was demolished during that period, or the extent to which the present-day Building C retains elements of the 19th-century structure.

Building C had a large open room on the ground floor, with two offices above. The photographs show little significant original material surviving, other than the whitewashed brick walls (Plate 4).

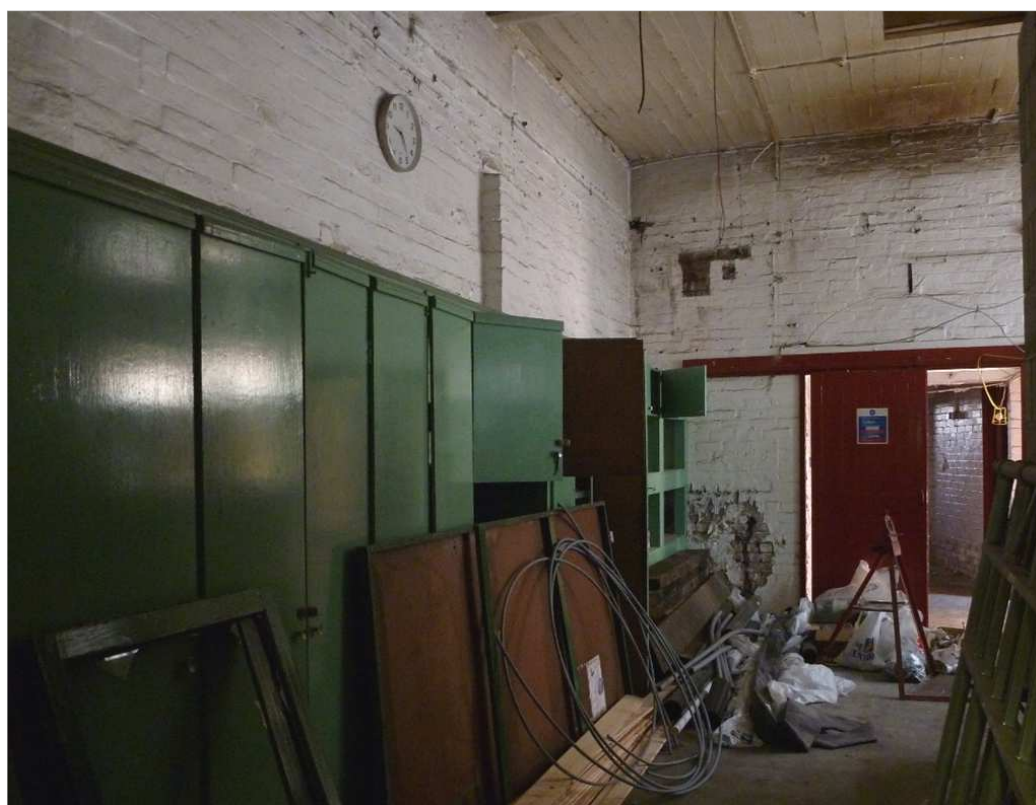


Plate 4: Interior of Building C, looking towards door to Building D

5.6 Building D

Building D occupies the site's Porter Brook frontage. The western half of the present-day building occupies the site of the northern part of the cutlery workshop that was shown in 1890 and 1905; the northernmost part of the works' yard; and a number of smaller structures that stood at the east of the yard. The eastern half of Building D occupies the site of a square

structure that stood within the northern part of the Guion Works' yard in 1890 and comprises the workshops that had replaced the latter features by 1905.

Building D is a brick-built structure, the south face of which lies at right angles to the end of Building B. It rises over two floors with a corrugated asbestos pitched roof and glazed north lights. On the south face of this wall, there is a small door to the right and a large opening holding ventilation plant. There are two tall external metal stacks and significant areas of smoke/soot blackening of the surrounding fabric. The scar of the gable end of the former Union Works building can be seen on this wall. Whilst, at first glance, it appears as though the wall is a single build, there are sufficient differences in the brick work to indicate that the triangle formed by the gable of the Union Works predates the remainder of the wall (Plate 5).



Plate 5: South-east face of Building D, showing scar of former Union Works



Plate 6: Interior of Building D, looking north-east

Building D retains the most obvious indications of industrial use. The ground floor comprised two large rooms, with that at the east housing the furnace and hardening plant. This room had a series of steel columns supporting cross girders, which in turn supported further girders that supported the concrete floor above (Plate 6).

The furnace room was well lit and ventilated, with floor-to-ceiling windows to the north. The upper floor contained the workshops lit by north lights and windows overlooking the yard. A service elevator connected the various stages of the process. There are traces of earlier fabric and features such as mountings and blocked openings for ducting. A pair of blocked windows in the west wall of the furnace house suggest this was once an outer wall.

5.7 Discussion

Whilst there is some evidence of adaptation through the alterations to the west side of Building B and the blocked windows in Building D, there are few substantive remains associated with the late 19th or early 20th-century configuration of buildings on the site. The fabric and form of windows suggests that the earliest building is the south part of Building B. From the evidence of the east wall the workshop to the north is a later addition.

The evidence for change and development is best preserved through historic maps. There are some elements of original fabric but the surviving remains are associated mostly with the 20th-

century works. Nevertheless, the evidence retained through the photographic archive of the site helps to understand the later stages of this Sheffield industrial complex.

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