

STOCKBRIDGE AIRCO WORKS, BLOSSOM STREET, ANCOATS, MANCHESTER

Historic Building Investigation



Oxford Archaeology North

October 2015

Manchester Life Development Company
Planning Application 110077/FO/2015/N1

Issue No: 2015-16/1689

OA North Job No: L10906

NGR 384994 398698

Document Title: STOCKBRIDGE AIRCO WORKS, BLOSSOM STREET,

ANCOATS, MANCHESTER

Document Type: Historic Building Investigation

Client: Manchester Life Development Company

Planning Application: 11077/FO/2015/N1

Issue Number: 2015-16/1689 **OA Job Number:** L10906

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SUMMARY

Manchester Life Development Company has submitted a planning application (Ref: 110077/FO/2015/N1) for the redevelopment of land bounded by Blossom Street, Bengal Street, Murray Street and Jersey Street in the Ancoats area of Manchester (centred at NGR 385010 398708). The proposals allow for the erection of a part seven- and part eight-storey mixed-use building, comprising ground-floor commercial units and 158 residential apartments with associated car parking and landscaping works. The construction works required for the proposed development will necessitate the demolition of a former industrial building, known as the Stockbridge Airco Works.

In order to secure archaeological interests, the Greater Manchester Archaeological Advisory Service, in their capacity as archaeological advisor to Manchester City Council, recommended that it would be appropriate to undertake a programme of historic building investigation to inform the development process, in accordance with the National Planning Policy Framework, paragraph 141. The programme of work recommended comprised an historic building investigation commensurate with an Historic England Level II/III-type survey.

The historic building investigation was carried out by Oxford Archaeology North in September 2015 and revealed three phases of construction within the site, all probably dating to the second half of the nineteenth century, and representing the replacement of earlier buildings depicted on both the Ordnance Survey plan of 1850 and Adshead's plan of 1851.

The earliest structure was an L-shaped building fronting Blossom Street, and of only a single-bay depth along this northern range. Its western return along Murray Street, however, was of two-rooms depth, with both elements being built on a plan form more typical of single-fronted cottages, although a lack of entrances demonstrated that the building was originally intended for use as a small factory.

A second structure was added to the south, returning along Hood Street to the south, with a northward return along the eastern boundary to Blossom Street, comprising another L-shaped structure. This was of salt-glazed brick construction, representing a relatively uncommon example of mould-thrown, salt-glazed brick construction in an industrial premises. Uneven bays along the Hood Street frontage, separated by cast-iron columns above partition walls at ground level sub-divided the building, which possibly had a central boiler house and rear chimney.

The northern part of this secondary structure was rebuild subsequently, representing the third phase of construction, although the use of hand-made brick, and timber roof trusses within this phase, again suggests a nineteenth-century date of construction, possibly representing a rebuild following a fire.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Richard Hattan of Mace Ltd for commissioning and supporting the project on behalf of the Manchester Life Development Company (MLDC), and to David Lakin of Arup for logistical support. Thanks are also expressed to Norman Redhead, Heritage Management Director with the Greater Manchester Archaeological Advisory Service (GMAAS), for his advice and guidance.

The building investigation was undertaken by Chris Wild, who also compiled the report. The illustrations were prepared by Mark Tidmarsh, and the report was edited by Ian Miller, who was also responsible for project management.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Manchester Life Development Company (MLDC) has submitted a planning application (110077/FO/2015/N1) for the redevelopment of a plot of land in the Ancoats area of Manchester. The proposals allow for the erection of a part seven- and part eight-storey mixed-use building, comprising ground-floor commercial units (Use Classes A1, A2, A3, B1 and D1) and 158 residential apartments with associated car parking at first floor, amenity space, hard and soft landscaping, boundary treatment and other works along with vehicular access from Jersey Street and pedestrian access from Murray Street.
- 1.1.2 An archaeological desk-based assessment that was prepared to support the planning application concluded that the site had potential pertaining to the early development of Ancoats as Manchester's first industrial suburb based on steam power (Arup 2015). In order to secure archaeological interests, the Greater Manchester Archaeological Advisory Service (GMAAS), in their capacity as archaeological advisor to Manchester City Council, recommended that it would be appropriate to undertake a programme of historic building investigation of a former industrial building that lies within the application boundary, in accordance with the National Planning Policy Framework, paragraph 141.
- 1.1.3 In the light of this advice, MLDC Ltd commissioned Oxford Archaeology North (OA North) to undertake the recommended scheme of historic building investigation. This was commensurate with an Historic England Level II-type survey, and was carried out in September 2015.

1.2 SITE LOCATION, TOPOGRAPHY AND GEOLOGY

- 1.2.1 The study area lies within the Ancoats area of Manchester, which is situated less than 1km to north-east of the city centre (Fig 1), and lies at the western end of the Ancoats Conservation Area (centred at NGR 385010 398708). It comprises a 0.48ha site that is bounded by Jersey Street, Bengal Street, Blossom Street and Murray Street, and straddles the former line of Hood Street (Plate 1).
- 1.2.2 The land lying to the north of Hood Street is occupied by a series of interconnected two-storey industrial buildings; these vacant buildings formerly comprised part of the Stockbridge Airco Works. The remainder of this plot is cleared, and consists of hard-standing, perimeter fencing and a perimeter line of trees and vegetation. The land laying to the south of Hood Street also contains a vacant two-storey industrial building, which covers approximately half of the site (Plate 1). The remainder of the plot is cleared hard-standing, with perimeter fencing and a line of trees and vegetation.

- 1.2.3 Topographically, the Manchester Conurbation as a region is within an undulating lowland basin, which is bounded by the Pennine uplands to the east and to the north. The region comprises the Mersey river valley, which is dominated by its heavily meandering river within a broad flood plain (Countryside Commission 1998, 125).
- 1.2.4 The solid geology of the area comprises Carboniferous sedimentary material and a series of Permo-Triassic rocks, consisting mainly of New Red Sandstone. The overlying drift incorporates Pleistocene boulder clays of glacial origin, and sands, gravels, and clays of fluviatile/lacustrine origin (Hall *et al* 1995, 8).



Plate 1: Recent aerial view across Ancoats, marking the location of the Airco Works

2. METHODOLOGY

2.1 BUILDING INVESTIGATION

- 2.1.1 *Visual Inspection:* a visual inspection of the building was undertaken utilising the OA North building investigation *pro-forma* sheets. A description was maintained to English Heritage (2006) Level II/III standard. This provided an essentially descriptive and systematic account of the origin, development and use of the buildings, which included a description of the plan, form, fabric, function, age and development sequence of the complex, and was accompanied by a full photographic archive will be produced utilising a high-resolution digital camera.
- 2.1.2 *Instrument Survey:* a plan of the complex was produced by means of a reflectorless electronic distance measurer (REDM). The REDM is capable of measuring distances to a point of detail by reflection from the wall surface, and does not need a prism to be placed. The digital survey data was captured within a portable computer running TheoLT software, to produce measured drawings within a CAD environment, allowing the drawings to be manipulated in an industry standard CAD package (AutoCAD MAP 2011) for the production of the final drawings.

2.2 ARCHIVE

2.2.1 A full archive of the work has been prepared to a professional standard in accordance with current English Heritage guidelines (1991) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). The archive will be deposited with the Museum of Science and Industry in Manchester on completion of the project. In addition, a copy of the report will be forwarded to the Greater Manchester Historic Environment Record (HER).

3. BACKGROUND

3.1 HISTORICAL BACKGROUND TO ANCOATS

- 3.1.1 The origin of the name Ancoats is uncertain, although it is likely to have derived from the Old English *ana cots*, which may be translated as 'lonely cottage' (Cooper 2002, 13). It was an area of open land throughout the medieval period, considered by Swindells (1908, 19-26) to have been 'an almost idyllic rural backwater', and was recorded in a survey of 1320 to have formed one of eight hamlets within the township of Manchester (Harland 1861). It is likely that settlement comprised a few cottages and farmhouses along Ancoats Lane, Newton Lane and Butler Lane, although the most notable building in the area by the end of the medieval period was undoubtedly the timber-framed Ancoats Hall, which overlooked the river Medlock on the eastern fringe of the area.
- 3.1.2 Ancoats retained a semi-rural aspect until the late eighteenth century, when the population of Manchester expanded at an unprecedented rate, and resulted in the transformation of Ancoats into a key industrial suburb. This process of industrialisation began in the 1770s, when land owned by the Leigh family was sold to Thomas Bound, a builder, who then sold it on to others for development. The focus for initial development was at the corner of Great Ancoats Street and Oldham Road, and contemporary maps depict the main elements of the existing street plan laid out on former fields of the area. Building speculation then drove further expansion, with plots of land within a grid pattern of streets being sold for development (Miller and Wild 2007). An early stage in the development of the area is depicted on William Green's map 1787-94, and shows in excess of 60 plots laid out.
- 3.1.3 The earliest factories in the area included several water-powered mills erected along Shooters Brook, to the south of Union (now Redhill) Street. However, in seeking a solution to the inadequate power supplied to their waterwheels from Shooters Brook, several firms experimented with steam power. A notable example was Salvins' Factory, where John Kennedy is reputed to have first applied steam power to one of his spinning mules in 1793 (Miller and Wild 2007). In order to achieve this, Kennedy utilised a steam-powered pumping engine that delivered water to a waterwheel, and it was on the basis of a breakthrough in the application of steam power that created the explosion of factory building in Ancoats (Little 2004, 31).
- 3.1.4 The completion of the Ashton-under-Lyne Canal in 1796, and a proposal to construct the Rochdale Canal through the area offered the potential of cheap transport for goods to and from Ancoats. The completion of the Rochdale Canal in 1804 coincided broadly with the efficient application of steam power to cotton-spinning machinery, and a growth in the national demand for textiles. A small number of enterprising firms seized the opportunity presented by this combination of factors, resulting in the evolution of a new breed of steam-powered mill building in Ancoats, and the creation of 'the world's first industrial suburb' (Williams 2002, 34).

3.2 SUMMARISED DEVELOPMENT OF THE STUDY AREA

3.2.1 The earliest reliable cartographic sources to show the study area is William Green's map of 1787-94, which shows the site to be situated within an existing street grid that included Jersey Street (formerly Elliott Street), Blossom Street (formerly Elizabeth Street) Bengal Street and Hood Street (formerly Heath Street). The only buildings in the present study area at that date comprised a rectangular building range along the Elliot Street frontage, with the remainder of the plot being undeveloped. Green's map does not identify the function of the building range in the study area, although it is likely that it represented a terrace of workers' housing.

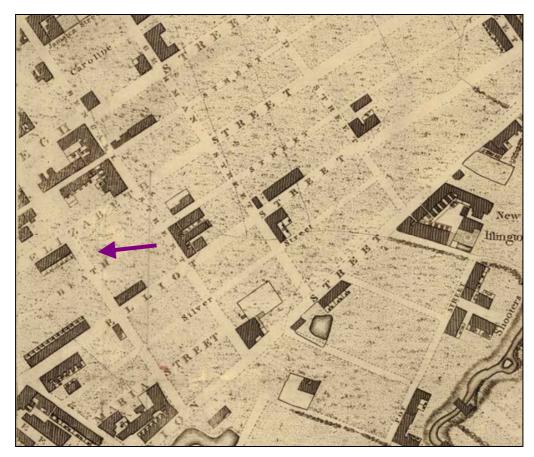


Plate 2: Extract from William Green's survey of 1787-94, marking the position of the Airco Works

3.2.2 Ancoats was subject to considerable residential and industrial development during the early nineteenth century, which is captured on Bancks & Co's map of the area of 1831 (Plate 3). This shows the principal streets in Ancoats to have been established, and much of the area developed by factories and workers' housing. The present study area, however, does not appear to have been subject to intensive development since the late eighteenth century. The building range along Jersey Street that is depicted on Green's map of 1794 is shown by Bancks & Co to have comprised a terrace of seven residential properties, each with a small yard to the rear. Another building had been erected within the study area close to the junction of Jersey Street and Bengal Street, and further buildings at the junction of Bengal Street and Blossom Street (Plate 3). Curiously, Bancks & Co do not show Hood Street.



Plate 3: Extract from Bancks & Co's survey of 1831, marking the position of the Airco Works

- The next available detailed plans of the area are provided by the first edition Ordnance Survey map of 1850 (Fig 2), and Adshead's plan of 1851 (Plate 4). These both show that the study area had been developed entirely by the midnineteenth century, but provide slightly differing detail of the component buildings. The Ordnance Survey shows the north-western part of the study area, situated at the junction of Blossom Street and Murray Street, to have been occupied by the Blossom Street Works, a wheelwright's shop. This is likely to have been associated with the timber yard that is shown to have occupied the north-eastern part of the study area. Hood Street is not marked, suggesting that it may not have actually been constructed across the study area by the mid-nineteenth century. The Jersey Street frontage is occupied by the houses shown on the earlier surveys, although the lack of any pavement lights suggests that these buildings did not have cellars. The building at the corner of Jersey Street and Bengal Street is shown to have been expanded into a small complex of buildings, implying an industrial function, whilst a larger building to the rear of the Jersey Street Houses is also likely to have been industrial.
- 3.2.4 Adshead's map of 1851 identifies the building to the rear of the Jersey Street houses as William Goodwin's cotton mill and shows it to have been bounded to the north by Hood Street, which crosses the centre of the study area to link with Bengal Street (Plate 4). A terrace of six properties is shown to have been built along the north side of Hood Street, which comprised five dwellings with commercial premises at the eastern end. The infrastructure of the timber yard appears to have been expanded, with additional buildings added to the site.

3.2.5 Adshead's map also shows the Blossom Street Works to have been expanded, and identifies it as William Goodwin's spindle and fly manufactory, which is likely to have been associated with the cotton mill situated to the south of Hood Street (Plate 4). Adshead also shows the buildings in the south-eastern corner of the study area to have comprised residential properties, with commercial premises occupying the corners of Hood Street and Jersey Street.

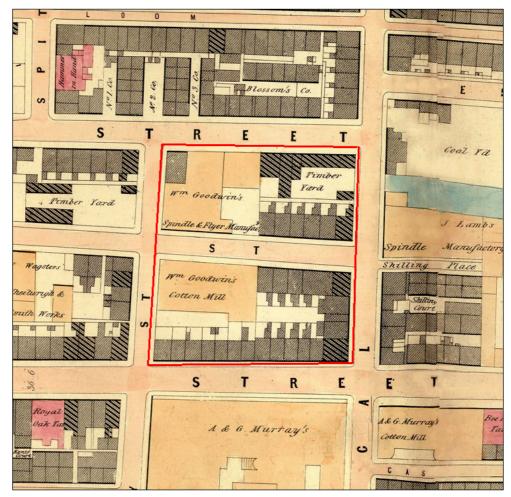


Plate 4: Extract from Adshead's map of 1851, marking the position of the study area

- 3.2.6 Entries in trade directories provide further evidence for the developing use of the buildings in the study area during the second half of the nineteenth century. A directory for 1879, for instance, indicates that the Blossom Street Works had become Rowland Archer's hessian and sacking works, and Goodwin's cotton mill was occupied by a packing-case manufacturer (Slater 1879).
- 3.2.7 Ordnance Survey mapping published in the early 1890s again shows the study area to have been traversed by Hood Street, dividing the site into two plots (Fig 3). The north-western part of the site had been redeveloped for use as a paper works, with the remaining part of this block developed into 15 terraced dwellings, each seemingly furnished with privies to the rear that were accessed via a narrow alley from Bengal Street.

- 3.2.8 The site of William Goodwin's cotton mill in the southern part of the site is shown to have been occupied by another industrial building, although its use is uncertain. The remainder of the southern part of the site consists of 20 terraced dwellings, with the original terrace shown on earlier mapping still extant. The building on the corner of Bengal Street and Jersey Street, however, appears to have been remodelled slightly, with part of the building converted for use as a dwelling.
- 3.2.9 A similar configuration of buildings is depicted on the next edition of Ordnance Survey mapping, published in 1908. The only notable difference is that the buildings in south-western part of the site are identified as a saw mill. Subsequent mapping shows little change to the site until the mid-twentieth century, although a sheet metal warehouse had been established in the southern part of the site by the early 1950s. Cartographic evidence indicates that the dwellings along the Jersey Street frontage had been cleared by the early 1960s. This is confirmed by a photograph taken in *c* 1967, which shows part of the site to have been cleared of dwellings and in use as a car-parking area.

4. SUMMARY OF RESULTS

4.1 Introduction

4.1.1 The historic building investigation comprised three principal structures on the site, all of which were latterly incorporated into the Airco Engineering Works. Each will be described separately below, and has been assigned a prefix letter to simplify the descriptive text (Fig 4).

4.2 BUILDING A

4.2.1 This structure was placed in the north-western corner of the site (Fig 4), and comprised a two-storey, L-shaped structure of 4 x 3 bays (Plate 5). The building is appears to be of consistent fabric and construction to be that shown on the Ordnance Survey editions of 1888 and 1893 (Fig 3), rather than the domestic structure shown on the corner of the plot on Adshead's map of 1851 (Plate 4).



Plate 5: View of Building A, looking south-east, with Blossom Street to the left

4.2.2 The building is of red brick construction, and where this is visible below hard white render on the external northern and western elevations, it is of differing bonds, comprising Flemish bond in the north wall (Plate 6), and three-stretcher English Garden Wall bond to the west. The un-rendered rear walls within the enclosed later works, forming the southern and eastern external elevations had been heavily modified, but appeared to comprise five-stretcher English Garden Wall bond construction in its original form (Plate 7). This strongly suggests that the northern elevation formed the principal façade, having the higher-status brickwork fronting Blossom Street. This five bay elevation has a wide decorative doorway in the central bay, offset slightly west of centre, and flanked by Ionic columns (Fig 5), each with a simple torus to plinth and capital, below a simple moulded cornice forming the entablature (Plate 8). The doorway was remodelled subsequently to house a roller-shutter door within a

narrowed aperture (Plate 8). The original fenestration of the façade appears to survive only in the western bay, comprising vertical rectangular windows of 4' (1.22m) width, with projecting sandstone sills, and flush lintels, which are obscured, and judging by the rear elevation, of brick. The ground floor window does, however, appear to have been reduced in height, with the insertion of a flat concrete lintel (Fig 5; Plate 5). The first floor aperture appears to resemble original dimensions, although with a replaced three-light window (Plate 5). To the east of the doorway, the ground floor windows are blocked, with cement infill marking the position of the adjacent window, where the render has collapsed (Fig 5; Plate 6), suggesting that each bay had a 4' vertical window within the original construction. At first-floor level, all but the western window have been heavily remodelled, with a horizontal window inserted into the central bay (Plate 5), and five small one and two-light windows inserted into the wall to the east, with no apparent respect for the original window positions (Fig 5; Plate 5).



Plate 6: Flemish bond brickwork exposed beneath render in façade of Building A



Plate 7: View of rear elevations of Building A, looking north-west

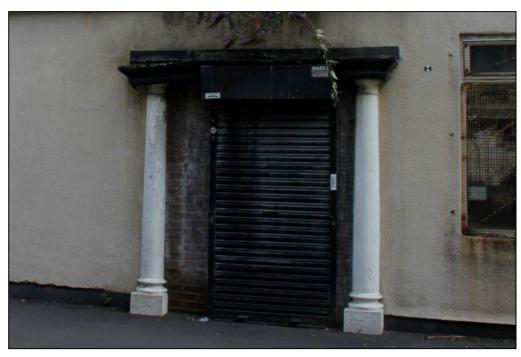


Plate 8: Detail of doorway, Building A

4.2.3 The west elevation has two narrow bays at its southern end, with a wider northern bay (Figs 4 and 6), and again appears remodelled, but probably retaining original window apertures at first-floor level in all but the penultimate northern bay, where it has been blocked (Plate 9). The ground floor windows are unevenly spaced, with two short windows in the northern bay, both possibly representing original apertures, as does the taller southern window (Fig 6; Plate 9). That of the central bay, however, appears to have been remodelled into a wider aperture (Fig 6; Plate 9).



Plate 9: West elevation of Building A

- 4.2.4 The rear, south, wall comprises only three bays, the western two being internal to the L-shaped structure (Fig 4). Each bay has a central doorway (Plate 7), all probably remodelled from windows, given remodelling of the jambs, with the outer two doorways retaining segmentally-arched lintels, latterly used as overlights for the doorways (Plate 7). At first-floor level, the central window has been brick-blocked, but the two outer apertures retain original projecting sandstone lintels (Plate 7).
- 4.2.5 The rear wall of the west range is slightly narrower than the two southern bays, and retains a 3' doorway in the central bay, with a blocked, wider 4' doorway into the southern bay (Fig 4; Plate 7). There is no evidence for windows at first-floor level (Plate 7).
- 4.2.6 Internally the structure has been very heavily remodelled, although several original internal, full-brick thickness partition walls survive (Fig 4). The northern range is of only a single bay depth, comprising a single room to each bay, with brick walls extant between the eastern two bays, and to the immediate west of the doorway in the north wall (Fig 4). The door presumably originally afforded access to the central bay, but a late clinker-block partition remodelled access through a possibly original internal doorway into the bay to the west (Fig 4). This bay houses a relatively late, and inserted straight stair to the upper floor (Fig 4; Plate 10), with a doorway on its eastern side affording access to the rear rooms of the western range (Fig 4).



Plate 10: Inserted staircase within Building A, looking south

4.2.7 At ground-floor level, the western range retained all transverse bay divisions, but with those dividing the front and rear rooms surviving only in the northern two bays (Fig 4). In the southern room this has been removed, and replaced with a stud partition to the west (Fig 4), but the rendered chimney breast for a fireplace survives in the north wall, and would have been positioned centrally within the front room (Fig 4). At first-floor level, all partitions between the front and back rooms has been removed, with a pier marking its position only visible in the southern room. The rear rooms of the western range, where it extended beyond the north range have a sloping ceiling (Plate 11), demonstrating that the rear wall was lower than the front wall, suggesting that light was originally provided by skylights in the eastern pitch, explaining the lack of fenestration within the upper wall. The southern room retains a chimney breast within what would have been the front room, although removal of the wall panelling revealed no evidence for a fireplace within the face (Plate 12), suggesting that it served only a ground-floor fireplace.

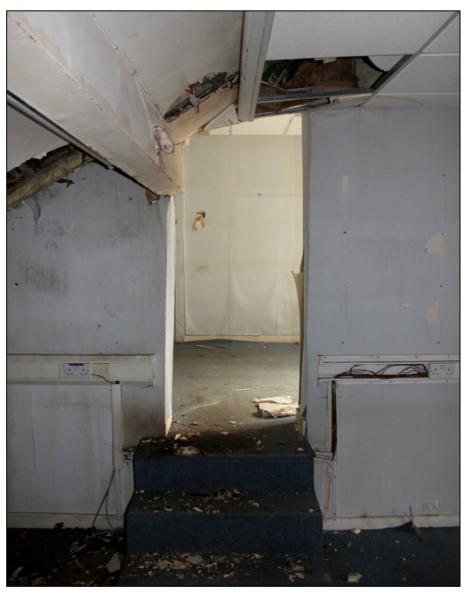


Plate 11: Sloping ceiling of rear first-floor rooms in west range of Building A, and steps up to Building B



Plate 12: Chimney breast at first-floor level in west range of Building A

4.2.8 The plaster ceiling appears to remain intact above a late fibreboard suspended ceiling, obscuring any details of the roof structure of the pitched roof (Plate 11).

4.3 BUILDING B

- 4.3.1 This structure butts the southern end of Building A (Plate 13), and comprises an approximately rectangular structure of 2 x 6 bays, fronting Murray Street on the western side, but with its long axis along Hood Street to the south (Fig 4; Plate 14). This appears to represent part of a larger L-shaped building, as shown with internal partitions on the Ordnance Survey editions of 1888 and 1893 (Fig 3), with the eastern end of the building forming an L-shaped structure that was continuous across the eastern end of the site to Blossom Street (Fig 3). However, a clear structural division can be seen in the east wall, with a change in roof height in the position of the north wall of Building B (Plate 15), suggesting that the original building was reduced in length within its eastern range.
- 4.3.2 Its principal façade was that fronting Murray Street (Fig 6), and is of salt-glazed red brick, erected in three-stretcher English Garden Wall bond (Plate 13), which is continuous around the Hood Street frontage (Plate 14). At ground-floor level, it has a pedestrian doorway at its northern end (Figs 4 and 6; Plate 13). This has been remodelled to house a roller-shutter door, and appears to have had a small over-light above the doorway that was brick-blocked (Plate 13). A large loading door immediately to the south has a rolled steel I-section lintel, and appears inserted, with its slender sandstone pads for the beam being set within ragged cut brickwork (Fig 6; Plate 13).

4.3.3 A blocked loading doorway above retains an external beam and some of the hoist gear (Fig 6; Plate 13), but probably also represents a contemporary inserted feature, with evidence for an infilled window lintel above. Elsewhere, the elevation retains its original apertures, comprising 4.6" (1.37m) wide windows with projecting sandstone sills and flush, splayed flat sandstone lintels (Plate 13). These were arranged in pairs to each bay, with all but the upper northern example having been brick-blocked. The extant window has a three-light steel frame (Plate 13), and represents a replacement, probably of early/mid-twentieth-century date.



Plate 13: Western elevation of Building B, fronting Murray Street



Plate 14: Hood Street Elevation of Building B



Plate 15: East elevation of Building B, with Building C on right

- 4.3.4 The south elevation appears to represent a single continuous build from the Murray Street frontage, but comprises bays of differing width and height, each with a gabled roof (Fig 7; Plate 14), possibly suggesting a re-facing of the wall. The western bay is a narrow tall bay, of approximately 13' width and 28'6" height, and houses a single, centrally-placed window on each floor, similar in style to those of the western façade (Plate 14), and also being brick blocked.
- 4.3.5 Elsewhere, the windows were arranged in pairs to each bay, with the exception of the third bay (from the west), where a single window to each floor was offset slightly to the west of centre (Fig 7; Plate 16), and the penultimate eastern bay, where the lower west window was absent (Fig 7; Plate 16). That in the western part of the fourth bay had also been remodelled to form a doorway, prior to being brick blocked (Fig 7; Plate 14). The second and third bays were approximately 14' wide, and a lower 25'6" high, with the fourth and eastern bay being approximately 19'6" wide and 27'3" high (Fig 7; Plates 14 and 16).
- 4.3.6 The penultimate eastern bay was of similar width to the west bay, but of lower height, more similar to the second and third bays (Fig 7; Plate 14). Although the bay spacing appears somewhat random, it is consistent with the partitions depicted on the Ordnance Survey editions of 1888 and 1893, with walls shown at either side and centrally within the position of the wide fourth bay (Fig 3).



Plate 16: Detail of Hood Street elevation of Building B

- 4.3.7 The east external elevation is heavily remodelled, and appears to represent at two phases of construction, with a change in wall height at its approximate mid-point (Plate 15). The taller southern part represents the original east return of Building B, and is external covered with hard cement render, which covers a probable buttress of approximately 3' (0.91m) width. It also has a large blocked opening to each floor, that on the upper floor retaining an I-section steel lintel above a degraded large-scantling timber sill that formed the lintel of the aperture below, which latterly incorporated a pedestrian doorway at its northern side (Fig 4; Plate 15). A further narrow doorway at ground floor level was placed only 4' (1.22m) to the north (Fig 4), and appeared inserted.
- 4.3.8 An area of exposed brickwork within the wall face revealed infilling on the northern side of the upper aperture, undertaken using a black sooty mortar, typical of the very late-nineteenth and early-twentieth centuries, and with more recent rebuilding of the upper eight courses of the wall to the north. The wall below appears to have been erected in an irregular bond of varying courses of headers and stretchers (Plate 15).
- 4.3.9 Internally, the structure is in a poor state of repair, having suffered both fire damage, and that caused by the continual ingress of water. It has also been remodelled into two main rooms, although several wall stubs of earlier walls do survive (Fig 4; Plate 17). The western four bays retained an upper floor, the eastern of which latterly formed a mezzanine above the open shed to the east (Plate 17), and with no safe access possible to either room at this level, due to the unsafe nature of the floor. Cursory inspection was however possible from the upper floor within Building A.



Plate 17: Internal view of Building B, from east bay, looking south-west

- 4.3.10 The adjoining wall to Building A contained two blocked small apertures, and an inserted doorway suggesting communication between the two structures prior to it all becoming part of the Airco Works. The southern of the two bays along the Murray Street Frontage are partitioned from the northern bays by a late steel cage, into which there was no safe access, obscuring any evidence for an original partition wall.
- 4.3.11 Beyond the south wall of Building A, the north wall of Building B projects 4' (1.22m) to the north (Fig 4), demonstrating it to be a later structure, enclosing the southern end of the earlier building. A 4' (1.22m) wide doorway to the east may represent an original aperture (Fig 4; Plate 18), with a similar blocked doorway placed in the adjacent bay (Fig 4), although this appears to have been inserted through an earlier low aperture with three-rowlock round-headed arch (Plate 19). This also has a projecting buttress on its northern face, with moulded brick transitioning from the bull-nosed brick of the ground floor, at approximate door lintel height to the standard brick above (Plate 19). The north wall has a southward return at the eastern edge of the fourth bay (Fig 4; Plate 18), as shown on the Ordnance Survey mapping of 1888 and 1893 (Fig 2). A 4' northward return of the wall in the eastern bay has been partially rebuilt, forming part of the rebuilt structure to the north (Building C), and demonstrating that the new building was erected within the same footprint as the earlier structure.



Plate 18: North external wall of Building B, looking south-west



Plate 19: Segmentally-arched aperture in north wall of Building B

4.3.12 The south wall of Building B has brick piers at each bay division (Plate 17), carrying the ends of the ceiling beams. Each bay also retains the window frames of the upper floor internally, each comprising a six-light fixed timber frame, below an internal timber lintel (Plate 20), and nine-light frames with night-vents in the western three bays, and also at first-floor level in the west wall (Plate 21).

4.3.13 Additional brick piers butting the wall appear to relate to relatively late supports for the first floor in the eastern two bays, this having been removed subsequently (Plate 17). Several internal brick partitions survive within the wider fourth bay, the most intact of which forms a partition to the western bays, surviving to first-floor ceiling height (Plate 17). A wide loading doorway has been inserted in the north bay of the western part of the building, with a concrete ramp cut into, and traversing Bay 4 to the higher structure to the east (Plate 22). The 18" (0.45m) thick wall has an inserted doorway in the southern part, blocked subsequently with clinker block (Plate 23), and a ragged brick pier projecting on both faces of the wall at ground and first-floor levels, possibly representing a flue (Plates 22 and 23). An 18" (0.45m) square bearing box above the inserted doorway (Plate 23) represents the only evidence for power transmission within the structure, although such boxes were often reused as ducting apertures within later structures, and may therefore not be indicative of original line shafting power.



Plate 20: In-situ window frames in south internal wall of Building B



Plate 21: West bays of first floor of Building B, with in-situ window frames and column detail



Plate 22: View across Bay 4, with steel cage across Bays 1-3 to rear



Plate 23: Blocked bearing box in internal wall between Bays 3 and 4, looking west

- 4.3.14 Further wall stubs represent the original east wall of the fourth bay (Plate 17), and a small partitioned 7'2 (2.13m) structure in the north-eastern corner of the fourth bay, shown on the Ordnance Survey edition of 1893 (Fig 3).
- 4.3.15 The upper floor of wide timber boards is carried on large scantling timber beams, aligned north/south across the western three bays (Plate 24). In the southern range of the structure, columns placed on ground-level brick walls survive in all but the eastern bay, where it has been moved onto a later pier to the north (Fig 4; Plate 17), comprising hollow cylindrical cast-iron columns with ribbed capitals to cruciform-section headplates (Plate 21).

4.3.16 The columns carry I-section rolled steel beams, supporting L-section steel lattice trusses in all but the northern bay, where an original timber roof is concealed above a lath and plaster ceiling (Plate 21). The junction between ceiling beam and column appears somewhat unnatural, with the simple clasping headplates seen in many contemporary weaving sheds of I-beam roof construction offering a simpler and stronger joint, suggesting that the eastern five bays were re-roofed.



Plate 24: Extant ceiling detail in western bays of Building B

4.3.17 The western range of Building B had two narrow rooms, placed approximately 0.45m higher than that of the earlier structure to the north (Plate 11). Both rooms were internally rendered, with suspended ceilings but had open doorways in the adjoining walls, and to Building A (Plate 11)

4.4 BUILDING C

- 4.4.1 This structure forms a rebuilding of the northern end of the east range of Building B, and comprises a rectangular structure of 4 x 1 bays, with its long axis along the eastern site boundary (Fig 4). It is not clearly defined as a rebuilt structure on historic mapping prior to 1969, but its form and fabric suggest that it pre-dates this, but reflected the proportions of the original building.
- 4.4.2 Its longer east external wall is almost exclusively concealed behind white-painted concrete render (Plate 25), obscuring all but a small section of wall. This comprised almost exclusively crimson-coloured coarse brick, in random coursing of headers and stretchers. Two narrow sandstone pads were also visible within the wall face, one placed below wall head height, with the other at ground floor ceiling height, below a rendered projection from the wall head (Plate 26). The roof is of similar cementitious corrugated asbestos sheet to Building B to the south, but has a hipped northern bay (Plate 25).



Plate 25: East external wall of Building C



Plate 26: Sandstone pad in external east wall of Building C

4.4.3 The northern gable faces Blossom Street, and is again rendered, although much has collapsed, revealing orangey-red brick construction in three-stretcher English Garden Wall bond, and a central blocked tall window to each floor (Fig 5; Plate 27). The western return also has blocked windows to each bay of the upper floor, with segmental brick lintels (Plate 28), above a similar blocked aperture at ground-floor level, but with a three-rowlock brick arch (Plate 29), and an inserted wider doorway at the northern end of the wall, with an apparent iron lintel, and blocked subsequently (Plate 29).



Plate 27: North external wall of Building C, facing Blossom Street



Plate 28: Blocked segmentally-arched windows in west external wall of Building C



Plate 29: Blocked arched window, ground floor of Building C with adjacent inserted doorway

- 4.4.4 Internally, a blocked 5' (1.53m) doorway is visible in the southern bay of the east wall (Fig 4), presumably providing access to an alleyway between two rows of houses shown to the east on the Ordnance Survey edition of 1893 (Fig 3), the southern row and passage also being depicted on Adshead's map of 1851 (Plate 4), demonstrating that it predated the building.
- 4.4.5 The first floor of the east wall above comprised recessed panels between brick piers carrying the ends of timber (Plate 30), rather than steel trusses, again suggesting that the trusses of the earlier Building B represent a replacement. The four trusses comprise braced timber king post trusses, each carrying a trenched purlin to either pitch of the roof (Plate 30). The corrugated cementitious asbestos sheet roof probably represents a replacement, being undersealed with asbestos sheets, and containing skylights in each pitch within each bay (Plate 30).

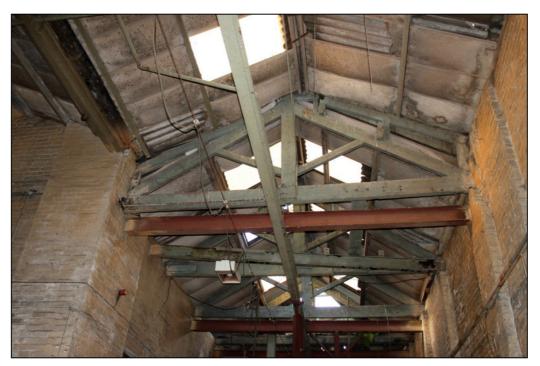


Plate 30: Internal view of Building C, with roof truss detail, looking north

5. CONCLUSIONS

5.1 THE STRATIGRAPHY

- 5.1.1 Although all buildings are heavily remodelled, and were latterly used as a single structure, the survey revealed stratigraphic relationships between the three structures, demonstrating that Building A represents the earliest structure on the site, having been erected between 1851 and 1888. It was butted on its southern side by what appears to have been a large L-shaped structure, Building B, again before 1888, and with internal partitions within the wider Bay 4 suggesting different uses within the structure. The narrow nature of the internal rooms depicted on the late nineteenth-century mapping, and the small square structure on the rear, northern side, suggests that the bay may have housed a pair of boilers, with a chimney to the rear, although the physical evidence for this is minimal.
- 5.1.2 Building C represents a rebuild of the eastern range of Building B, and is of unknown date, although the use of timber trusses, and hand-made brick, would also suggest a nineteenth-century date for the rebuild, possibly resulting form a fire within the original building.

5.2 SIGNIFICANCE

- 5.2.1 The structures are of relatively late date within the industrial suburb of Ancoats, reducing their historic significance, particularly as they replaced structures relating to ancillary elements of the textile industry, presumably supporting the huge concerns of Messrs Murray and McConnell and Kennedy on the neighbouring Jersey Street, as well as Goodwin's own small cotton mill on the southern side of Hood Street (Plate 2).
- 5.2.2 The buildings are, however, noteworthy for their construction technique, with differences in roof construction, and the Buildings A and B including a relatively early use of salt-glazed brick, which although popular for ornamental and coloured brick from the sixteenth century, was not widely used in the mid-nineteenth century, and only became common-place following the introduction of mechanically extruded plastic and engineering brick in the late-nineteenth century. Close inspection of the brickwork, where exposed, clearly shows a slight widening and uneven edges to several of the bricks, indicative of them having been mould-thrown.

5.2.3 The plan form of Building A is also interesting, in that it is typical of a domestic, rather than commercial arrangement, with the exception of the corner bay, which would be typical of a shop. The narrow north range was erected in a similar manner to single room cottages, with the western range having the typical large front room and smaller rear room of a single-fronted cottage, although the doorways for such use appears never to have been included within the original build. However, the use of a basically domestic model for an industrial premises, does suggest that the builder had a fall-back option of easily converting the building into much sought-after dwellings and a corner shop, should the initial enterprise fail.

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APPENDIX 1: WRITTEN SCHEME OF INVESTIGATION

June 2015

Oxford Archaeology North

FORMER STOCKBRIDGE AIRCO LTD, BLOSSOM STREET, ANCOATS, MANCHESTER



Recent aerial view of the former Stockbridge Airco Ltd works

ARCHAEOLOGICAL BUILDING INVESTIGATION WRITTEN SCHEME OF INVESTIGATION

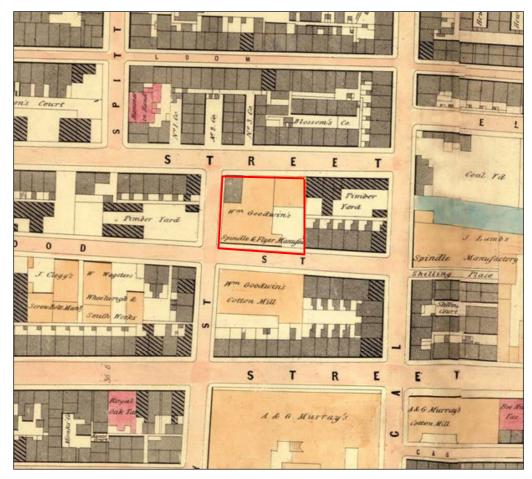
Proposals

The following Written Scheme of Investigation is offered in response to a request from MLDC Ltd, for an archaeological building investigation in advance of the proposed redevelopment of the site of the former Stockbridge Airco Ltd Works on Blossom Street in the Ancoats area of Manchester.

1. INTRODUCTION

1.1 Project Background

1.1.1 MLDC Ltd is devising proposals for the redevelopment of a number of their properties in the Ancoats area of Manchester. These include a vacant building situated at the junction of Blossom Street and Bengal Street (centred at NGR 384995 398704), which was occupied until recently by Stockbridge Airco Ltd. The site was occupied in the mid-nineteenth century by the Blossom Street Works, which is depicted on the Ordnance Survey map of 1850 as a wheelwright's shop, but is annotated on Adshead's map of 1851 as William Goodwin's spindle and flyer manufactory. However, the extant buildings appear to date to the late nineteenth century, although it is considered possible that elements of the earlier buildings exist in the surviving fabric.



Extract from Adshead's map of 1851

1.1.2 Following consultation with the Greater Manchester Archaeological Advisory Service (GMAAS), in their capacity as archaeological advisors to Manchester City Council, MLDC Ltd is seeking an archaeological building investigation of the extant structures. In accordance with the advice provided by GMAAS, the investigation will be commensurate with an Historic England Level 2-type survey.

1.2 Oxford Archaeology North

- 1.2.1 OA North has considerable experience of the interpretation and analysis of buildings of all periods, having undertaken a great number of small and largescale projects during the past 28 years. Such projects have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. In recent years OA North also has extensive experience of archaeological work in Northern England, and particularly in central Manchester. OA North has especial experience of historic buildings in Ancoats, having undertaken numerous building investigations over the past 15 years. These include an Historic England Level 3-type survey of the Murrays' Mills complex of cotton spinning mills on Murray Street (Miller and Wild 2007), and the former Bengal Street Block of Beehive Mill on Jersey Street. OA North has also carried out Level 2-type surveys of the former Howarth Metals Foundry on Jersey Street, the Gun Street Warehouse on the corner of Gun Street and Jersey Street, and numerous smaller commercial/domestic properties on Great Ancoats Street and Oldham Road.
- 1.2.2 OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is an Chartered Institute for Archaeologists (CIfA) registered organisation, registration number 17, and all its members of staff operate subject to the CIfA Code of Conduct.

2. OBJECTIVES

- 2.1 The archaeological building investigation will provide a drawn, photographic and textual record of the former Stockbridge Airco Ltd Works prior to its ultimate redevelopment. To achieve these objectives, the following listed specific aims are proposed:
 - **Building Investigation:** to provide a drawn, photographic and textual record of all the building to Historic England (English Heritage 2006) Level 2 standard, which will provide a lasting record of the structure in its present state. In addition, the investigation will ascertain if further archaeological investigation will be necessary, prior to or during any demolition work;
 - **Report and Archive:** to complete a written report, which includes information about the building's age, fabric, form and function. This will be followed by a discussion of the sequence of development, process layout and use over time, and its relationship with other buildings in the vicinity, in terms of architecture and function. Suggested recommendations for additional archaeological investigation will also be included, where appropriate.

3 METHOD STATEMENT

3.1 Building Investigation

- 3.1.1 *Historical Research:* cartographic sources relating to the area will be consulted rapidly in order to produce a map regression to provide an appraisal of the historical development of the building. In addition, any relevant documents relating to the building will also be examined to provide a broad historical context for the investigation.
- 3.1.2 **Photographic Archive:** a photographic archive will be produced utilising a high-resolution digital camera. A full photographic index will be produced and the archive will comprise the following:
 - (i) The external appearance and setting of the building, including a mixture of general shots and detailed views taken from perpendicular and oblique angles;
 - (ii) General shots of the surrounding landscape;
 - (iii) The general appearance of principal rooms and circulation areas;
 - (iv) Any external or internal detail, structural or architectural, which is relevant to the design, development and use of the building, and which does not show adequately on general photographs;
 - (v) Any internal detailed views of features of especial architectural interest, fixtures and fittings, or fabric detail relevant to phasing the building.
- 3.1.4 **Site Drawings:** instrument survey techniques described below will be utilised to produce measured drawings within a CAD environment, which will be included within the final report as figures:
 - (i) floor plans of the building;
 - (ii) a cross-section through the short axis of the building;
 - (iii) principal elevations of the building.
- 3.1.5 **Reflectorless Electronic Distance Measurer (REDM) survey**: the proposed plans, elevations and cross-sections will be surveyed by means of a reflectorless electronic distance measurer (REDM). The REDM is capable of measuring distances to a point of detail by reflection from the wall surface, and does not need a prism to be placed. The instrument to be used will be a Leica TCR805. This emits a viable laser beam, which can be visually guided around points of detail. The digital survey data will be captured within a portable computer running TheoLT software.

- 3.1.6 Detail captured by the instrument survey will include such features as window and door openings, evidence for power transmission, outline of decorative detail, evidence for machinery, an indication of ground and ceiling level, and changes in building material. The drawings will usually be produced at a scale of 1:50.
- 3.1.7 *Manual Survey Techniques:* hand-measured survey techniques will be utilised to record areas that are not accessible for instrument survey. The drawings will be tied into the remained of the survey through the use of a survey control established by the instrument survey.
- 3.1.8 *CAD System:* the drawings will be manipulated in AutoCAD MAP 2004. The advantage of a CAD system is that it allows for efficient manipulation and editing of drawings. The adoption of a layering system has significant benefits during the analysis stage as it allows for the display of information such as feature types, fabric and phasing as necessary to the requirements of the analysis, without the necessity to produce further drawings.
- 3.1.9 *Visual Inspection:* a visual inspection of the building will be undertaken utilising the OA North building investigation *pro forma* sheets. A description will be maintained to Historic England (English Heritage 2006) Level 2 standard. The records will be essentially descriptive and provide a systematic account of the origin, development and use of the building, which will include a description of the plan, form, fabric, function, age and development sequence of the former works.

3.2 REPORT

- 3.2.1 *Report:* the content of the report will comprise the following:
 - (i) A site location plan related to the national grid;
 - (ii) A front cover to include the planning application number and the NGR;
 - (iii) A brief account of the building investigation results. This will include a description of the building's layout, as well as its age, fabric, form and function. This will be followed by a discussion of the sequence of development, process layout and use over time, its relationship with other buildings in the vicinity, in terms of architecture and function;
 - (iv) An explanation to any agreed variations to the brief, including any justification for any analyses not undertaken;
 - (v) A description of the methodology employed, work undertaken and results obtained;
 - (vi) Copies of plans, photographs, and other illustrations as appropriate;
 - (vii) Recommendations for further archaeological investigation where appropriate;
 - (viii) A copy of this project design, and indications of any agreed departure from that design;
 - (ix) The report will also include a complete bibliography of sources from which data has been derived.

- 3.2.2 The report will be in the same basic format as this written scheme of investigation; a copy of the report can be provided on CD, if required. Copies of the report will be supplied to the client as requested, and further digital copies will go to the appropriate repository.
- 3.2.3 *Archive:* the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current Historic England guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the CIfA in that organisation's code of conduct. OA North practice is to deposit the original record archive of projects with the County Record Office.
- 3.2.5 The Arts and Humanities Data Service (AHDS) online database project *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.
- 3.2.6 **Confidentiality:** all internal reports to the client are designed as documents for the specific use of the Client, for the particular purpose as defined in the written scheme of investigation, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.

4. HEALTH AND SAFETY

4.1 OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. A written risk assessment will be undertaken in advance of project commencement, and copies will be made available on request to all interested parties.

5. PROJECT MONITORING

5.1 Access: liaison for basic site access will be undertaken through the client. Whilst the work is undertaken for the client, GMAAS will be kept fully informed of the work and its results, and will be notified a week in advance of the commencement of the fieldwork. Any proposed changes to the project design will be agreed with GMAAS in consultation with the client.

6. WORK TIMETABLE

- 6.1.1 *Historical Research:* one day will be required to complete this element.
- 6.1.2 **Building Investigation:** the duration of the fieldwork element of the project will be dependent upon the availability of measured survey drawings of the building. Should any drawings be available that are suitable for annotation with archaeological details, the fieldwork element will be completed in a single day. Should no plans be available, and a measured survey is required, three days on site will be required to complete the building investigation.
- 6.1.3 *Report/Archive:* the report and archive will be produced within four weeks of completion of the fieldwork. OA North can execute projects at very short notice once a formal written agreement has been received from the client.

7. STAFFING

- 7.1 The project will be under the overall charge of **Ian Miller BA FSA** (OA North Senior Project Manager) to whom all correspondence should be addressed. Ian has more than 26 years experience as a professional archaeologist, and particular research interests in Industrial Archaeology, and especially in Manchester. Amongst numerous other projects, Ian managed the archaeological survey of Murrays' Mills.
- 7.2 The project will be directed in the field by **Chris Wild BSc** (OA North Project Officer), who has specialised in recording historic industrial buildings for the past 18 years. He has carried out most of OA North's historic building investigations in Ancoats, including Murrays' Mills.

8. INSURANCE

8.1 OA North has a professional indemnity cover to a value of £5,000,000; proof of which can be supplied as required.

ILLUSTRATIONS

LIST OF FIGURES

Figure	1:	Site location

Figure 2: Extract from the Ordnance Survey 60": 1 mile map of 1850

Figure 3: Extract from the Ordnance Survey 25": 1 mile map of 1893

Figure 4: Plan of Airco Works complex

Figure 5: North elevation of Buildings A and C

Figure 6: West elevation of Buildings A and B

Figure 7: South elevation of Building B

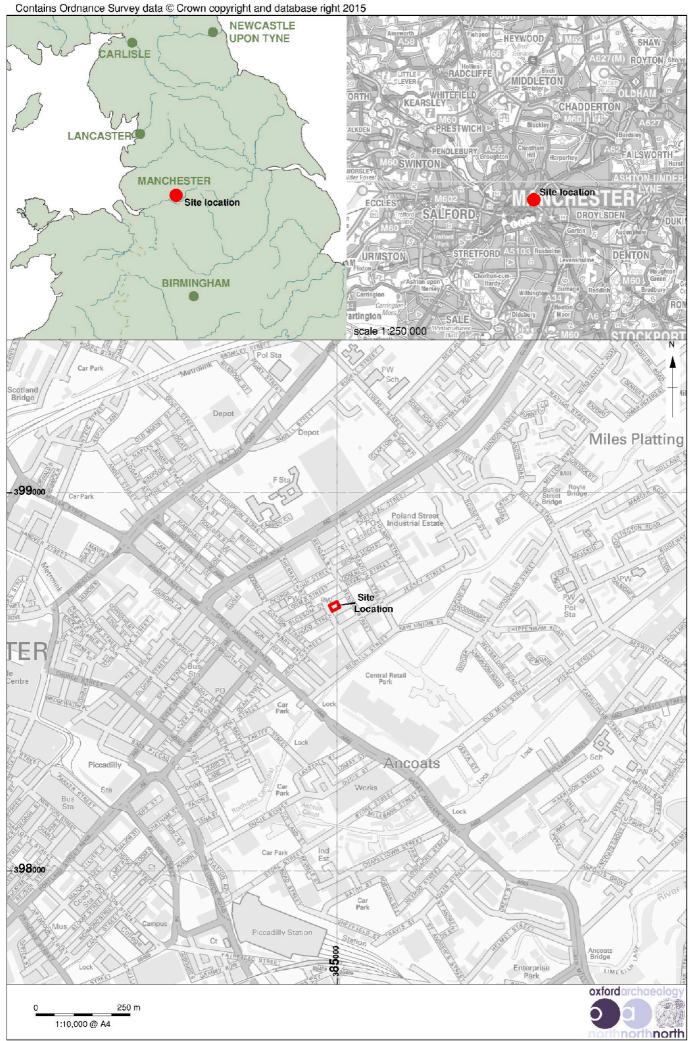


Figure 1: Site location

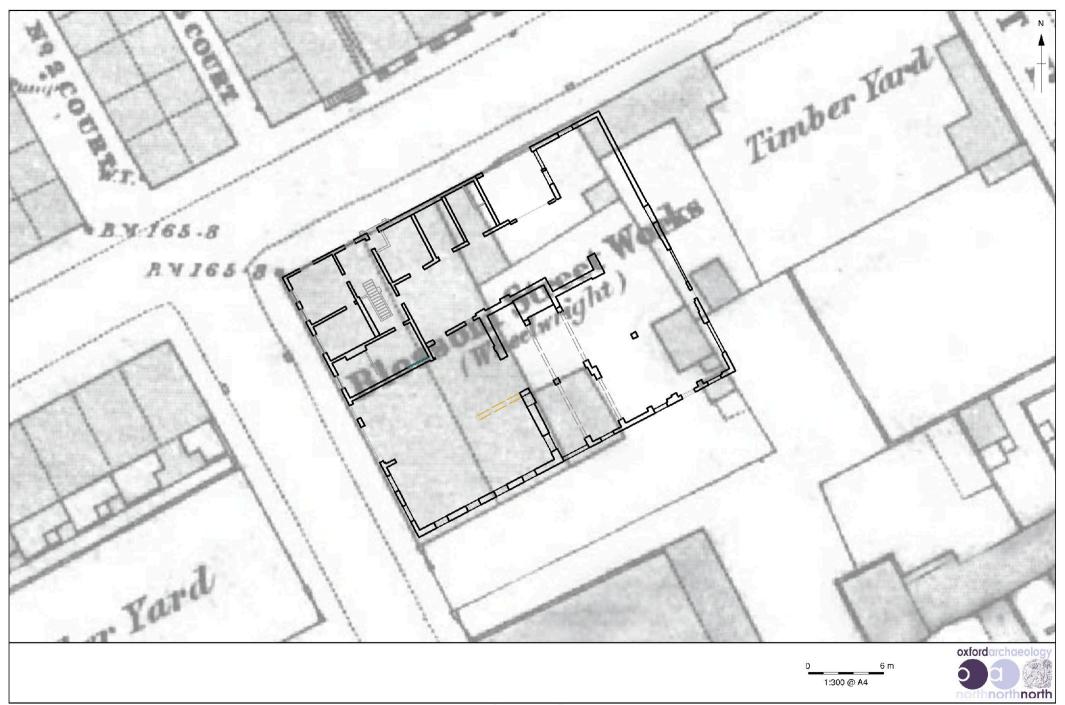


Figure 2: Extract from the Ordnance Survey 60":1 mile map of 1850



Figure 3: Extract from the Ordnance Survey 25":1 mile map of 1893

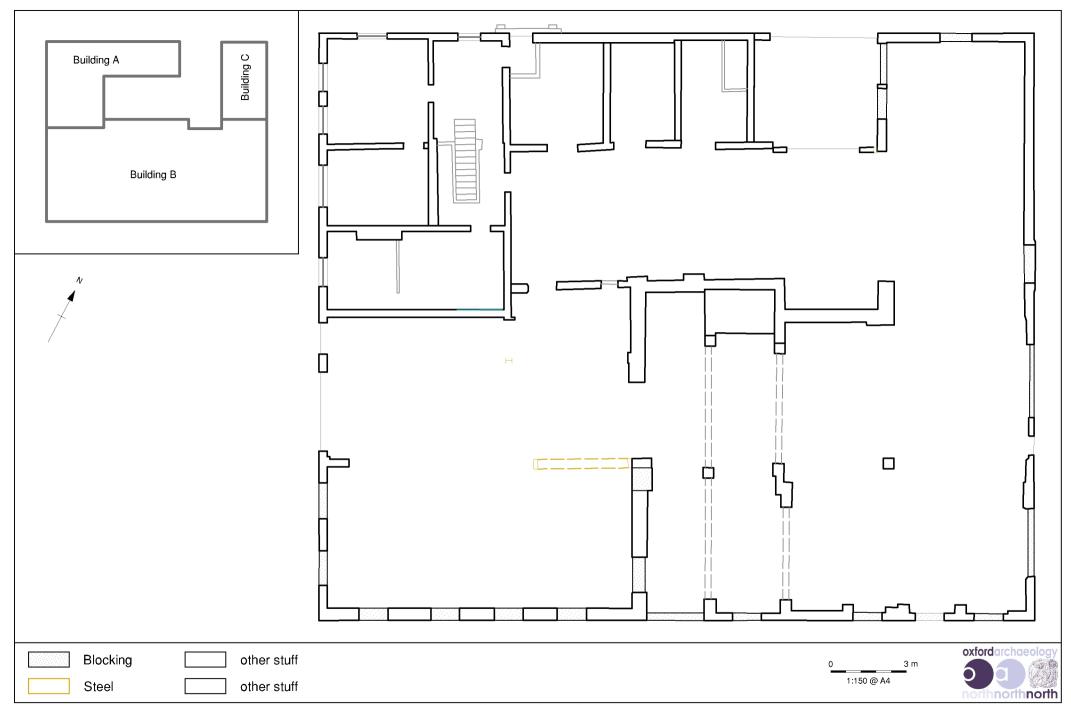


Figure 4: Plan of Airco Works Complex

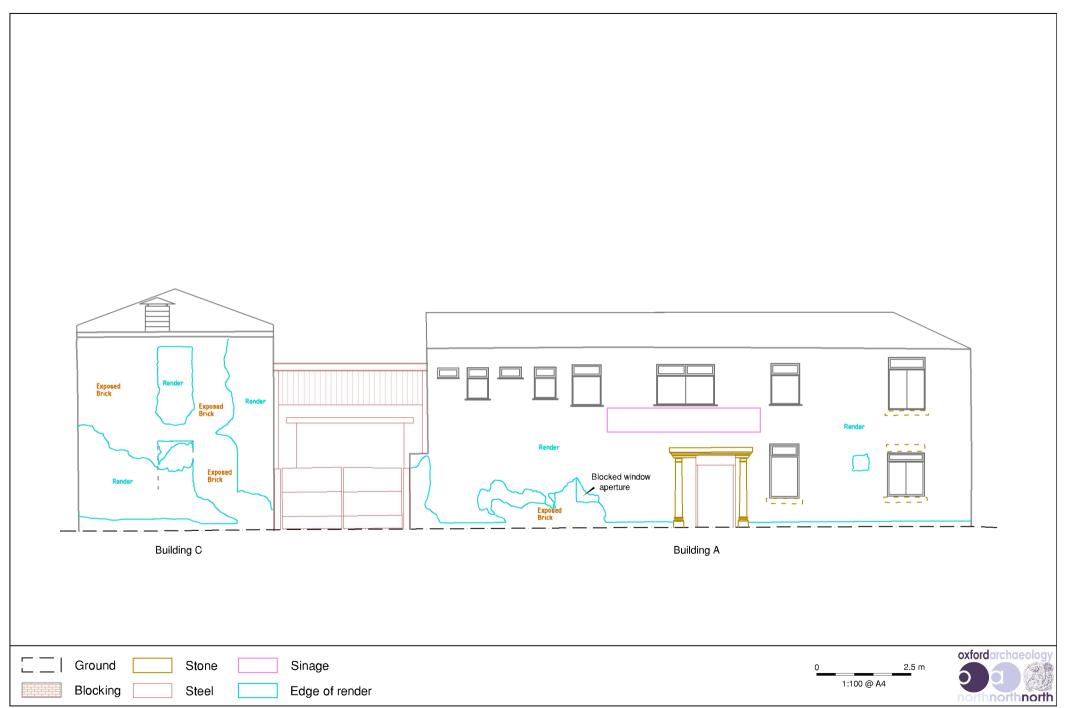


Figure 5: North elevation of buildings A and C

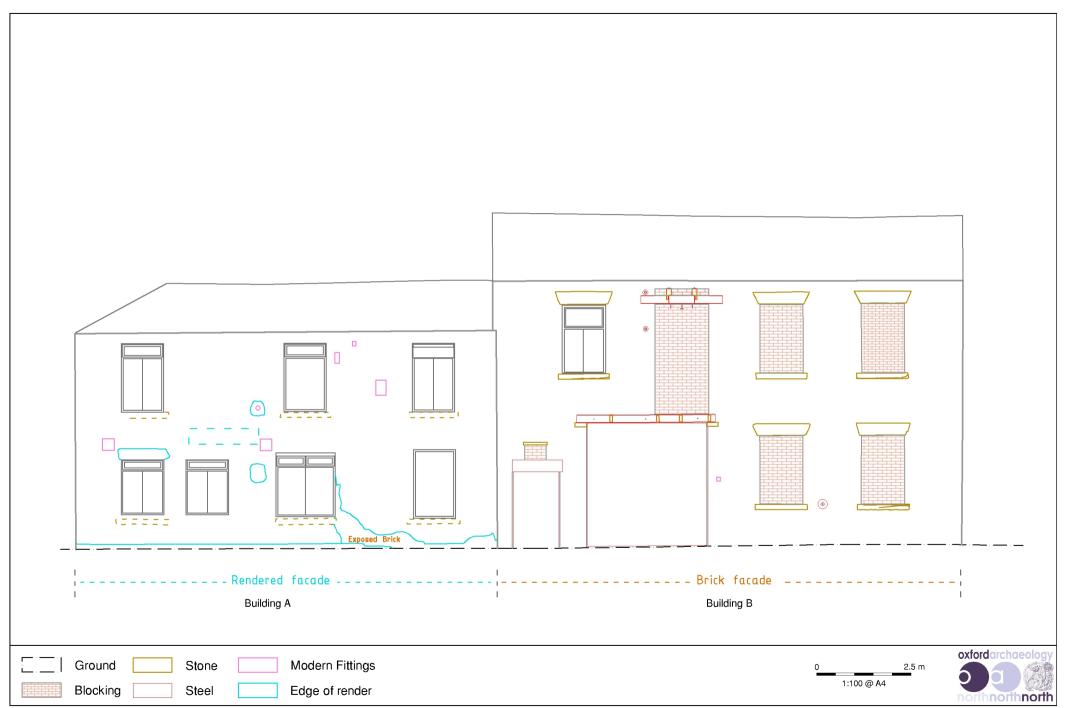


Figure 6: West elevation of buildings A and B

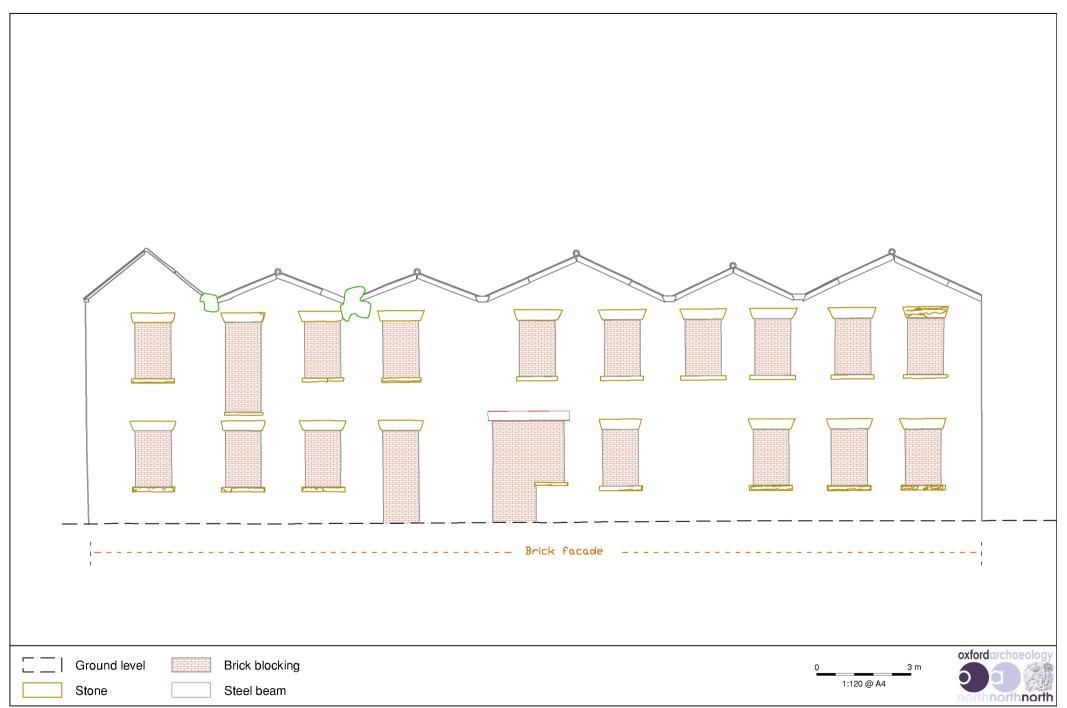


Figure 7: South elevation of building B