



Archaeological Standing Building Recording

On behalf of

Markey Construction

Concerning

The Former Norville Factory
Tarrington Road
Tredworth
Gloucester
GL1 4PF

April 2017

REPORT SPECIFICATION

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Report Ref:

BA1717(1662)NFT

Grid Reference:

NGR: SO 839 171

OS Licence No:

100055758

Date:

April 2017

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1 Non-Technical Summary

The programme of Archaeological Standing Building Recording undertaken by Border Archaeology Ltd (to RCHME Levels 4 and 2) on the range of late 19th and 20th century factory buildings (Buildings 1 to 7) occupying the site of the Former Norville Optical Co Ltd Tarrington Road Tredworth Gloucester GL1 4PF (NGR: SO839 171), supported by further detailed documentary research, identified five distinct phases of construction ranging broadly in date from the late 19th century up to the late 20th century.

These may be summarized as follows:

1.1.1 1885-1888

The Ordnance Survey (OS) 1st Edition 25-inch map of 1886 (surveyed in 1883) shows that the study area was undeveloped at that time (i.e. 1883) comprising the northern part of a large tract of open land bisected to the SE by the Gloucester to Swindon Railway.

In 1885, the area shown as open land on the map was established as the site of a small-scale enterprise founded by Charles Allan Jones for the manufacture of patent step ladders, known as 'Lattisteps'. The business was housed in a small workshop measuring 40 feet by 25 feet. As far as can be ascertained, no trace of the original enterprise survives above ground, although there may be buried remains lying beneath the later buildings and yardage.

1.1.2 1888-1892

A period of rapid expansion followed the grant of a 14-year lease to Allan Jones in 1888 and by 1892 the Hatherley Works as it was then known comprised 'the valuable trade premises and extensive yards situate in Melbourne Street known as 'The Hatherley Works', reported in the *Gloucester Citizen* of August 30 of that year. However, apart from 'No 116 Melbourne Street', it is difficult to identify any of the buildings described in the *Gloucester Citizen* report of August 30 1892 with those shown on subsequent plans.

1.1.3 1892-1918

Comparison of the block plan of 1897 and OS 25-inch map of 1902 with the existing site layout reveals a number of similarities. Building 3 is clearly shown in its present form while further structures occupy the locations of Buildings 4, 5 and 6, together with others destroyed in the fire of 2012. Building 7 does not appear to have existed in its present form in 1902, although it is shown on a subsequent plan dated 1909. Also shown is the now demolished oblong structure attached to the southeast elevation of Building 4 and abutting the northeast elevation of Building 6.

A series of planning applications submitted between 1897 and 1909 reflect the continued expansion of the Hatherley Works. Planning application block plans of 1897, 1907 and 1909 clearly show that the site had been established in roughly its present form by the end of the first decade of the 20th century.

The premises at this time and were considered to be in the vanguard of industrial design with 'operatives working under the best conditions attainable' in 'light clean and roomy' departments, as characterised in a publication entitled *Industrial Gloucester* produced in 1904 by the city-based publishers Thomas Henry Chance and Samuel Bland. Of particular note was the fact that the works were 'provided throughout with a most unique and original tram system, by which the product is carried on trucks through every department to all floors of the warehouse without lifts'. It is clear from the on-site investigation that sections of this system remain intact with rails embedded in brick paved yardage.

1.1.4 1918-c.1940

A detailed valuation of the Hatherley Works was produced in July 1918 immediately prior to the sale of the premises to G. H. Humphrey and R. H. Bleakley, manufacturers and dealers in aircraft accessories and hangars.

These buildings and the interconnecting system of tramways are shown in some detail on the OS 3rd Edition map of 1923, which seems to reflect precisely the layout of the site as described in 1918. However, the subsequent 4th Edition OS published in 1938 shows that the internal layout of the site on its western side had been subject to internal rearrangement, this being the earliest map to show Building 1 as a separate freestanding structure.

1.1.5 c. 1940 to present

Up until July 20th 1942, Building 3 housed the Auxiliary Fire Service (AFC) and in August of that year this building and a substantial portion of the remaining premises were requisitioned by the Ministry of Aircraft Production for use by the Gloster Aircraft Company, who retained possession until 1945.

It is clear also that three air raid shelters were constructed on behalf of the Ministry of Aircraft Production in the 'yard between Building Nos. 13 & 20', as described in the particulars of a claim for compensation dated March 1947. However, no visible trace of these shelters survives and their precise location is not known as, in the absence of an annotated plan, 'Building Nos. 13 & 20' cannot be identified.

Following its return to commercial use after the Second World War, the Hatherley Works was acquired by the Gloucester Railway Carriage and Wagon Company Ltd. The company was renamed Gloucester Engineering Company Limited in 1961, when it was acquired by Wingets Ltd (Kent).

Comparison of the 1936 OS with the OS plan of 1956 reveals a number of changes affecting the layout of the works buildings, again most notably at its western extent. Wingets subsequently sold the Hatherley Works to Slumberland Ltd. An OS 1:1250 map of the area dated 1971 shows the addition of Building 1a adjacent to Building 1 and Building 2 linking Building 1 and Building 3.

2 Introduction

Border Archaeology Ltd (BA) was instructed by Markey Construction on behalf of Rooftop Housing to carry out an Archaeological Standing Building Recording (ASBR) survey of late 19th and 20th century factory buildings (Buildings 1 to 7) occupying the site of the former Norville Optical Co Ltd Tarrington Road Tredworth Gloucester GL1 4PF (NGR: SO 839 171) (Planning Ref. 16/00815/FUL) (figs. 1 & 2).

The ASBR provides a record of all upstanding structural remains (fig. 2). However, by agreement with Andrew Armstrong Esq. City Archaeologist Gloucester City Council (CAGCC), only Building 3 and its associated wooden ‘tramway’ were considered to merit recording to Historic England/RCHME Level 4, the remainder of the structures being subject to a Level 2 record as a reflection of their lesser architectural and historical importance.

It was also agreed by the CAGCC that the previous Archaeological Desk-Based Assessment (ADBA) (Archaeological Landscape Investigation 2014) provides sufficient historical contextual information for the purposes of the ASBR and the written component of the report includes reference only to the limited additional documentary and photographic material identified during the course of the present investigation.

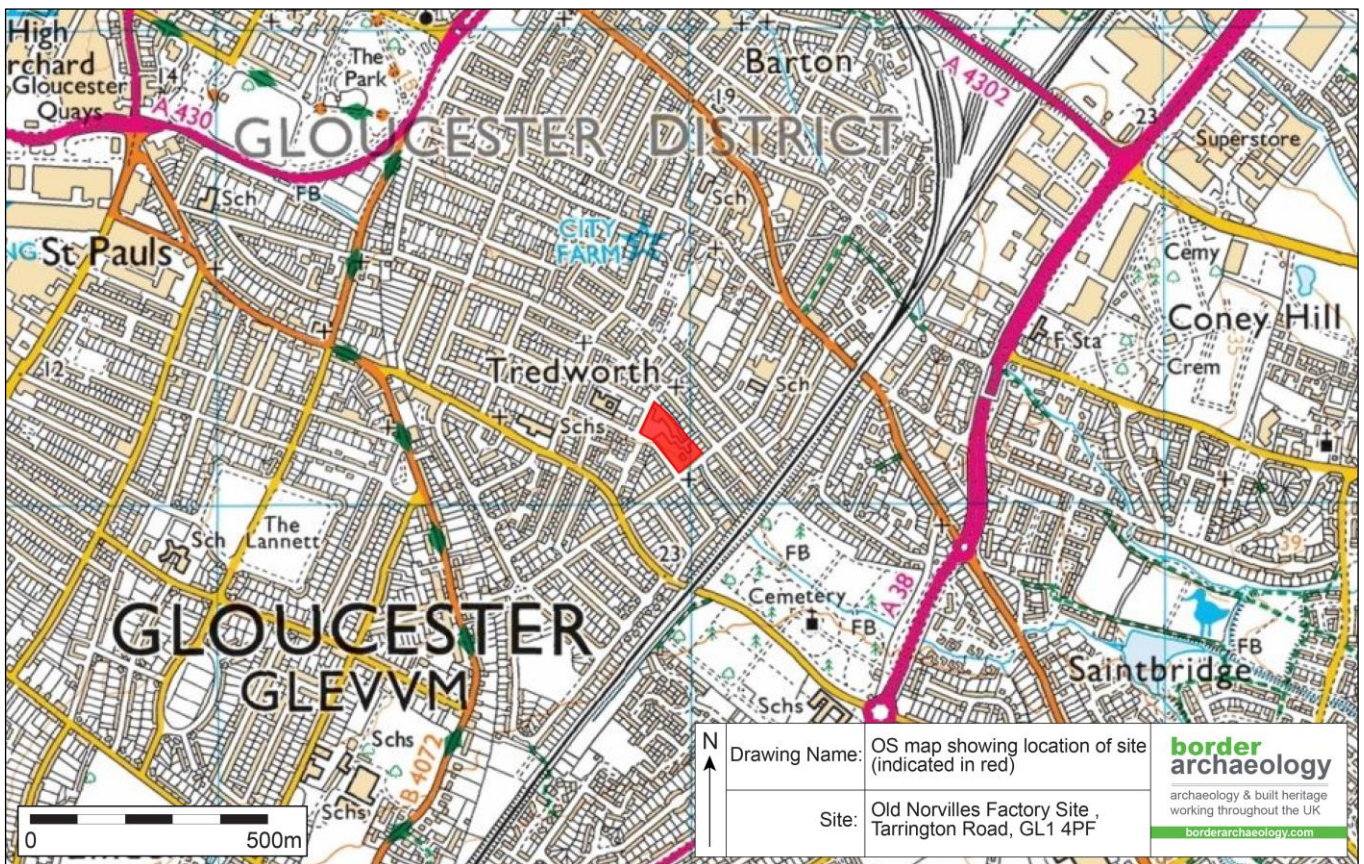


Fig. 1 Site location (marked in red)

BA has previously carried out a programme of work including Archaeological Field Evaluation (Border Archaeology January 2017) and the present programme of work relates specifically to a separate requirement for ASBR on the site, to comprise Levels 4 and 2 records of the structural remains, as specified in *Understanding Historic Buildings – a Guide to good recording practice* (Historic England 2006).

3 Site Description



Fig 2: Plan showing location of buildings as seen in April 2017

The site lies at approximately 19.70m AOD and is within the Barton and Tredworth ward. It comprises a disused industrial complex containing a range of former factory building spanning the late 19th and 20th centuries. A fire in 2012 destroyed much of the fabric existing at that time and a number of fire-damaged buildings were demolished. It is considered that only a single structure, identified herein as Building 3, has survived largely intact from the late 19th century. Much of the remainder of the complex has been subject to alteration or reconstruction due to change of use whilst Building 2, a modern infill block linking Buildings 1 and 3, and Building 1a both date from the late

1960s or 1970s and are of little historic or architectural interest. Building 1, which appears to date from the earlier 20th century, is considered to be of some interest, as it remains largely intact, although internally its condition is poor

Latterly, the site was occupied by the Norville Optical Company, undertaking spectacle lens production; manufacturing ceased at the site in 2002. The surrounding area is mainly residential. Rapid development occurred during industrialisation and much Victorian industrial architecture survives in this area.

3.1 Soils & geology

Due to its urban location, this area has not been surveyed by the Soil Survey of England and Wales (SSEW 1983). However, the British Geological Survey records the underlying geology of the study area as comprising Lower Lias clays of the Jurassic period (Geological Survey of Great Britain Sheet 234) (BGS 2014).

4 Historical and Archaeological Background

The largely rural character of the study area during much of the post-medieval period probably accounts for the lack of archaeological features recorded in the Gloucester City Council HER in the immediate locality of the site.

Gradual urbanisation began in the mid-19th century and Tredworth became a fashionable residential area, with the construction of a number of semidetached villas. By the 1880s, development had taken place to the E of the High Street, although the W side remained largely open land known as 'Newtown'. By the late 1870s, suburban housing had encroached southwards from Barton Street as far as the northern and western boundaries of the site, which at that time lay within the northern part of a large enclosed arable field bordered to the N by the Sud Brook and to the S by Tredworth Road.

The Hatherley Step Works was founded in 1885 by Charles Allan Jones, a local solicitor and inventor. In 1890 Gloucester City Council granted planning permission for the construction of a mill and adjoining workshops. By the late 1890s/early 1900s, the Hatherley Works was exporting 'Lattisteps' not only within the United Kingdom but also abroad, and also specialised into the manufacture of folding tables, cycle stands, trestles and even poultry house. The rapid growth of the business is reflected in substantial alterations to the works buildings made during the late 19th-early 20th century (from the DBA ALI 2014).

In 1897, a planning application was granted for the construction of new buildings on the works site, consisting of a range of new stores constructed adjacent to what is marked on the application plan as the 'Old Mill', located on the S side of Melbourne Road and immediately N of the Sud Brook. It appears that the mill had been relocated to the S of the Sud Brook, with a bridge providing access the brook from the new mill to the old mill which had been converted into a storeroom (GA. GBR/L20/2/1897/55).

The factory produced Jones' patented stepladders and, by the late 1890s/early 1900s, the Hatherley Works was exporting 'Lattisteps' throughout the UK and overseas. The factory also specialised into the manufacture of folding tables, cycle stands, trestles and poultry houses.

This period of rapid business growth is attested by the substantial alterations carried out on the works buildings during the late 19th -early 20th century. The Second World War brought further alterations and adaptations, including the construction of three air-raid shelters, all trace of which have since been removed, with part of the site being requisitioned for use by the Gloster Aircraft Company. Substantial restructuring of the site took place throughout the postwar period as the site passed through several changes of ownership, the latest occupant being the Norville Optical Company Limited, who ceased manufacturing in 2002.

5 Methodology

The Archaeological Standing Building Recording (ASBR) survey as specified by the CAGCC, has been undertaken in accordance with the ClfA *Code of conduct* (2014), *Standard and guidance for the archaeological investigation and recording of standing buildings or structures* (ClfA 2014) and *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Lee 2015).

This specific recording methodology applied herein only in relation to Building 3 is based on a EH/RCHME Level 4 record, as detailed in *Understanding Historic Buildings – A guide to good recording practice* (Historic England 2006), which sets out guidance on the recording of historic buildings for the purposes of historical understanding and is a revised and expanded version of *Recording Historic Buildings: A Descriptive Specification* (RCHME 1996).

The remaining structures and boundary walls were recorded at EH/RCHME Level 2 reflecting a lesser level as these have been subject to extensive alteration and reconstruction.

Level 4 is defined as follows:

Level 4 provides a comprehensive analytical record and is appropriate for buildings of special importance... the record at Level 4 will draw on the full range of available resources and discuss the building's significance in terms of architectural, social, regional or economic history... (Historic England 2006, 27)

A detailed programme of documentary research was carried out in order to assess the historic importance of the buildings. Copies of relevant information, including historic mapping and HER data, were obtained from the Gloucestershire County Council Historic Environment Record. Historic mapping and documentary records were consulted at Gloucestershire Archives and the National Archives. These have been reproduced in this final report, where necessary, to aid interpretation. Building phases were established prior to photographic recording, with each phase being discussed in detail.

The programme of ASBR consisted of the following elements:

1. High-resolution digital photography (20MPX capacity), with suitable scales, of the following:
 - All external elevations (where accessible)
 - All internal room spaces and roof structures (where accessible)
 - Details of any architectural or functional fixtures, fittings and features relating to either the function or development of the building. Each feature was photographed and placed into a wider context (i.e. the surrounding elevation), individual features being photographed as separate items and in detail
 - Photographs illustrating the building's relationship to surrounding buildings and setting
2. A detailed drawn record (including measured plans and internal and external elevations). The report contains:
 - Detailed measured plans showing the form and location of any structural features of historic significance, such as blocked doors, windows and fireplaces, masonry joints, ceiling beams and other changes in floor and ceiling levels and any evidence for fixtures of significance
 - A phased plan of the building, with photograph locations clearly marked, and a location plan related to the national grid
 - Measured, annotated elevation drawings of the exterior and (where feasible) the interior of the building
 - Appropriate additional illustrations that help support findings and the interpretation of the buildings
 - Additional illustrations of dateable fixtures and fittings (mouldings, catches, hinges, latches etc.)
 - A summary description of the building in its current form in the format of a typical listed building description

The paper archive (including this report, photographs and annotated survey drawings) will be deposited at Gloucester City Museum.

Level 2 is defined as follows:

A descriptive record, made in similar circumstances to Level 1 but when more information is needed... Both the exterior and interior of the building will be seen, described and photographed. The examination of the building will produce an analysis of its development and use and the record will include the conclusions reached, but it will not discuss in detail the evidence on which this analysis is based. A plan and sometimes other drawings may be made but the drawn record will normally not be comprehensive and may be tailored to the scope of a wider project (Historic England 2006, 26).

The programme of ASBR consisted of the following elements:

1. A drawn record. The report contains
 - Measured plans (to scale or fully dimensioned) as existing.
2. High-resolution digital photography (20MPX capacity), with suitable scales, of the following

- General view or views of the building (in its wider setting).
- The building's external appearance comprising a series of oblique views showing all external elevations and providing an overall impression of its size and shape. Where individual elevations include complex historical information, view were taken views at right-angles to the plane of the elevation.
- The overall appearance of the principal rooms and circulation areas.

3. A written description. The report contains

- An account summarizing the building's form, function, date and sequence of development.

6 Archaeological Standing Building Recording (ASBR)

6.1 General Building Plan

The complex of former industrial buildings comprises seven structures (henceforth referred to as Buildings 1-7). Of the extant building complex, the range located to the NW of the site (Buildings 1, 2 & 3 – *fig. 2*) was shown to contain three main phases of building, with the N (Building 1) and S (Building 3) structures being connected by later 20th century three-storey infill development (Building 2). Building 1 dating from the earlier part of the 20th century was subject only to limited recording, due to safety concerns, with much of the wooden flooring in a decayed and dangerous condition due to waterlogging. The interconnecting range (Building 2) was recorded photographically.

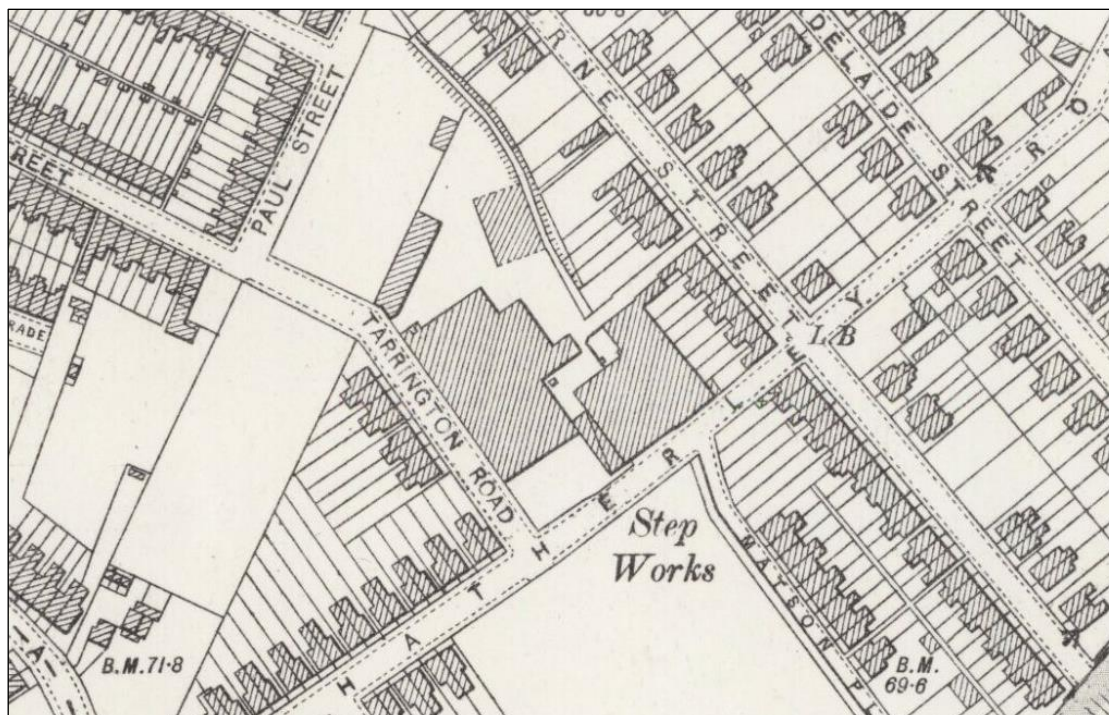


Fig. 3: Extract from the Ordnance Survey 25-inch 2nd Edition map of 1902

The SW range of buildings appears to occupy the site of the main mill complex associated with the Hatherley Works, although this range has clearly been subject to extensive alteration, extension and reconstruction, particularly during the 1940s and 1950s (although no conclusive evidence, apart from documentary sources, has been identified for wartime activity), and relatively little original fabric appears to survive. Moreover, the structural stability of these buildings has been adversely affected by the absence of roofing, due possibly to the fire of 2012, and access to much of the internal space is impeded by the presence of weather damaged laminated concrete flooring. These structures have therefore been subject only to photographic recording.

Little evidence survives for the range of warehousing and offices which formerly occupied the N side of the Sud Brook, access to which was via a main approach alongside No. 116 Melbourne Street East, although sections of perimeter wall remain standing.

The ASBR includes an extensive photographic record of all external elevations, internal connecting surfaces, perimeter walls and fencing. Overall, only Building 3 was considered to be of substantial historical significance, based both on its construction date and overall structural and architectural integrity, and this structure has therefore been recorded to EH/RCHME Level 4. Much of Building 1, which is of a later date than Building 3, appears to have survived, although its condition internally is poor. An extensive photographic record of those part of the buildings that were accessible has been made. The remains of an internal tramway, which was revealed in part within the central portion of the site, is also considered to be of significant historical interest as representing a survival of the 'most unique and original tram system' described in an account published in *Industrial Gloucestershire* (Chance & Bland 1904) which linked all departments of the former Works. Measured drawings and a comprehensive photographic record of this feature were made.



Plate 1: View SW showing Building 7 and other structural remains at the southern extent of site, with fire-damaged building to left



Plate 2: View NW showing Buildings 5, 6, 4 & 3 (extreme right of picture)



Plate 3: View N showing Buildings 1, 1a & 2



Fig. 4: Block plan of 1907 showing configuration of buildings at that time with proposed new drying sheds shown left of picture shaded pink (since demolished). Building 3 is shown in roughly the centre of the plan aligned NW/SE adjacent to the Sud Brook

6.2 Lost Buildings

The site has been subject to successive and substantial phases of redevelopment and expansion since the foundation of the Hatherley Step Works in 1885. The original workshop was housed in a small building measuring 40 feet by 25 feet but no trace of this building survives above ground, although it is possible that original fabric may survive in later buildings. The striking success of the venture brought rapid expansion and in 1897 proposals were submitted for a range of new buildings immediately N of the Sud Brook. A new mill was relocated to the S of the Sud Brook, with a bridge providing access over the watercourse from the new mill to the old mill which had been converted into a storeroom (GA. GBR/L20/2/1897/55). It is possible that the 'new mill' may be identifiable with Building 3, although in the absence of direct documentary evidence for this, this building's use at that time remains uncertain.



Plate 4: View SE showing remains of buildings on N side of the Sud Brook, some of which may be of late 19th century date



Plate 5: View of Sud Brook spanned by former Works buildings

Additional buildings are detailed in plans of 1907 (GBR/L20/2/1907/35) and in 1909 an application (GA Ref. GBR/L20/2/1909/30) was submitted for a new Stores attached to the SE elevation of Building 3. This structure may be identified with 'an ironmonger's store', a three-storey building described in some detail in a Valuation

undertaken in July 3rd 1918 (GA Ref. D2299/1589) with respect to the sale of Hatherley Step Works in August of that year to G. H. Humphrey and R. H. Bleakley, aircraft manufacturers. The inventory described the building as measuring 60 feet by 30 feet with a soft-water tank at ground-floor level extending the entire length of the building. This tank is clearly shown on the original plans, with a sluice opening into the Sud Brook. The first floor was occupied by a 'varnishing shop' with a 'polishing shop' on the second floor. The building was still standing in 1966, when it was shown on a plan accompanying the sale of the Works - then in the ownership of Wingets Ltd (Kent) - to Slumberland Ltd; it has however since been demolished, although a marked thickening of the brickwork on the SE elevation of Building 3 clearly shows where the two structures abutted each other.

The 1918 Valuation describes how the premises were accessed via a covered approach along the side of No. 116 Melbourne Street (now Melbourne Street West): this survives only as a short section of tarmacked road terminating at a set of metal security gates (*Plate 6*). The access off Melbourne Street lead to a storeroom and a valve house, which were located within the rectangular building on the N side of the Sud Brook shown on the plan attached to the 1897 application. On the first floor of the same building were two offices, a store, warehouse and packing room, while on the second floor was another office and storeroom.

None of these buildings survived the fire of 2012 and only the partial remains of an external wall remain upstanding along the Hatherley Road frontage (*Plate 4*).



Plate 6: View SW showing Works access off No 116 Melbourne Street West

A covered way (no longer present) provided access from the office/warehouse building on the N side of the Sud Brook to the mill complex. It is at this point that some confusion arises as, in the absence of detailed plans, it is difficult to identify the precise location of the buildings described in the survey. The Valuation describes the site to the S of the brook as comprising a main mill premises, in front of which was a wooden shed containing a capstan. Adjacent to the main building was a machine shop and joiners shop, a traverser shed for shunting trucks, a foreman's office and a new, smaller mill building. Five timber drying sheds stood on the western side of this complex, including one referred to as a 'Z' shed with a corrugated iron roof (ALI 2014).

Few of these buildings appear to survive in their original form and a number have subsequently been swept away entirely, largely as result of the fire of 2012. There are, for example, no buildings present on the western side of the site previously occupied by the timber drying sheds. Whilst the block plans of 1897 and 1907 show a building reflecting both the form and location of Building 4, it is clear that this building has been much altered, with modern brickwork visible in all three elevations. The block plan of 1897 shows a small oblong structure attached to the SE elevation of this building which is also shown on the plan accompanying the sale of the Hatherley Works to Slumberland Ltd in 1966 but which has since been demolished. However, a clear outline remains visible, punctured by two modern window openings, where this building abutted the NE elevation of Building 5. Its profile suggests a lean-to structure with a stepped mono-pitch roof and a doorway at ground-floor level providing access through into Building 5 (*Plate 7*).



Plate 7: View SW showing stepped mono-pitch profile of building formerly attached to Buildings 4 and 5

6.3 Analytical Description of Existing Buildings

6.3.1 Building 1 (Level 2 Recording)

Building 1, situated at the northernmost extent of the former works, comprises a gabled three-storey brick clad concrete-framed structure. A building roughly occupying this location is shown on plans for 'Proposed new drying sheds' dated 1907 (GBR/L20/2/1907/35); however, the associated elevation drawings show that this range of sheds comprised single-storey structures that, apart from overall dimensions and orientation, do not in any respect reflect the architectural character of Building 1 as it now stands. Whilst no buildings are shown in this location on the block plan of 1909 (GBR/L20/2/1909/30), the Ordnance Survey 25-inch map of 1923 clearly shows this range and it may be that the buildings had been reconstructed at some point in the early 20th century, a date largely in keeping with the architectural style of Building 1. However, it would appear that Building 1 was original erected as a freestanding structure, rather than forming part of a more extensive range, and the first plan to show it as such is the OS 4th edition map of 1938.



Plate 8: View E of SW elevation

The SW elevation contains at least three phases of brickwork, with evidence of blocking visible particularly at ground-floor and first-floor level. The elevation comprises five bays defined by brick pilasters extending the full height of the elevation and capped by Staffordshire blue brick coping. Each bay contains two rectangular two-light top-opening windows with ceramic tile sills within each storey set beneath concrete lintels. The exception to this arrangement occurs in the end bay at the SE extent of the elevation, which contains a single smaller 3-light side-hung casement window offset to the left of blind brickwork reflecting the position of an internal stairwell and lift shaft. This lift shaft and stairwell structure appears to form part of the original fabric of the building and is clearly

visible projecting above the roofline. Much of the lower storey is concealed by Building 1a; however, where visible at the NW extent of the elevation the fenestration at ground floor level differs from the arrangement above. Whilst the windows themselves are concealed being metal screening, the overall dimensions are smaller.

The SE elevation comprises a stepped gable of brick construction with a single course of Staffordshire blue brick coping. Much of the gable is now obscured by Building 2, with only the upper storey visible protruding above its roofline. This comprises a pair of brick pilasters extending to the full height of the gable set either side of a blocked window, with a redundant door opening at upper storey level suggesting external access to the loft space served by means of lifting gear or winch to raise goods directly from ground-floor to upper storey level (*Plate 14*).



Plate 9: View through upper storey window of Building 1 showing internal floor space and gable end with access through to Building 2 with stairwell and elevator shaft to rear right. Note door threshold positioned at ceiling height.



Plate 10: View SE of NW gable Building 1



Plate 11: NW gable and NE elevation of Building 1



Plate 12: Building 1 view NNE of NW elevation showing modern annex at ground floor level



Plate 13: View SE of NE elevation Building 1 showing metal fire escape descending onto flat roof of annex



Plate 14: View N of SE elevation of Building 1 abutted and largely obscured by Building 2. Building 1a is situated to left



Plate 15: View NW of upper storey Building 1 showing double fink roof truss construction



Plate 16: View NW showing goods elevator shaft and adjoining stairwell at upper storey level Building 1

6.3.2 Building 1a and Building 2 (Level 2 Recording)

Building 1a is a small modern rectangular single-storey brick structure constructed adjacent to the SW elevation of Building 1 (*Plates 14 & 17*). It contains a single blocked window opening beneath a concrete lintel in the NW elevation and two overhead roller shutter doors in the SE elevation which appear to have replaced a sliding door, the metal rail and housing for which remains in situ.

Access to the interior of this building was not possible at the time of recording as it had been sealed for security reasons. However, the building was considered to be of no historical or architectural or heritage interest and is included only for completeness. It is first shown on an OS 1:1250 plan of 1971.

Building 2 is a modern, purely functional structure connecting Buildings 1 and 3 that exhibits little architectural, heritage or aesthetic value and merits only a brief description for completeness. It is first shown on the OS 1:1250 plan of 1971.

Building 2 is a modern three-storey brick-clad concrete framed infill block beneath a flat concrete roof with brick parapet and coping. The SW elevation contain a row of eight nine-pane centre-opening windows at upper storey level beneath a concrete lintel (*Plate 17*). The first floor contains six windows of similar form which have been sealed for security reasons behind metal screening. A loading bay with concertina folding door is located at the SE extent of this elevation at first-floor level. The arrangement of windows at ground-floor level differs slightly with a pair of openings set directly beneath the loading bay door and six further openings extending along the remainder of the elevation, which are not arranged symmetrically with the windows above. The NE elevation was not

accessible for recording purposes due to its location adjacent to the Sud Brook. Internally, the building is open-plan with floors supported on square-profile upright posts (*Plate 18*).

It is not shown on the 1: 25,000 provisional map of 1952 nor the 1956 Ordnance Survey 25-inch map; neither does it appear on the plan accompanying the sale of the Hatherley Works to Slumberland Ltd in 1966, which shows what appears to be a small L-shaped structure in this location adjacent to a section of tramway.



Plate 17: View N of SW elevation of Building 2. Building 1a shown centre left



Plate 18: View showing interior of Building 2

6.3.3 Building 3 (Level 4 Recording)

Building 3 is structurally similar to Building 1 comprising a three-storey brick-clad concrete-framed structure. The roof structure differs, however, comprising wooden lattice trusses supporting a curved timber roof with central lantern. The building was identified as the earliest surviving structure on the site and probably dates from the period of substantial building activity that took place on the site between 1888 and 1892. This is supported by the fact that an existing building is shown in this location on a block plan of 1897. In 1909, an 'Ironmonger's Store', now demolished, was added to the S elevation of Building 3 and a thickening of the brickwork at this point indicates where this later building abutted the elevation. A plan of 'Proposed additional property for the Gloster Aircraft Company' dated July 1942 (*fig. 5*) shows Building 3 to be occupied at that time by the Auxiliary Fire Service (AFC). The ground floor plan shows an external staircase and a 'Drying Kiln' is located in the S corner, with a double door opening in the S elevation. The attached Store is also shown and described as 'Space occupied by the Hatherley Works'. Building 3 is largely intact and was subject to detailed recording.

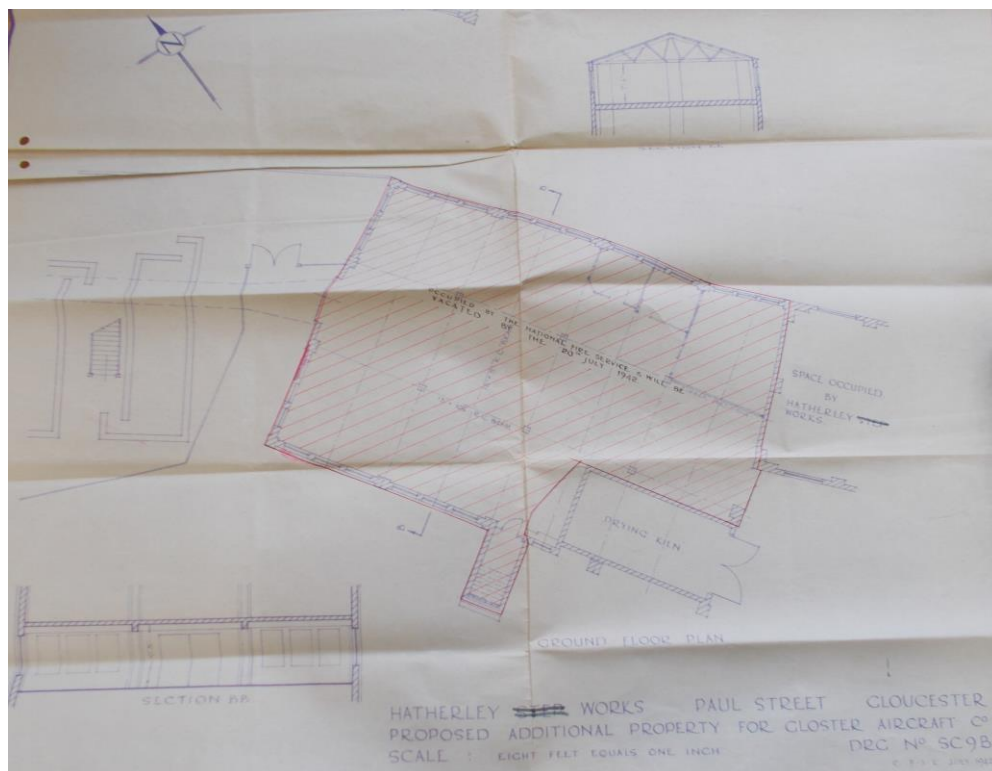


Fig. 5: Proposed additional property for Gloster Aircraft Co. dated July 1942 showing ground floor plan of Building 3



Plate 19: View N showing W elevation of Building 3 showing link block, Building 2 (left)

The W elevation is constructed in English bond brickwork (*Plates 19 & 21*) and is four bays in length, each bay being marked by a brick pilaster extending to eaves height, with three window openings set within each bay. A number of windows are now blocked, those at upper-storey level being infilled with brick containing inset brick-filled, presumably functional, circular features, with others enclosed behind recent metal screening. The windows, as visible, are 16-pane steel casements with central opening beneath concrete lintels and moulded Staffordshire blue brick sills (*Plate 20*). A double doorway at the S end of the elevation provides access to the ground floor and an external metal staircase leads up to first- and second-floor level.

The S gable elevation reflects the curvature of the roof structure (*Plate 22*). A slight dogleg, or 'kink', roughly midway along the façade divides the elevation in terms of fenestration and marks the point at which the building was abutted by a now demolished structure shown on the plan of 1942 as 'space occupied by Hatherley Works' (*Plate 21*). This section of the elevation thus contains no door or window openings. A blocked opening in the SW corner of the elevation at ground-floor level marks the location of a former 'Drying Room' shown on the 1942 plan. The building adjoins a later infill block (Building 2) at its N extent and the E elevation abuts the Sud Brook, the presence of the watercourse and adjacent rear garden plots preventing clear access. However, the limited views available showed a similar pattern of fenestration, with fewer blocked window openings.



Plate 20: Detail of window in upper storey elevation of Building 3

Internally, Building 3 comprises three floors with the first and second floors containing regularly spaced sets of moulded concrete pillars supporting reinforced concrete beams running laterally and longitudinally through and across the building. The upper floor was open plan with the floor supported from below by vertical concrete beams associated with the first and second floors. Very little evidence of surviving internal structures or fittings was identified during the course of the survey.



Plate 21: View SE of W elevation showing curved roof and lantern



Plate 22: View NW showing S elevation of Building 3 and culverted watercourse (Sud Brook), with NE-facing elevation just visible adjacent to the watercourse and rear gardens of neighbouring properties. The photograph shows a thickening of the brickwork marking the point at which a former ironmonger's store built in 1909 abutted the elevation.

Ground floor access was impeded to a significant extent by the presence of large amounts of potentially hazardous construction waste, with plasterboard stacked along each wall (*Plates 23, 24, 25 & 28*). However, a detailed photographic record was made which clearly shows construction methodology. Evidence of the former 'Drying Room' can be seen in the SW corner, at the point of access into the building (*Plate 25*), with further evidence visible externally in the form of a blocked entrance in the SE elevation at ground-floor level in the location of a double door shown on a plan of 1942.

A 'Schedule of State of repair, fixtures and fittings at portion of Hatherley works requisitioned by the Ministry of Aircraft Production' accompanying the plan dated August 1942 provides a description of the ground floor (denoted as 'formerly A.F.S Station') as existing, which is described as having 25 steel casement windows, each with centre-opening lights complete with catch and a pair of double suspension sliding doors with steel runway, two iron handles, padlock arm and staple. A second inventory within the same document relates to the top floor of the 'Old Polishing Shop', which, based on the plan showing those parts of the buildings currently occupied, refers to the adjoining store built in 1909 and since demolished.



Plate 23: Interior of ground floor, Building 3



Plate 24: View NW showing internal cross-section consistent with Section B-B shown on 1942 plan (fig. 5)



Plate 25: View of ground floor showing area of former drying kiln shown on 1942 plan (fig. 5)



Plate 26: View NW of first floor Building 3 looking through into Building 2 and showing moulded pillars and reinforced concrete beams

The first floor was clear of obstructions and was fully recorded, with detailed measurements taken.



*Plate 27: Internal view SE of upper storey of Building 3 showing lattice trusses supporting roof structure.
Note: Open plan with no moulded beams.*



Plate 28: View showing ground floor of Building 3

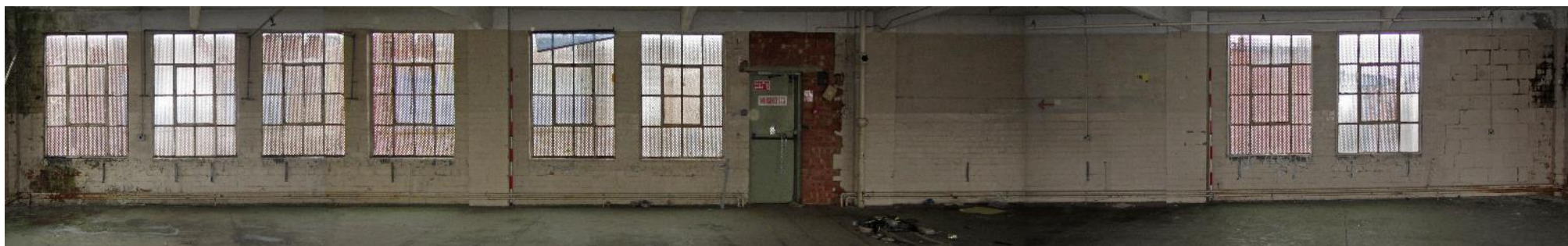
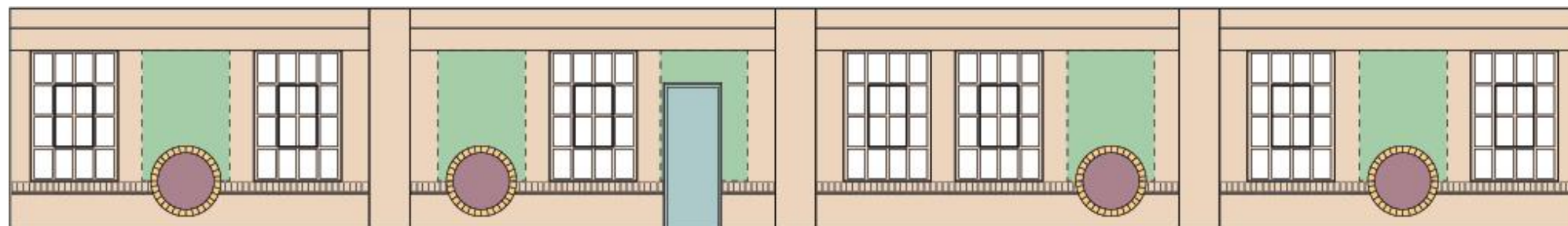


Plate 29: Internal view of W elevation at first floor level



KEY

- Phase 1: Original construction of building
- Phase 2: Infilling of existing windows
- Phase 3: Addition of circular openings
- Phase 4: Circular openings infilled
- Phase 5: Addition of fire door



Fig. 6: Elevation drawing of W internal elevation at upper story level

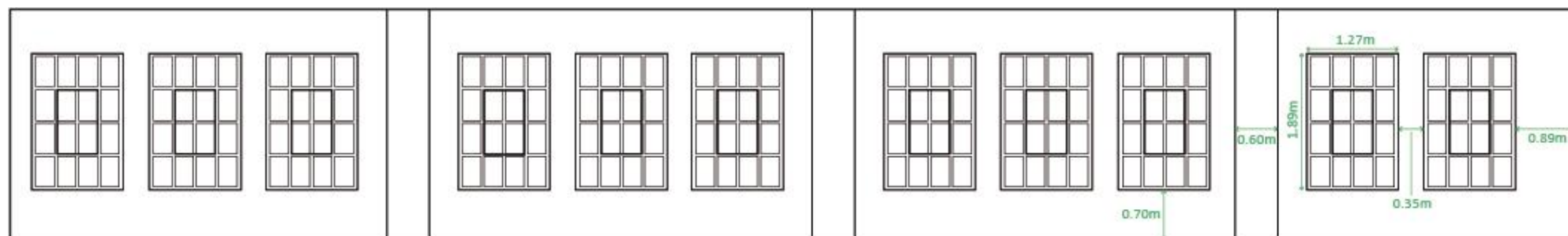


Fig. 7: Elevation drawing of E internal elevation at upper story level



Plate 30: View of internal end wall elevation at upper storey level looking N through into Building 2

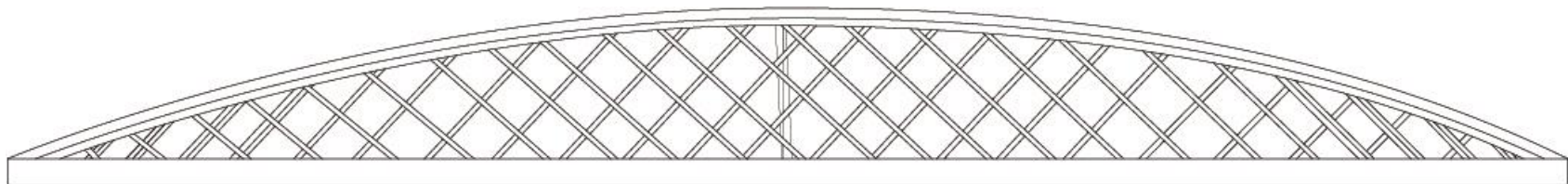


Fig. 8: Detail of roof truss design – Building 3

Fig. 9: Measured drawing showing detail of N internal elevation



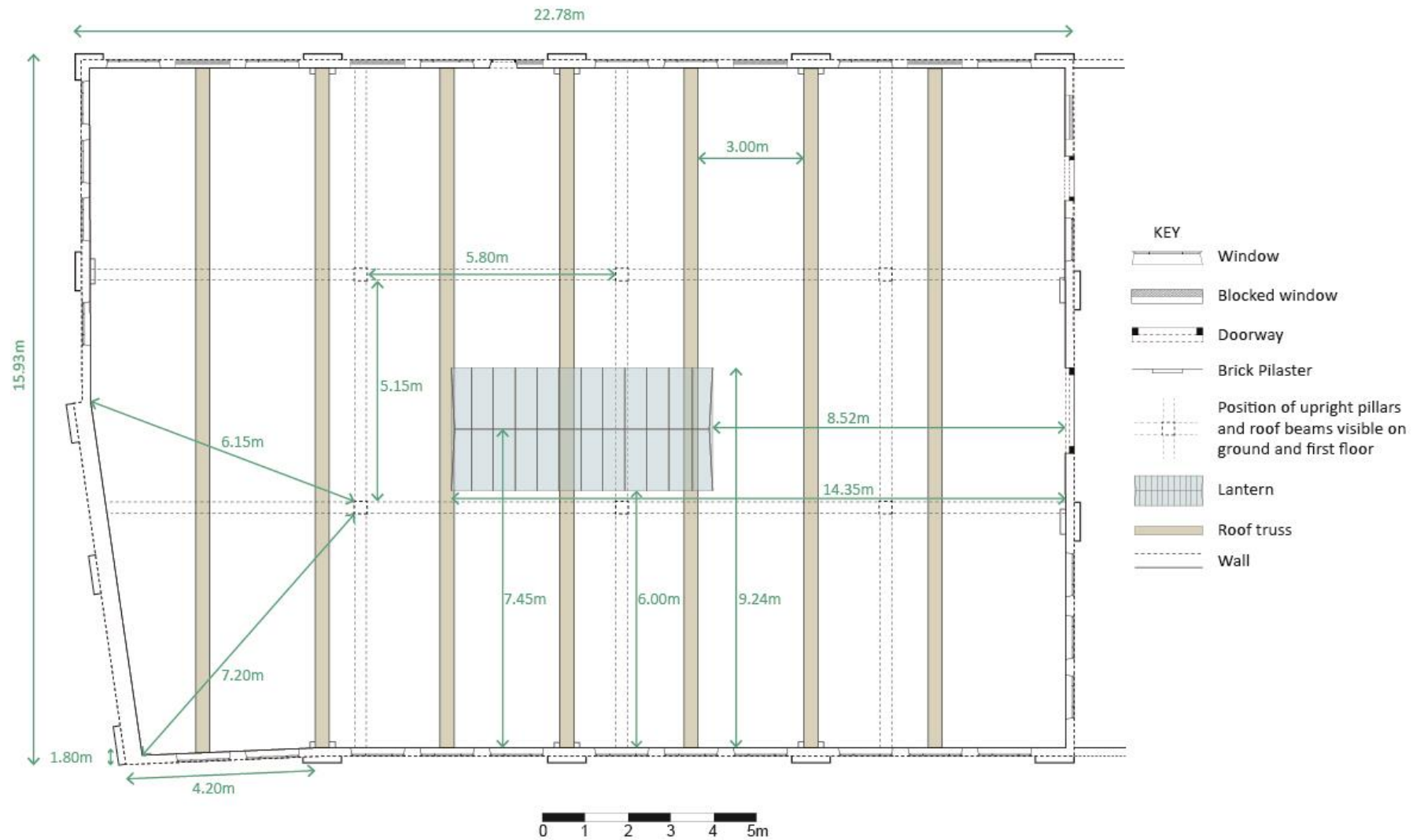


Fig. 10: Plan of upper storey - Building 3



Plate 31: View E showing internal fenestration at upper-storey level

Similarly, the uppermost floor was subject to detailed recording. The roof construction was clearly visible and detailed measurements were taken of its curvature. The curved roof deck consists of timber planking on narrow purlins, these being carried on a series of lattice trusses resting on the external walls, with no column supports present in the upper storey span. The roof trusses are braced longitudinally by pairs of crossed timbers (*Plate 35; fig. 8*). Placed centrally within the roof structure is a lantern feature providing an additional source of light at upper storey level (*Plates 32-34; fig. 10*).



Plate 32: Internal detail of central lantern



Plate 33: Detail of external roof structure of Building 3 showing lantern



Plate 34: Detail of external roof structure showing flat roof of Building 2 (foreground) and curved profile of Building 3



Plate 35: Detail of roof structure showing cross-braces separating trusses



Plate 36: Detail of roof construction – Building 3

6.4 Early tramway system

An area of brick paving incorporating wooden tracks/rails for carts/trolleys was identified as being of significant historical importance and was thus subject to detailed recording (*Plates 37 & 38; fig. 11*). It was noted that this feature appeared to continue NW towards Building 3 and is highly likely to be the remains of a tramway system, all elements of which had been designed and built on site, connecting the main mill complex to all of the surrounding buildings and which is described in a 1904 account of the Hatherley Works as ‘an elaborate and unique tramway system by which the product is carried on trucks through every department from the timber yard to all floors of the warehouse without lifts’. At its hub was a capstan, which drew the tramways up to the mill floors.

Documentary evidence shows this feature is integral to one of the earliest phases of activity on the site and was probably associated with the original late 19th century ladder works. A smaller area of similar brick paved construction was located slightly to the W.



Plate 37: View NW showing extant remains of 'tramway' showing wooden rails and associated brick yardage



Plate 38: Plan view of tram rails showing detail of construction

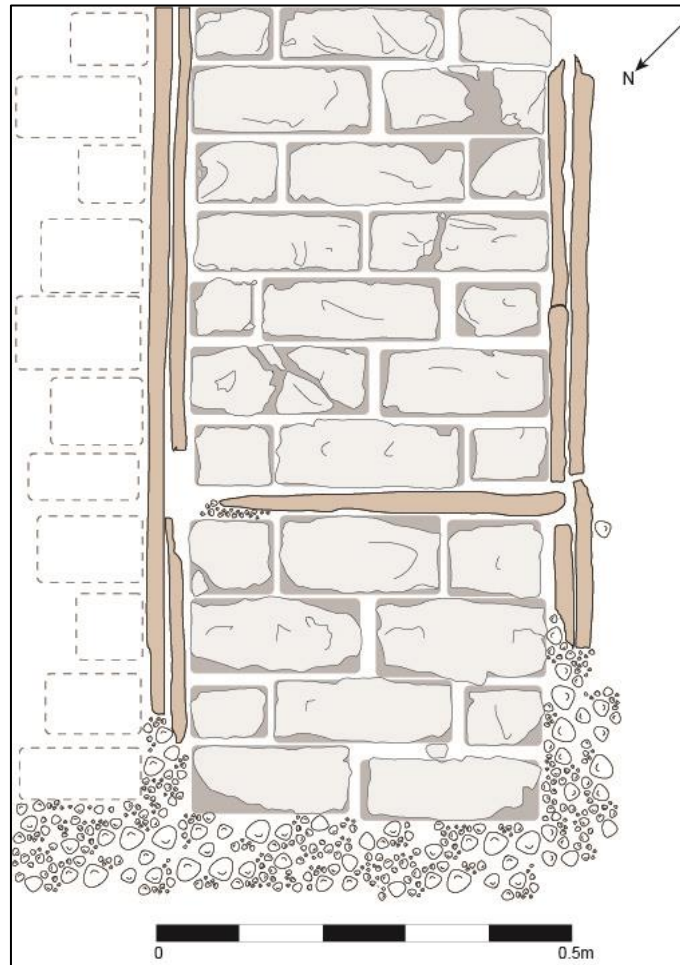


Fig. 11: Plan of former tram rails

6.5 Building 4 (Level 2 recording)

Building 4 is a small two-storey loadbearing brick structure with pitched roof which is shown on the block plan of 1897 attached to the E elevation of Building 5. The 1902 OS map (*fig. 3*) also shows an attached NE/SW oblong structure abutting both Building 4 and Building 5. Although this building has since been demolished, it survives in outline on the elevation of Building 5 which is cut by the insertion of later window openings (*Plate 7*). This building was evidently a stepped lean-to structure with internal whitewashed walls and a blocked opening at ground floor level beneath a stone lintel providing access through into Building 5. There is no evidence of an upper floor level and the building would thus appear to have been a single-storey structure.

Building 4 shows extensive evidence of reconstruction, particularly on the NE elevation and NW gable, whilst the SE elevation has a reconstructed gable above earlier brickwork. The earlier brickwork, evident particularly in the lower coursing, retains traces of whitewash, no evidence of which is present on the later masonry.

The building has window openings on the NE elevation and NW gable. The NE elevation at ground floor level has two windows beneath stone lintels with a third blocked window opening of similar design at the NW end of the

elevation, now partially concealed by a modern metal external stairway to first-floor level. There are three windows of similar design at first-floor level with a fourth blocked opening.

The roof construction comprises steel trusses resting on brick piers. The upper floor is supported on steel box frame joists; very little of the original flooring remains *in situ* and the building is largely open to the roof. The fenestration is clearly visible internally, comprising a row of 25-pane steel casement windows with central opening on each floor. The interior walls are whitewashed throughout.



Plate 39: View NE of Building 4 showing internal structural detail

6.6 Building 5 (Level 2 recording)

Building 5 is a large open-plan industrial structure which appears largely to occupy the site of the main mill building associated with the former Hatherley Step Works, although map evidence suggests this building was extended to NW in the 1950s when a new elevation was constructed and the building was comprehensively remodeled. Comparison of the Ordnance Survey 25-inch map of 1936 with the 1956 provisional edition shows that the extension of Building 5 partially subsumed the footprint of a former rectangular timber drying shed aligned NE/SW and referred to as the 'Z' shed.

Building 5 comprises a duo-gable pitched roof supported on parallel rows of steel trusses and purlins. The roof structure rests on brick piers in the external walls and is carried internally on a row of steel supports running

centrally along the main axis of the building. No roofing material survives and the building has been badly affected by weather damage, thus impeding access. It was not possible to ascertain the makeup of the original floor surface, as it had been covered with a comparatively modern (late 20th century) PVC-type laminated covering, although it is presumed to be concrete.

Externally, the fabric shows evidence of extensive reconstruction and blocking resulting from successive changes of use.

The existing NW duo-gable elevation was entirely reconstructed in modern brick following the extension of the building to the NW in the 1950s. Access is via a large horizontal concertina folding door and concrete loading ramp, adjacent to which is a smaller door. The character of the brickwork and the overall arrangement of the elevation confirm a mid-20th century date for its construction

The NE elevation contains the remains of earlier brick coursing, which, at the NW extent, survives to a height of only a few courses but which, at the opposing end, adjacent to Building 4 and abutting Building 6, survives to eaves height and is surmounted by a later parapet wall. This section of the elevation retains the outline of a small oblong lean-to structure formerly attached to Building 4, which has been subsequently cut by the insertion of later window openings. This building is shown as being present on all but the most recent plans of the site.



Plate 40 View E of NW elevation of Building 5 showing modern frontage with horizontal concertina folding door and concrete loading ramp

A building in the location of Building 5 is shown on plans of 1897 is described as 'Present Piece Shop' and 'Present Machine Shop' (*fig. 13*); however, the extent to which this earlier structure survives is not clear and much of the evidence currently visible would appear to be consistent with extensive remodelling to accommodate later industrial use; the existing building is likely to have been altered to some extent during the Second World War

when the site was requisitioned by the Ministry of Aircraft Production, in addition to the confirmed evidence of reconstruction during the postwar period.



Plate 41: Internal view of Building 5 looking through into Building 6 at far end. Note: Laminated PVC-style floor covering.

6.7 Buildings 6 and 7 (Level 2 recording)

Buildings 6 and 7 are single storey structures with pitched roofs on solid brick walls. Much of the roofing material has been removed, probably as a result of the fire of 2012, the exception being a modern covered loading bay inserted into the SW corner of Building 7 and accessed from Tarrington Road by means of an overhead metal roller shutter door. The roof structure of Building 6 comprises steel trusses and purlins whilst Building 7 has wooden trusses and purlins, with steel tie-rods inserted for support.

These buildings largely occupy the footprint of a proposed L-shaped range shown (in pink) on architects' plans of 1897 extending alongside Tarrington Road (W elevation) and Hatherley Road as far as the Sud Brook (E elevation) (*fig. 12*). However, the designs as shown differ markedly from the present range, suggesting either that the original proposal was amended prior to construction or that the buildings have been subsequently replaced or at least substantially remodelled. It is noted that neither the Ordnance Survey 25-inch map of 1902 nor a later block plan of the site dated 1907 show a building in the location of Building 7.



Plate 42: View NW of E elevation of Building 6 adjoining Building 5



Plate 43: View of E elevation of Building 7

The original 1897 elevation and internal cross-sectional drawings show a pair of conjoined structures forming a single stepped gable. The roof design consists of trusses with central lantern above carried on brick piers and two

rows of posts. The building now occupying the position of Building 7 is shown on the plan of 1897 as extending up to the Sud Brook (figs. 12 & 13), its present form reflecting the extent of the recent fire damage.

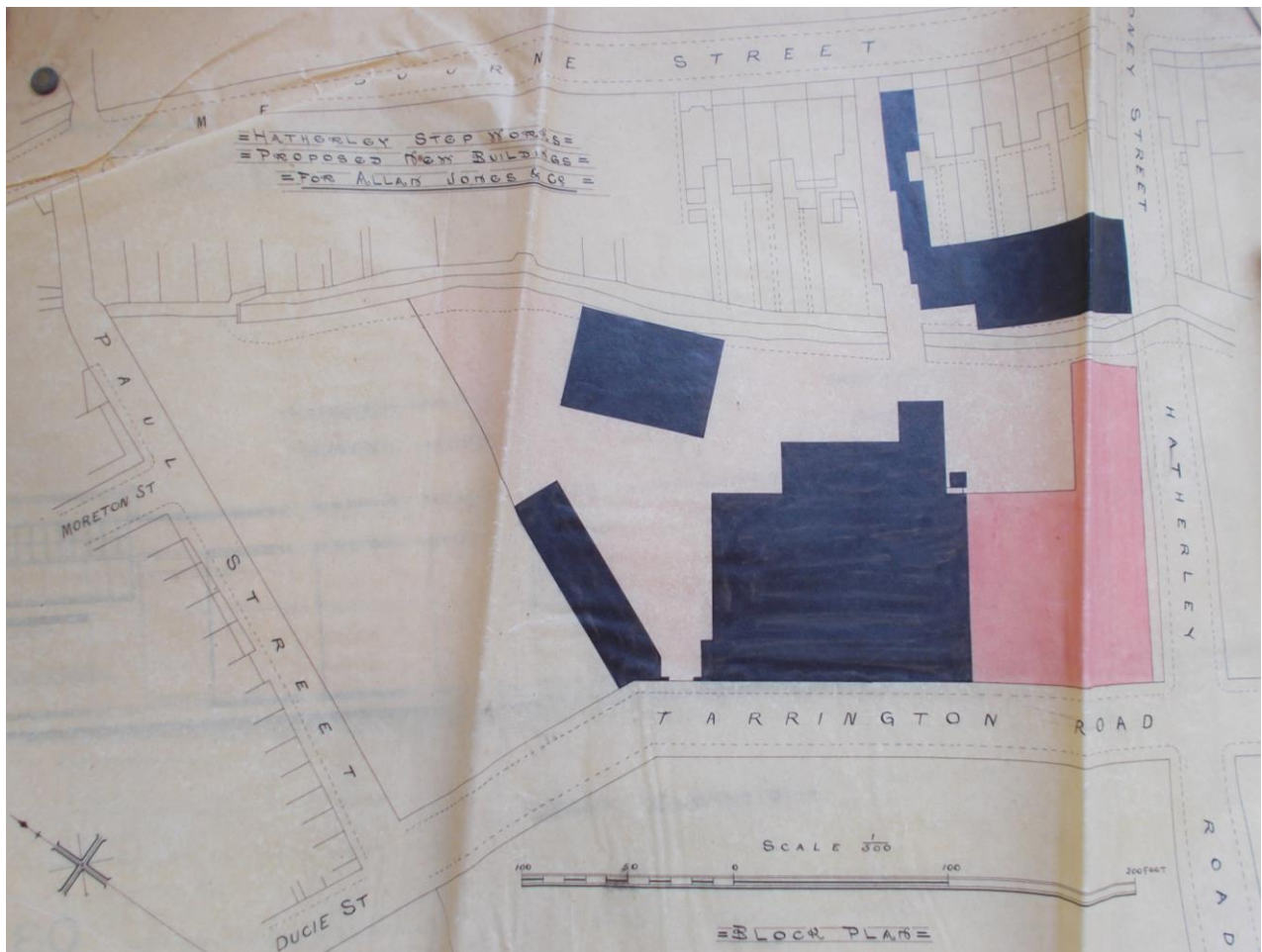


Fig. 12: Plans showing proposed layout of Buildings 6 & 7 dated 1897

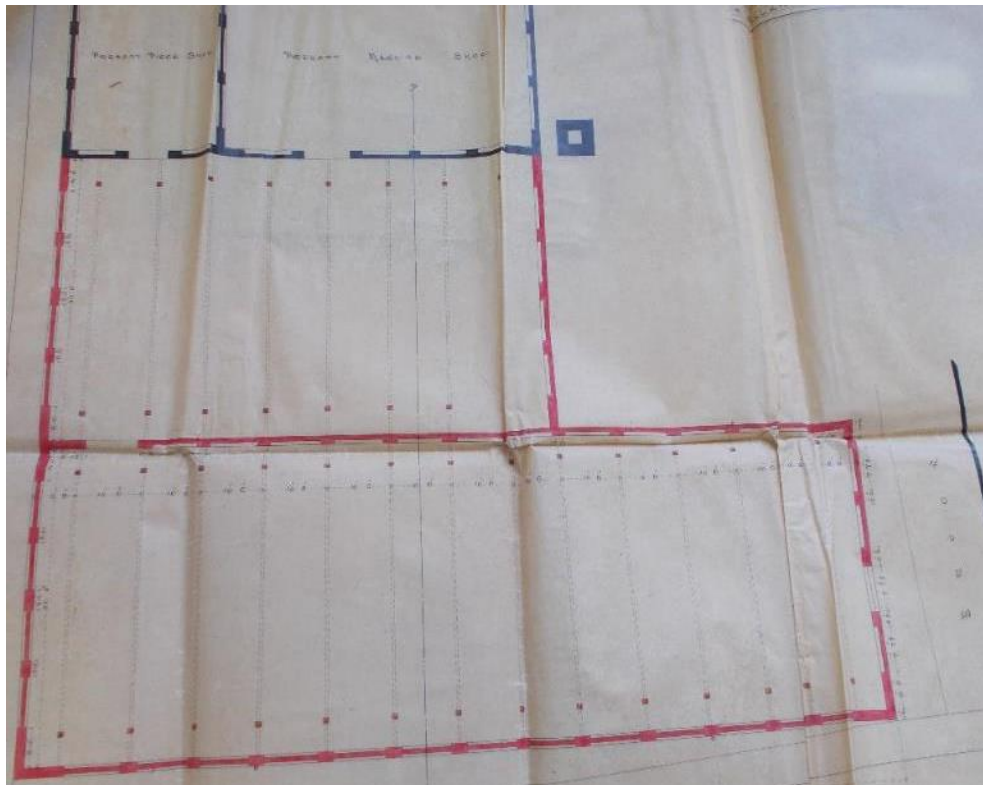


Fig. 13: Plan of 1897 showing detail of buildings now largely occupied by Building 6 and Building 7

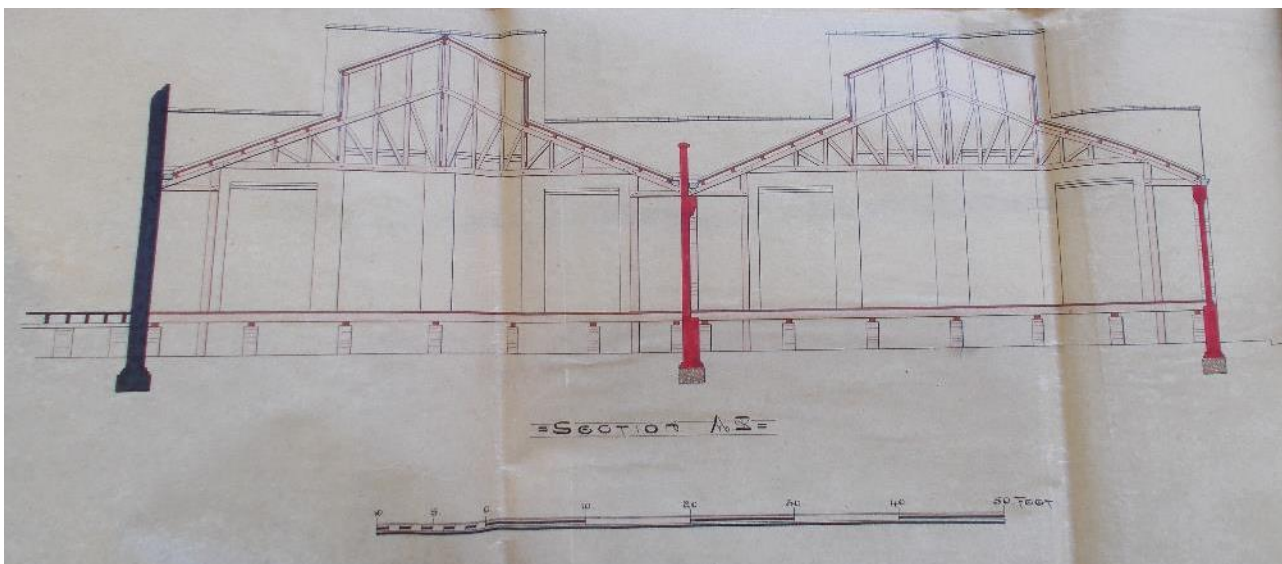


Fig. 14: Proposed elevations dated June 1897 for buildings located on the site of the present Buildings 6 and 7

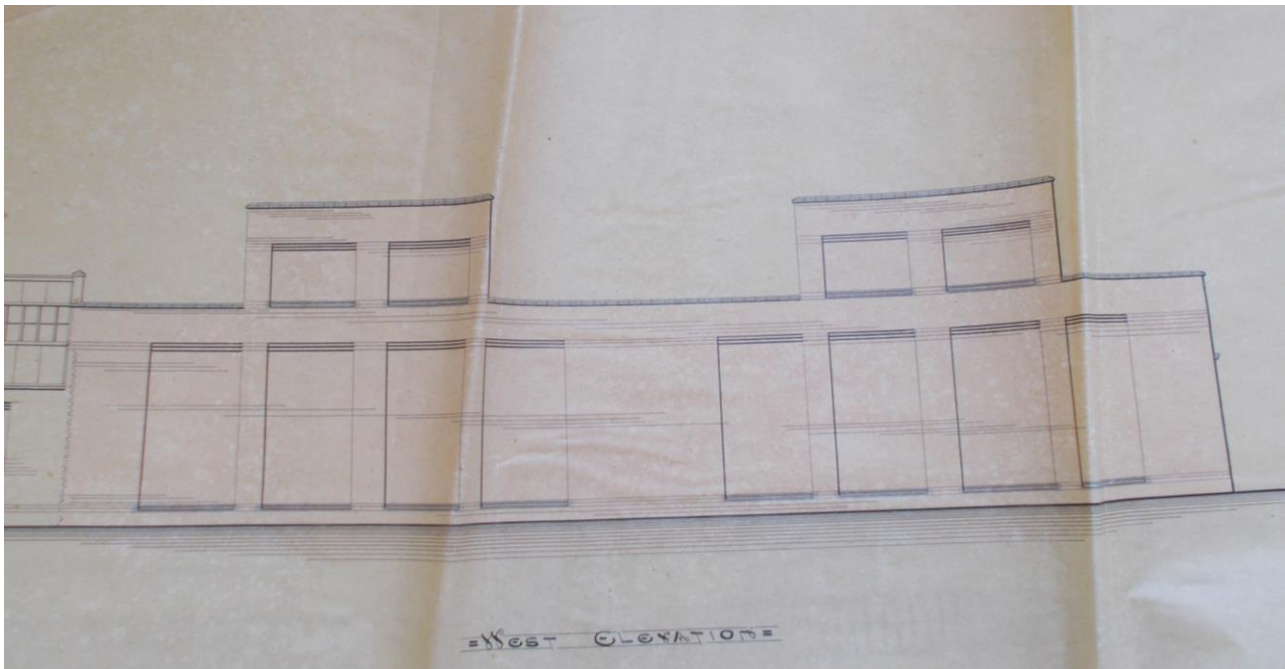


Fig. 15: Original 1897 drawing showing proposed W elevation of Buildings 6 & 7



Fig. 16: Plan of 1897 showing S elevation of Building 7 extending along Hatherley Road



Plate 44: View W of Building 6 showing roof structure

Buildings 6 and 7 are now freestanding structures linked by a modern access block. The existing Tarrington Road and Hatherley Road elevations differ markedly from those depicted in the original plans. The W elevation fronting onto Tarrington Road, as proposed in 1897, comprised a pair of stepped gables, each with four recessed panels at ground-floor level and two above. It is not clear from the drawings whether these panels represent window openings or are simply decorative features. The present Tarrington Road elevation, however, comprises a single-storey flat-topped pitched gable (Building 7) extending out to form a parapet wall with stone coping slabs (Building 6). The facade is divided into recessed bays by two pairs of pilasters, each capped with two angled courses of Staffordshire blue tiles. Each bay is open at the top but is defined at its base by two courses of chamfered blue brick set just above street level. A blocked segmental-arched window opening is present in each of the two end bays. Between each pair of pilasters, a large modern goods entrance with overhead roller shutter door has been inserted beneath a concrete lintel providing access to an internal raised loading bay located in the SW corner of Building 7. The modern access door has disrupted the overall symmetry of the elevation and it is possible that its insertion resulted in the removal of a fifth pilaster, which would have served to frame a more symmetrical arrangement of four equally spaced bays.



Plate 45: View SW of Building 7 showing roof structure



Plate 46: View W showing E elevations of Buildings 6 (right) and 7 (left) with connecting link block (centre). Note evidence of lean-to structure formerly attached to Building 6 and traces of whitewash adhering to the Building 7 elevation

The E elevation of Buildings 6 and 7 again differ from the stepped gable with chamfered brick coping indicated in the original architect's drawing (*Plate 44*). The drawings show the frontage to contain two pairs of recessed panels divided by pilasters, the central pair extending to a greater height than those flanking to either side. However, the existing elevation of Building 6 comprises a central pitched gable flanked by parapet walls with a single continuous course of Staffordshire blue angled wall coping above. The elevation contains, at ground-floor level, a blocked door opening beneath a segmental brick arch with a later doorway inserted and a further blocked opening with segmental brick arch which again contains a later doorway. It is possible that this originally housed a sliding door as evidence of the track survives in situ. The first floor contains a row of four window openings with segmental brick arch above. One of these has been blocked entirely whilst the remainder appear to have later windows with stone lintels inserted. The upper storey contains a pair of blocked segmental arched rectangular window openings again with stone lintels inserted. The elevation retains an area of whitewash defining the extent of a former attached lean-to structure, now demolished (*Plate 46*).

The existing E elevation of Building 7 is of brick construction forming a stone capped stepped gable with central pitch and gauged Staffordshire blue brick coping. The façade is continuous at ground floor level with a blocked door opening beneath a gauged brick segmental arch offset to one side. Immediately above is a row of vertical slots at first floor level, presumably representing the floor level of the building destroyed by fire. These align with a row of similar slots extending along the surviving wall of the former range, which now forms the site boundary wall along Hatherley Road. A later recessed door opening at this level with stone lintel and threshold connected the destroyed range with the existing building. This later connecting doorway interrupts the façade at first floor level, the original brickwork being divided into four recessed bays defined by a series of five engaged piers or pilasters, within each of which is a blocked window opening with segmental arch. The later doorway and brick surround is inserted into the third bay along from the SE end of the elevation, the later brickwork being clearly defined by the absence of whitewash, which is present over much of the facade. The fenestration at roof height comprises one square window opening with surviving frame and Staffordshire blue brick sill set either side of the central pilaster, which differs from the others in having Staffordshire blue brick coping.

The evidence of a floor structure and connecting door, together with the extensive remains of whitewash, suggest the present W elevation previously formed an internal wall, which would be consistent with the evidence previously cited of a construction break in the Hatherley Road elevation, where one building is shown to abut the other.

The dating of the elevations is somewhat problematic, although the character of the masonry would appear largely consistent with an earlier 20th century date. This however creates a difficulty in explaining the clear difference in form between the existing elevation and that shown in the architect's drawings of 1897. However, with respect to Building 7, a construction break in the Hatherley Road elevation shows where the brickwork of the now-destroyed range extending up to the Sud Brook abuts earlier fabric (*Plate 47*) suggesting the E elevation has been reconstructed at some point.



Plate 47: View from Hatherley Road showing construction break

Internally, Buildings 6 and 7 are heavily overgrown with ruderal species such as elder and buddleia and are in a generally poor condition (*Plate 48 & 49*). The timber roof structure has of Building 7 been cut away in the W corner to accommodate the modern steel-framed loading bay with raised concrete floor which opens onto Tarrington Road (*Plate 50*).



Plate 48: Interior of Building 6. View E showing roof structure and internal gable.



Plate 49: Interior of Building 7. View E from modern loading bay with original roof trusses to right and rear.



Plate 50: View ESE from Tarrington Road towards Hatherley Road showing existing west elevation of Buildings 6 & 7 with earlier openings to the left and right infilled with later brickwork.



Plate 51: View along Hatherley Road showing present condition of S elevation of Building 7. Note blocked window openings



Plate 52: View from Hatherley Road showing detail of existing fenestration. The stepped abutment (to the right) shows the location of the Sud Brook bridging point

7 Phasing

7.1 Introduction

The OS 1st edition 25-inch map of 1886 shows that the study area was undeveloped at that time (*fig. 17*). However, the former manager's house at No 116 Melbourne Street West is shown and this property thus predates the first phase of construction activity within the study area. The property is located within a block of long narrow plots backing onto an open area adjacent to the Sud Brook (subsequently developed as part of the Hatherley Step Works) with outbuildings to the rear. A rectangular structure aligned roughly NW/SE is also shown behind the gardens adjacent to the brook, which is shown as a tree-lined watercourse. Neither Hatherley Road nor Tarrington Road were in existence at this time.



Fig. 17: Extract from the Ordnance Survey 25-inch map of 1886 showing the former Manager's residence at No 116 Melbourne Street (circled)

A block plan submitted as part of a planning application dated 1897 (*fig. 12*) shows the first substantial phase of development to the S of Melbourne Street (with proposed development shown in red) following the grant of a 14-year lease on the property in 1888 to Charles Allan Jones, the founder and sole proprietor of the Hatherley Step Works. A range of industrial buildings now occupied the northern and southern flanks of the brook and the plot to the rear of No. 116 Melbourne Street West had been fully integrated into the works complex. These formed 'the valuable trade premises and extensive yards situate in Melbourne Street known as 'The Hatherley Works' referred to in an advertisement in the Gloucester Citizen dated 30 August 1892. The site is shown as bounded on its NW and NE sides by the newly-laid out streets of Tarrington Road and Hatherley Road, respectively.

The OS 2nd edition map of 1902 shows the full extent of the transformation that had taken place on the site by the early years of the 20th century, by which time the former 'Sydney Street' extending NE of the Sud Brook had been incorporated into Hatherley Road (*fig. 3*). It would, however, appear that the proposed development of 1897 had not been fully realized, as the S corner of the site at the junction of Hatherley Road and Tarrington Road is shown as being vacant in 1902.

It is clear from detailed structural analysis that whilst a number of the present buildings occupy the footprint of those shown on the late 19th century and early 20th century plans, and evidence of earlier fabric survives in a number of the elevations, the existing structures have been subject to extensive alteration and reconstruction during the intervening period, reflecting a changing pattern of ownership/tenure and manufacture. The exceptions are Building 1 and Building 3, both of which appear to survive largely intact: whilst evidence of changing use is reflected in the fabric both, internal and external, including the addition of a modern annex on the NW elevation

of Building 1, this does not appear to have adversely affected the overall structural and architectural integrity of these buildings.

Of the two, Building 1 is the more problematic: it is clearly later than Building 3, as there is no structure shown in this location on the block plan of 1897 (*fig. 12*). The 1902 OS shows a very much smaller structure in this general location, although this had disappeared by 1909, as it does not appear on a planning application map of that date for the construction of a new store house adjacent to Building 3. The 1923 OS is rather more ambiguous defining a building of roughly similar dimensions and on the same general orientation as Building 1 but forming part of larger block occupying the northern portion of the site. However, purely on architectural grounds, the present building would appear to have been erected as a freestanding structure, the first plan to clearly depict it as such being the OS 3rd edition 25-inch plan of 1938.

7.2 Detailed phasing

7.2.1 1885-1888

The OS 1st Edition 25-inch map of 1886 (surveyed in 1883) shows that the study area was undeveloped at that time (i.e. 1883) comprising the northern part of a large tract of open land bisected to the SE by the Gloucester to Swindon Railway and bounded on its NW side by Paul Street with Tredworth Road forming a boundary to the SW and the Sud Brook flowing along its NE perimeter (*fig. 17*). The former manager's house at No 116 Melbourne Street West clearly existed at that time, dating from a period of suburban housing development that saw the laying out of residential streets. The property is located within a block of long narrow plots backing onto an open area adjacent to the Sud Brook (subsequently developed as part of the Hatherley Step Works) with outbuildings to the rear. A rectangular structure aligned roughly NW/SE is also shown behind the gardens adjacent to the brook, which is shown as a tree-lined watercourse. Neither Hatherley Road nor Tarrington Road were in existence at this time.

In 1885, the area shown as open land on the map was established as the site of a small-scale enterprise founded by Charles Allan Jones for the manufacture of patent step ladders, known as 'Lattisteps'. The business was housed in a small workshop measuring 40 feet by 25 feet. As far as can be ascertained, no trace of the original enterprise survives above ground, although there may be buried remains lying beneath the later buildings and yardage.

7.2.2 1888-1892

A period of rapid expansion followed the grant of a 14-year lease to Allan Jones in 1888 and by 1892 the Hatherley Works as it was then known comprised 'the valuable trade premises and extensive yards situate in Melbourne Street known as 'The Hatherley Works', reported in the *Gloucester Citizen* of August 30 of that year. According to the newspaper report, the site had expanded to include land both N and S of the Sud Brook and at that time comprised 'a boiler house fitted with an 8 hp Cornish boiler, horizontal engine and stack, workshops and stores of three floors, machine shop, office, grinding house etc. Also the brick built freehold dwelling house known as No. 116 Melbourne Street...together with the wood erection of two floors (now used as a stable and loft) in the rear and adjoining'. However, apart from 'No 116 Melbourne Street', it is difficult to identify any of the buildings described in the *Gloucester Citizen* report of August 30 1892 with those shown on subsequent plans.

7.2.3 1892-1918

Comparison of the block plan of 1897 and OS 25-inch map of 1902 with the existing site layout reveals a number of similarities. Building 3 is clearly shown in its present form while further structures occupy the locations of Buildings 4, 5 and 6, together with others destroyed in the fire of 2012. Building 7 does not appear to have existed in its present form in 1902, although it is shown on a subsequent plan dated 1909. Also shown is the now demolished oblong structure attached to the SE elevation of Building 4 and abutting the NE elevation of Building 6.

A series of planning applications submitted between 1897 and 1909 reflect the continued expansion of the Hatherley Works, by which time the former 'Sydney Street' extending NE of the Sud Brook had been incorporated into Hatherley Road. Planning application block plans of 1897, 1907 and 1909 clearly show that the site had been established in roughly its present form by the end of the first decade of the 20th century. The plan of 1897 shows that Buildings 3 and 4 had been established in their current form by that date whilst the 1902 OS shows the full extent of the transformation that had taken place. The picture is less clear with regard to Buildings 5, 6 and 7, thought to comprise the site of the main mill building, which although largely occupying the footprint of the mill buildings, have clearly undergone substantial alteration and reconstruction, particularly in the period during and after the Second World War.

It is clear from detailed structural analysis that whilst a number of the present buildings occupy the footprint of those shown on the late 19th century and early 20th century plans, and evidence of earlier fabric survives in a number of the elevations, the existing structures have been subject to extensive alteration and reconstruction during the intervening period, reflecting a changing pattern of ownership/tenure and manufacture. The exceptions are Building 1 and Building 3, both of which appear to survive largely intact: whilst evidence of changing use is reflected in the fabric both, internal and external, including the addition of a modern annex on the NW elevation of Building 1, this does not appear to have adversely affected the overall structural and architectural integrity of these buildings.

The 1897 plan also shows a long narrow rectangular structure extending roughly NE/SW along what was at that time the western perimeter of the site, immediately W of the main mill premises. It is possible that this structure represents the detached span-roofed, timber built shed with seven latticed principals, covered with corrugated iron referred to as a 'Z' shed in a valuation survey undertaken in 1918. The 1902 2nd edition OS map shows this building, with, in addition, another small oblong structure to the NE. This smaller structure does not appear on the planning application block plan of 1907 suggesting it had been demolished by that date presumably to accommodate a series of timber drying sheds on previously undeveloped land extending to the W as far as Paul Street. A planning application map for the construction of a new store attached to Building 3 provides further details of the site layout, although surprisingly the plan does not show the drying sheds depicted in 1907 and it is possible that construction of these sheds had been delayed for some reason as they are clearly shown on the OS 3rd edition plan of 1923.

The premises at this time and were considered to be in the vanguard of industrial design with 'operatives working under the best conditions attainable' in 'light clean and roomy' departments, as characterised in a publication

entitled *Industrial Gloucester* produced in 1904 by the city-based publishers Thomas Henry Chance and Samuel Bland. Their report praises the progressive thinking of the proprietor and describing the complex as 'a type of our best industries' which covered an area of some 2 1/2 acres with the mill building clearly being the standout achievement, measuring 170 feet long and 90 feet wide, together with others 'scarcely inferior'. Of particular note was the fact that the works were 'provided throughout with a most unique and original tram system, by which the product is carried on trucks through every department to all floors of the warehouse without lifts'. The system evidently comprised a network of tracks complete with points, crossings and turntables and appears to have been constructed shortly before the report was published as no evidence of tracks are shown on the OS 2nd edition map of 1902 whereas they are detailed in a valuation of the works undertaken in 1918 and are clearly shown on the OS 3rd edition plan of 1923. It is clear from the on-site investigation that sections of this system remain intact with rails embedded in brick paved yardage. The section as revealed is shown on the 1923 OS as extending roughly NNW/SSE providing a link between the 'store' attached to Building 3 and a range of buildings possibly representing a machine shop and joiners shop located on the eastern perimeter of the site.

7.2.4 1918-c.1940

A detailed valuation of the Hatherley Works was produced in July 1918 (GA Ref. D2299/1589) immediately prior to the sale of the premises to G. H. Humphrey and R. H. Bleakley, manufacturers and dealers in aircraft accessories and hangars. The acquisition was subsequently reported in the specialist press. An entry under the heading 'New Companies Registered' in an issue of *Flight and Aircraft Engineer* magazine dated September 12th 1918 reads: 'Acquiring business carried on by Allan Jones and Co., Ltd., at Hatherley Works, Gloucester, manufacturers of and dealers in wooden and metal goods, &c, also manufacturers of and dealers in aeroplanes and accessories, erectors of hangars, &c. First directors: G. H. Humphrey and R. H. P. Bleakley'.

The particulars in essence describe the access to the works as being via a covered walkway alongside No 116 Melbourne Street which leads into a complex of warehouses and offices on the N side of the Sud Brook with a covered way leading to the main mill building containing a boiler-house, an engine house and an electric light engine. Adjacent is a machine shop, joiners' shop, a 'traverser shed for shunting trucks', foreman's office and women's cloakroom and a 'new mill'. In front of the mill is a capstan covered with a wooden shed which was used to draw products up to the mill floors and which may be identified with the small square structure shown on earlier maps and plans, although this is shown on an OS map of 1971 as being an industrial chimney. Five drying sheds are mentioned on the western side of the site in the location shown on the block plan of 1907, including the detached span-roofed, timber built 'Z' shed with corrugated iron roof and a block of four sheds of similar construction. An ironmonger's store is described as being situated adjacent to the Sud Brook with a blacksmith's forge at ground floor level, varnishing shop above and a polishing shop on the second floor. The main mill complex was linked to all of the surrounding buildings by the tram system, the floors of the various buildings being laid with tramways. The valuation also lists approximately one acre of land between the GWR and Hatherley Road part of which is occupied by 'the Ice Works', together with land on the S side of Tarrington Road acquired 'as a saw yard for conversion of English timber'.

These buildings and the interconnecting system of tramways leading to a site access off Tarrington Road are shown in some detail on the OS 3rd edition map of 1923, which seems to reflect precisely the layout of the site as described in 1918. However, the subsequent 4th edition of the OS published in 1938 shows that the internal layout of the

site on its western side had been subject to internal rearrangement. Whilst the 'Z' shed remains in its previous form, the range immediately to the W show clear evidence of reconstruction. These buildings no longer form a block of four sheds but now comprise a new square building at the SW extent close to the Tarrington road frontage, adjoining which to the NE is a larger square structure. This pair of conjoined buildings are separated by a third building to the NE by a newly laid tramway extending between the buildings towards Paul Street. To the NE of the tramway is a further rectangular structure, which, based on its similarity of form and location, may be identified with Building 1, this being the earliest map to show Building 1 as a separate freestanding structure. The precise dating of Building 1 is somewhat problematic. It clearly postdates Building 3, as no structure is shown in this location on the block plan of 1897 (*fig. 12*). The 1902 OS shows a very much smaller structure in this general location, although a planning application map of for the construction of a new store house adjacent to Building 3 shows that this had been removed by 1909. The 1923 OS is rather more ambiguous, defining a building of roughly similar dimensions and on the same general orientation as Building 1 but forming part of larger block occupying the northern portion of the site. However, based purely on architectural grounds, the present building would appear to have been erected as a freestanding structure, with no evidence of it having been conjoined to form part of a more extensive range. The architectural form and stylistic features of this building suggest a construction date sometime during the early part of the 20th century; however, the first map to show Building 1 in its present form as a freestanding structure is the 1938 OS map. The map evidence would therefore suggest that Building 1 was erected at some point during the period between publication of the 1923 and 1938 editions of the Ordnance Survey

7.2.5 c. 1940 to present

Up until July 20th 1942 Building 3 housed the Auxiliary Fire Service (AFC) and in August of that year this building and a substantial portion of the remaining premises were requisitioned by the Ministry of Aircraft Production for use by the Gloster Aircraft Company, who retained possession until 1945. The adjacent store (also requisitioned but since demolished) was until that date occupied by the 'Hatherley Works', which were no longer referred to as the 'Hatherley Step Works', the word 'Step' having been deleted on the plan. During this period, extensive internal alterations and new building works took place, which are recorded in a lengthy schedule of repairs submitted by the original proprietors for the restoration of the works buildings to their previous state in 1947 (amounting to the sum of £1,878). A 'Schedule of State of Repair, Fixtures & Fittings' produced by Bruton, Knowles & Co. in August 1942 at the request of the Ministry of Aircraft Production details the internal condition of various buildings, which, in the absence of an accompanying plan, cannot be firmly identified with any of the surviving structures. However, based on its description as the building formerly occupied in part by the AFC, it is possible to suggest that the Schedule in part refers to Building 3, although there are discrepancies.

It is clear also that three air raid shelters were constructed on behalf of the Ministry of Aircraft Production in the 'yard between Building Nos. 13 & 20', as described in the particulars of a claim for compensation dated March 1947, which contains the following item: 'Demolish three brick and reinforced concrete air-raid shelters, cart away all material and properly clear site' at a cost of £450. Given that all structural remains were cleared away, it is unsurprising that no visible trace of these shelters survives and their precise location is not known, although it is suggested that they were probably situated in the yard to the NW of the main works building (ALI 2014).

Following its return to commercial use after the Second World War, the Hatherley Works was acquired by the Gloucester Railway Carriage and Wagon Company Ltd and appears, at least in part, to have been adapted for the

manufacture of railway carriage fittings and furnishings, although step ladders and cabinets were apparently still being manufactured on the site well into the 1950s (ALI 2014). By this time, the Gloucester Railway Carriage and Wagon Company Ltd had also acquired The Gloucester Foundry Ltd, William Gardner & Sons (Gloucester) Ltd and the Gloucester Wagon Hiring Company. The company was renamed Gloucester Engineering Company Limited in 1961, when it was acquired by Wingets Ltd (Kent).



Fig. 18: Extract from the OS 25-inch Provisional Edition map of 1956

Comparison of the 1936 OS with the OS plan of 1956 reveals a number of changes affecting the layout of the works buildings, again most notably at its western extent. It would appear that by this time, Building 1 had acquired the annex attached to its NE elevation whilst a more comprehensive restructuring of the site appears to have taken place with the at least partial demolition of the former 'Z' shed and the extension of Buildings 5 and 7 to occupy their current footprint. It can therefore be suggested that the modern NW elevation of Building 5 dates from this period, which is consistent with post-Second World War construction

Wingets subsequently sold the Hatherley Works to Slumberland Ltd for the sum of £45,000. The plan accompanying the Sale Agreement dated May 20th 1966 largely reflects the layout of the site as shown in the 1956 OS plan and also indicates the location of the 'timber yard' previously referred to in the valuation survey of 1918 and a 'vehicle yard', which represents the site of the former 'Ice Works'.

An OS 1:1250 map of the area dated 1971 shows the addition of Building 1a adjacent to Building 1 and Building 2 linking Building 1 and Building 3. The plan also shows an electricity sub-station located adjacent to Buildings 4 and 5 that the storeroom and workshop building and the four large timber sheds at the W end of the site had been demolished and replaced by two long building ranges extending along the N edge of the site adjoining the Sud Brook. The premises have more recently been occupied by Norvilles, a local manufacturer of optical lenses.

7.3 Conclusion

Prior to the outbreak of fire in 2012, much of the range associated with the earlier phase of development appeared to survive along the eastern perimeter of the site adjacent to Hatherley Road. However, the fire damage and associated demolition works has reduced this former range to essentially to a single upstanding perimeter wall, the upper courses of which appear to have been removed, presumably for health and safety reasons, and the remaining brickwork capped with modern coping.

What appears to have been the main mill buildings, represented here by Buildings 5, 6 and 7, does survive but in a much-altered form. Indeed, these buildings appear to have been completely remodeled and enlarged in response to a changing pattern of manufacture, initially under the direction of the Ministry of Aircraft Production during the Second World War and then more substantially in the 1950s, with the extension Building 5 to the NW, partially subsuming the site of the former 'Z' shed, together with the wholesale reconstruction of the NW elevation in modern brick. The duo-pitched roof structure and central row of columns and beams supporting steel trusses and purlins also appears to be distinctly modern in terms of design, although the timber trusses comprising the roof structure of Building 7 appear to be earlier. Internally, these buildings appear to have been completely remodeled during the post-war period.

Of the surviving buildings, Building 1 and Building 3 are considered to be the most complete architecturally, with Building 3, considered to be a largely intact survival of a late 19th century industrial structure, representing the most significant of the two in terms heritage value. Of comparable heritage value is the surviving section of tramway, comprising wooden rails set into brick paved yardage, which probably dates from late 19th or very early 20th century. Unfortunately, the absence of annotated plans presents a considerable difficulty in terms of identifying the surviving buildings with those described in the various surveys, inventories and planning applications of the late 19th and early 20th centuries.

Among the latest buildings erected on the site appear to be Building 1a and Building 2, which are both shown on an Ordnance survey 1:1250 plan of 1971 but which do not appear on the site plan accompanying the Sale Agreement of 1966. Neither of these structures is considered to possess any value in heritage terms.

8 Bibliography

8.1 Primary Sources

8.1.1 Gloucestershire Archives

GBR/L20/2/1890/46 – Building control file for extension at Hatherley Works, Melbourne Street, Gloucester -18 April 1890

GBR/L20/2/1897/55 – Building control file for additional buildings at Hatherley Step Works, Hatherley Road, Gloucester – 1897

GBR/L20/2/1907/35 – Building control file for new drying shed at Hatherley Step Works, Hatherley Road, Gloucester - 1907

GBR/L20/2/1909/30 – Building control file for extension at Hatherley Step Works, Hatherley Road, Gloucester – 1909

D2299/1589 – Bundle of correspondence re. sale of Hatherley Step Works, including valuation of the works buildings -1918

D2299/3584: Correspondence and valuations re. Hatherley Step Works – 1927-53

D2299/7634 – Correspondence re requisition of Hatherley Step Works by Air Ministry, including schedule and estimate of cost of repairs to the works buildings after WWII – 1942-47

8.2 Secondary Sources

Gloucester City Sites and Monuments Record: GIS Dataset

National Monuments Record, Swindon: NMR Printout

Archaeological Landscape Investigation, 2014, *Desk Based Assessment: former Norville Factory Site, Tarrington Road, Tredworth, Gloucester*

Border Archaeology, 2017, *Former Norville Factory Site, Tarrington Road, Tredworth Gloucester, Archaeological Field Evaluation*, BA1662MFT

Chance, T.H. & Bland, S., 1904, *Industrial Gloucestershire*, Gloucester

Cotswold Archaeology, 2012, *former Hatherley Road Day Centre, Hatherley Road, Gloucester, Heritage Desk-Based Assessment*, CA report number 12207

Cotswold Archaeology, 2012, *former Hatherley Road Day Centre, Hatherley Road, Gloucester, Archaeological Evaluation*, CA report number 12323

Garrod, A.P., 1984, *Garrod's Gloucester: Archaeological Observations 1974-81*, Gloucester

The Gloucester Journal (18th -20th c.)

Heard, H & Pugh, G., 2009, *Archaeological Desk Based Assessment: Park End Road, Gloucester*

Heighway, C., 1985, *Gloucester: A History and Guide*

N.M. Herbert (ed.), 1988, *The Victoria History of the County of Gloucester: Vol. 4: The City of Gloucester*, London
Kelly's Directory of Gloucestershire (19th -20th c.)

Historic England, 2006, *Understanding Historic Buildings, A guide to good recording practice*, May 2006

Lee, E, 2015, *Management of Research Projects in the Historic Environment The MoRPHE Project Managers' Guide*,
Historic England April 2015

Soil Survey of England and Wales, 1983, *Soil Map of England and Wales Scale 1: 250 000*, Harpenden

8.3 Cartography

Cadle's Map of Gloucester (1877)

OS 1st Edition 1:500 scale map (1884)

OS 1st Edition 25-inch map (1886)

OS 2nd Edition 25-inch map (1902)

OS 3rd Edition 25-inch map (1923)

OS 4th Edition 25-inch map (1936)

OS Provisional Edition 25-inch map (1956)

OS 1:1250 map (1971)

Report Title		Report Ref	
Archaeological Standing Building Recording: The Former Norville Factory Tarrington Road Tredworth Gloucester GL1 4PF		BA1717(1662)NFT	
Report compiled by	George Children MA MCI fA Andrew Tizzard BA PhD MCI fA		
Editing	Rebecca Roseff BA PhD Stephen Priestley MA MCI fA		
Issue No.	Status	Date	Approved for issue
1	Final	April 2017	Neil Shurety Dip. M G M Inst M