University of Salford MANCHESTER

Archaeological Excavation

Gorton Mills,
Abbey Hey Lane,
Gorton,
Manchester

Client:
Southway Housing Trust

Planning Ref:
119149/FO/2018

Technical Report:
Sarah Cattell

Report No:
2019/29

The Centre for Applied Archaeology

REGISTERED ORGANISATION CIfA

Site Location:	The study area lies on Abbey Hey Lane in the Gorton area of Manchester
NGR:	Centred on 389140 396500
Internal Ref:	SA/2019/29
Planning Ref:	119149/FO/2018
Prepared for:	Southway Housing Trust
Document Title:	Gorton Mills, Abbey Hey Lane, Gorton, Manchester
Document Type:	Archaeological Excavation
Version:	Version 1.0
Author:	Sarah Cattell
Position:	Project Officer
Date:	June 2019
Approved by:	Ian Miller BA FSA **Signed:**
Position:	Assistant Director
Date:	June 2019

Contact: Salford Archaeology, Centre for Applied Archaeology, Peel Building, University of Salford, Salford, M5 4WT

Telephone: 0161 295 4862

Email: i.f.miller@salford.ac.uk

Contents

Summary

In January 2019, Salford Archaeology was commissioned by Southway Housing Trust to undertake an archaeological excavation on land at Abbey Hey Lane, Gorton (centred on SJ 89134 96498). The archaeological work was required to satisfy a condition attached to planning consent for a proposed residential development (Planning Ref: 119149/FO/2018). The excavation followed on from an initial programme of archaeological evaluation, which was carried out by Salford Archaeology in September 2018. This confirmed that buried structural remains survived *in-situ* across the site, and that these were of sufficient archaeological interest to merit more detailed investigation in advance of their ultimate loss. Two areas of the site were targeted for excavation, placed across the footprint of the engine houses lying between the Canal Side and Old Mills and the boiler house located in the basement of the northern canal-side building.

The study area lies on the western side of Abbey Hey Lane, the earliest thoroughfare in the area. Prior to the construction of the mill, the area was given over largely to agricultural purposes and was characterised by scattered farmsteads with very little evidence of earlier occupation. In 1796, the Stockport Branch of the Manchester to Ashton-under-Lyne Canal was constructed, which formed a link between Manchester and the settlements along its route and greatly facilitated the transportation of goods. This development opened up opportunities for these outlying villages and encouraged the spread of textile manufacturing beyond the city centre. Large industries were strategically established along the canal route and it is likely that this is one of the factors considered when planning the construction of Gorton Mill.

The excavation uncovered well-preserved remains of the 19th-century power systems of the mill and associated structures. In Area A, evidence of three cellar rooms were identified within the Canal Side Mill, including a storage area with iron doors, possibly representing the blowing room. At the northern end of this area A large stone and brick foundation was also uncovered, representing the bed for one of the steam engines. Area B produced remains of the steam-raising plant in the form of a boiler bed with coal storage to the west, and a wall to the east possibly relating to the location of economisers and an associated flue. Several culverts and a cast-iron pipe were also revealed in this area, which were thought to be associated with the movement of water between the canal and the boilers both in this area and in the second boiler house to the east.

1. Introduction

1.1 Planning Background

In January 2019, Salford Archaeology was commissioned by Southway Housing Trust to undertake an archaeological excavation on land at Abbey Hey Lane, Gorton. The archaeological work was required to satisfy a condition attached to planning consent for a proposed residential development (Planning Ref: 119149/FO/2018).

The consented scheme allows for the development of an extra-care facility comprising 106 apartments, car parking, landscaping and boundary treatment, the delivery of which will necessitate considerable earth-moving works. The potential archaeological interest in the site was highlighted in a desk-based assessment that was carried out in 2018, which concluded that the site merited further archaeological investigation in advance of development works (Salford Archaeology 2018). In view of this recommendation, and following consultation with the Greater Manchester Archaeological Advisory Service (GMAAS), Manchester City Council attached a condition to the planning consent that required an appropriate scheme of investigation to be carried out in advance of development. This condition was in line with the consultation advice provided by GMAAS, in their capacity as Archaeological Advisors to Manchester City Council and, in the first instance, required a series of evaluation trenches to be excavated across the site. The evaluation was carried out in September 2018 and confirmed that buried structural remains survived *in-situ* across the site, and that these were of sufficient archaeological interest to merit more detailed investigation in advance of their ultimate loss. Following further consultation with GMAAS, two areas of the site were targeted for more detailed excavation, placed across the footprint of the engine houses lying between the Canal Side and Old Mills and the boiler house located in the basement of the northern canal-side building.

All archaeological work was carried out in accordance with a Written Scheme of Investigation, which was devised in consultation with GMAAS prior to the commencement of any work on site.

2. Original Research Priorities

2.1 Academic Aims

The principal aim of the archaeological excavation as stated in the approved Written Scheme of Investigation were to investigate the remains of the power system in this part of the mill with the possibility that they may provide a valuable insight into the development of steam power. The innovative McNaught system, patented in 1845, allowed existing low-pressure steam engines to be adapted to operate more efficiently at higher pressures. In addition, it is hoped to show the evolution of boiler systems by the introduction of economisers.

2.2 Objectives

The principal objectives of the archaeological investigation were:

- to determine the presence, character, extent and evolution of any buried remains of the original 1824 beam engine that powered Gorton Mill;
- to determine the presence, character, extent and evolution of any buried remains of the boiler house situated adjacent to the original 1824 beam engine;
- to determine the presence, character, and extent of any buried remains of the later steam-power plant that served extensions to Gorton Mill;
- to compile an archival record of any archaeological remains within the development area;
- to make available the results of the work.

3. The Setting

3.1 Location, Topography and Land Use

The study area is located off Abbey Hey Lane (centred on NGR 389140 396500), situated in the Gorton area of Manchester. The Site boundary extends north to Abbey Court apartments, and west to houses off Hawthorn Street, Carberry Street and Holybush Lane (Fig 1). The site encompasses 1.3ha and comprises landscaped ground with some small areas of hard-standing (Plate 1). A footpath along the western boundary of the Site represents the line of the infilled canal.

Plate 1: Recent aerial view showing the development area boundary

3.2 Geology

The underlying solid geology of the Site, as mapped by the British Geological Survey at 1:50000, is comprised of Chester Pebble Beds Formation - Sandstone. The overlying drift geology is comprised of Glaciofluvial Sheet Deposits, Devensian sand and gravel (http://www.bgs.ac.uk).

The study area lies at a height of approximately 78m above Ordnance Datum (aOD), falling gently to the east and rising to the west.

4. Historical Background

4.1 Introduction

A full discussion of the historical background to the site is presented in a desk-based assessment that was produced in 2018 (Salford Archaeology 2018). The historical background presented here is summarised from those portions of the desk-based assessment applicable to the excavation areas, together with additional documentary research.

4.2 Prehistoric and Romano-British Periods

No prehistoric or Roman finds or features are known to have come from within the study area, however, isolated discoveries from these periods have been made in Gorton. A stone axe that has been dated to the Neolithic period was discovered in the Gore Brook during the development of Manchester-Sheffield-Lincoln Railway in 1892. In addition, the Site lies approximately 0.5km to the north of the modern Hyde Road (A57), which follows the alignment of the Roman road from Manchester to Buxton. This road is thought to have been in use from 79 AD to approximately 390 AD, although may well have persisted into the medieval period. However, there is no known evidence for any Romano-British activity associated with the road in the vicinity of the site.

4.3 Medieval Period

One of the few known features that has been attributed to this period in the area is the Nico Ditch, a 9.7km linear earthwork between Ashton-under-Lyne and Stretford that passes through Gorton. It is thought to have been constructed sometime between the early 5th century and the Conquest in 1066, and may have been intended as a defensive fortification or as an administrative boundary, although excavations carried out between 1990 and 1997 concluded that the ditch was probably a boundary marker (Nevell 1998, 41).

The name Gorton may be derived from the Old English ‘gore’ meaning muddy, and ‘ton’ meaning farm or homestead, suggesting early medieval origins. However, physical evidence for human activity in the Manchester area during this period is scant, and there is no such evidence known around Gorton.

4.4 Post-medieval and Industrial Periods

During the 18th century, south-east Lancashire as a whole was predominantly an agricultural area of isolated settlements and market towns, with the growing town of Manchester at its centre (Williams with Farnie 1992, 3). By the 1780s, the national demand for textiles, particularly cotton, began to rise, resulting in a dramatic increase in mill building that transformed Manchester into a centre of the factory-based cotton manufacturing industry of international repute (Baines 1835). The successful application of steam power to textile manufacturing in the 1780s allowed larger, steam-powered mills to be concentrated in urban mill towns (Miller and Glithero 2016).

Gorton Mill was one of these early integrated mills, with the central spinning block and weaving shed as the first buildings within the complex to be constructed in 1824. Prior to this in 1796, the Stockport Branch of the Manchester to Ashton-under-Lyne Canal had been constructed, which ran adjacent to the western boundary of the mill site. The canal connected Gorton and other villages to Manchester, and greatly facilitated the transportation of goods. Large industries were strategically established along the canal route, and it is likely that this is one of the factors considered when planning the construction of Gorton Mill.

The mill went into production in August 1825 (France 1989, 41), although additional spinning blocks were added to the complex through the 1820s and early 1830s. By 1832, the mill employed 711 people which included over 300 children under the age of 18. To comply with the Factory Act of 1833 the site was enlarged to include a school in 1837. The mill continued to grow throughout the 19th century, although a brief closure between 1840 and 1844 led to a change in ownership when the industrialist John Rylands took on the leasehold of the mill to add to his influential textile-manufacturing company. Employee numbers carried on expanding, indicating that production on the site was also increasing. A fire at the mill in 1877 caused damage to the Abbey Hey Mill but overall operation of the site was not affected.

Production at Gorton Mill had begun to slow by the early 20th century, although the buildings present on the site remained unchanged. External factors also played a part in the decline of the mill during the 1920s with a widespread depression in the textile trade, along with a prolonged miners' strike in 1927. This led to the closure of the mill for seven months, although its reopening was short lived as the mill had been demolished by 1935. The site stood empty until the 1960s, when six blocks of residential apartments of varying sizes were constructed. These structures remained until 1997, when the site was again cleared. The majority of the Gorton Mills site is now grassed open land.

4.5 Archaeological Background

In September 2018 Salford Archaeology was commissioned to undertake an archaeological evaluation on the site of Gorton Mill to investigate the potential for surviving remains associated with the mill's power systems. Four evaluation trenches were excavated over the locations of the eastern boiler house and outbuildings and the boilers and engines at the northern end of the Canal Side Mill. Archaeological remains were uncovered in all four trenches and indicated that the level of preservation on site was good. Trench 1 revealed part of a boiler base and a large stone engine bed as well as associated features such as walls and a cast-iron water pipe. In Trench 2 only very deeply buried hand-made brick walls were identified which were thought to relate to the flue running between the western boilers and the site chimney as seen on the 1895 insurance plan. A second boiler base was revealed in Trench 3 which was in a better state of preservation and contained machine-made bricks suggesting a later date than the boilers to the west. Trench 4 also contained well-preserved brick remains thought to be associated with either the eastern boiler house or an unmarked building on the eastern side of the site next to the boiler house.

Following the results of the evaluation and in consultation with Greater Manchester Archaeological Advisory Service (GMAAS) further excavation was deemed necessary to ascertain the nature and extent of the power systems located on the western side of the site. Those exposed to the east in Trenches 3 and 4 were too deeply buried to be at risk from the proposed development and as a result, no further work was needed in this area.

5. Methodology

5.1 Excavation Methodology

Before excavation, the Client provided Salford Archaeology with service plans for the area and all trenches and surrounding areas were scanned with a cable avoidance tool to ensure that no live cables would be disturbed during the programme of works. The trenches were excavated using a tracked mechanical excavator with a 1.80m wide toothless ditching bucket down to archaeological features or natural geology. The machine excavation was supervised by a professional archaeologist at all times. The locations of the trenches are shown on the trench location plan.

The excavation trenches were located in order to determine the extent, depth and state of preservation of the remains identified by the previous evaluation and archaeological desk-based assessment. The works followed the design set out in the Written Scheme of Investigation (WSI) produced by Salford Archaeology in November 2018.

Two areas were excavated, their location based on the results from Evaluation Trench 1:

- Area A measured 20m by 9m. Its purpose was to look for further remains of the low-pressure beam engine indicated on the 1895 fire insurance plan as being contemporary with the establishment of Gorton Mill. It is also hoped that the excavation would allow an insight as to whether the adjacent McNaught beam engine operated in conjunction with the low-pressure engine;
- Area B measured 24.5m by 4.5m and was designed to provide more information on the boiler system in this part of the mill. In particular it aimed to locate the economiser system which preheated water for the boilers and therefore increased efficiency.

Where depth allowed, further excavations proceeded by hand. In any excavations deemed too deep to enter, cleaning was carried out by machine. Excavated spoil was placed in specified areas, at least 1m away from trench edges.

All archaeological excavation was conducted following the CIfA Standards and Guidance for archaeological excavation.

5.2 Recording Methodology

All information identified in the course of the site works was recorded stratigraphically. Results of the excavation were recorded on *pro-forma* context sheets and accompanied with sufficient pictorial record (plans, sections and high-resolution digital photographs) to identify and illustrate individual features.

Context Recording: all contexts were recorded using *pro-forma* sheets. All written recording of survey data, contexts, photographs, artefacts and ecofacts were cross-referenced from record sheets using sequential numbering.

Photography: a full and detailed photographic record of the structural remains / individual contexts was maintained and similarly general views from standard view points of the overall site at all stages of the excavation were generated. Photography was undertaken using high-resolution digital cameras. All frames included a visible, graduated metric scale. Photograph records were maintained on photographic *pro-forma* sheets.

Finds policy: finds recovery and sampling programmes were in accordance with best practice (following current Chartered Institute for Archaeologists' guidelines) and subject to expert advice in order to minimise deterioration. Finds storage during fieldwork and any site archive preparation will follow professional guidelines (UKIC). Finds within the topsoil, and dense/discrete deposits of finds were collected as Bulk Finds, from discrete contexts and bagged by material type. All artefacts and ecofacts were appropriately packaged and will be stored under optimum conditions, as detailed in the RESCUE/UKIC publication *First Aid for Finds.*

6. Excavation Results

6.1 Introduction

The excavation of Gorton Mills followed on from the initial evaluation trenching, which informed the locations of the excavation areas. Two trenches were opened, Area A to the south, targeting the beam engine houses at the angle between 'Old Mill' and 'Canal Side Mill' and Area B to the north, located to investigate the basement boiler house of the northern canal side building (Fig 2). Following the removal of the turf and topsoil, archaeological deposits were encountered between 0.60m and 2.50m deep, although natural ground was still not reached at this level.

6.2 Area A

The excavation of Gorton Mills followed on from the initial evaluation trenching, which informed the locations of the excavation areas. Two trenches were opened, Area A to the south, targeting the beam engine houses at the angle between 'Old Mill' and 'Canal Side Mill' and Area B to the north, located to investigate the basement boiler house of the northern canal side building (Fig 2). Following the removal of the turf and topsoil, archaeological deposits were encountered between 0.60m and 2.50m deep, although natural ground was still not reached at this level.

This trench was located to the south of Area B, orientated north-south and measuring 24.50m x 4.50m. Archaeological deposits were encountered at a depth of between 0.85m and 3.50m (Plate 2).

A cellar was revealed at the southern end of the excavated area, with the floor lying at a depth of approximately 3.60m below the modern ground surface, and the top of the surviving walls encountered at a depth of 1.50m. The cellar was filled by *204*, a demolition deposit comprising stone, brick and mortar fragments. The room was bounded by a wall composed of hand-made bricks on three sides, *208A*, *B* and *C* to the west, south and east respectively. The wall could not be seen in plan but was found to stand to a height of 1.90m (27 courses) high and was covered in discoloured whitewash (Plate 3). A doorway was identified in *208C* which retained a set of iron asymmetrical double doors complete with fixings that were found to be open during excavation. As the area was inaccessible, the full dimensions of the doorway could not be ascertained but its height was estimated at 1.70m, topped with an iron lintel and edged with bullnose bricks. To the north, the room was bounded by wall *210* which was almost identical in style to *208,* but with a stone sill and infilled window at a height of *c*.1.55m. In the north-western corner of the room lay a 1.00m wide doorway with part of the wooden frame remaining *in-situ* (Plate 4). Wall *211* lay on the western side of the doorway and continued westwards beyond the trench edge but appeared to be of similar construction to *210* and *208*.

Plate 2: General view of Area A, showing the cellar with brick structures and second room beyond. Looking north

Plate 3: Doorway in wall 208C, floor 207 and wall 210 to the north. Looking east

Plate 4: Detail of iron door in southern cellar. Looking north-east

A second basement room lay to the north of the doorway, although much of this room lay beyond the edge of the excavation. The room was bounded to the south by wall *211* and to the east by wall *212*. This was constructed from hand-made brick bonded with white lime-based mortar, and measured 11.90m x 0.50m, standing to a maximum height of 2.00m (Plate 5). The wall was again covered with a discoloured whitewash and a row of iron hooks were found to project from the wall at a height of *c*.1.40m. Approximately 6.00m north of the doorway lay an opening in *212* which originally measured 2.05m wide with two later machine-made brick insertions, *217* and *218*, to reduce the opening to 0.88m. A second opening was also revealed 1.80m to the north, which had been blocked completely by *219*, a two-course machine-made brick wall laid with black mortar and measuring 0.23m x 1.25m. At the northern end of *212* a third opening was revealed 1.52m north of *219* which had not been blocked but had a bullnose brick edging on the western face. The opening measured 1.09m between the end of *212* and the brick platform *220*.

Plate 5: General view of wall 212 showing doorways and iron hooks set within the western face of the wall. Looking south-east

The area to the east of wall *212* contained brick structures to the south of *204* (Plate 6), thought to be filling another cellar to the north (Plate 5). The structures to the south comprised a flagstone floor, *209* and three areas of hand-made brick *213-216*, surrounding two large rectangular voids. Surface *209* lay immediately south of *210*, measuring 1.10m x 1.30m with a metal disc lying on the northern edge. Structure *213/215* lay to the north, which was composed of hand-made bricks bonded with a pinkish-white mortar around a central void measuring 1.00m x 0.66m and abutting wall *212* (Plate 7). Context *213* formed the southern and eastern sides of the structure and were 0.74m and 0.64m wide respectively with evidence of black staining on the inside face within the void. Context *215* formed the northern part of the structure and was almost identical to *213* but stood *c*.0.25m higher than *213.*

Plate 6: Brick structures to the north of wall 210. Surface 209 can be seen abutting the wall with 213 and 215 surrounding the blackened void in the foreground. Looking south

Plate 7: Detail of 213 and 215 showing 214 within the void. Looking north

A small two-course wall *214*, had been inserted into the southern side of *215* between this structure and wall *212*, which was constructed from grey machine-made brick with a white mortar and extended 0.37m southwards into the void. The second void lay on the northern side of *215* measuring 1.00m x 0.75m and did not appear to have the same black staining on the interior. The northern boundary of this void was formed by wall *216* which measured 0.62m wide and was excavated to a height of 0.50m. The remnants of discoloured whitewash on the northern face of *216* suggests that this was also the southern wall of the other cellar room to the north, filled by *204*. The lack of access and the black staining within the southern void suggests that these brick structures may have been associated with the canal-side mill's heating or ventilation systems.

Further brick structures were identified at the northern end of Area A, part of which was revealed during the evaluation stage (Plate 8). Brick platform *220* was found to lie 1.09m from the end of wall *212*, and comprised a layer of hand-made bricks covered with a hard black mortar, standing *c* 0.50m below the modern ground surface (Plate 9). The surface continued to the east and west beyond the trench edges, but was truncated to the north-west where it abutted other arrangements of bricks *222* and *223*.

Plate 8: Overall view of engine base and brick supports 220-223 with wall 212 visible in the background. Looking south

Plate 9: Detail of stone base 221 lying on top of the brick platform 220, showing protruding bolts. Looking east

Approximately 0.65m from the southern edge of the platform lay two iron bars protruding through square holes in *220*, which were 0.05m in diameter and spaced *c* 1.10m apart. Large stone base *221* lay on top of *220* and comprised at least six separate stone blocks measuring between 0.50m-0.75m wide x 1.00m-1.50m long. This base also contained three holes, with iron bars present in two of them (Plate 9). Abutting *220* and *221* to the north lay an uneven, P-shaped brick structure, *222*, which was constructed from hand-made bricks bonded with white lime-based mortar (Plate 10). The southern 0.35m of this structure lay *c* 0.20 lower than the rest, with evidence of dark staining and was interpreted as the base of a narrow channel between *220* and *222*. The square part of *222* measured 2.00m x 2.00m with an internal space measuring 0.70m x 0.70m and the eastern projection measured 1.00m x 0.65m. Approximately 0.20m from the eastern side of the square lay another hand-made brick structure, *223*, which extended 1.50m northwards from the projecting section of *222* and was again constructed from hand-made bricks laid with black mortar, indicative of a late 19th-century construction date.

It is almost certainly the case that these structures form part of the foundation bed for one of the engines identified on historical mapping between the Canal Side and Old Mills. This is further confirmed by the presence of iron holding bolts and the stained channel to the north which was thought to accommodate the engine's flywheel. Judging by the alignment of the structure it is likely that it represents the location of the 'McNaught Beam Engine' marked on an insurance plan of 1895.

Plate 9: Detail of stone base 221 lying on top of the brick platform 220 showing protruding bolts. Looking east

Plate 10: Detail of brick structures 222 and 223. Looking south-east

6.3 Area B

This trench lay along the northern extent of the site, aligned east/west, and measured 19.75m x 9.00m. Archaeological deposits were revealed at a depth of 2.30m (Plate 11). The trench was bisected in the centre by a 0.23m wide (two course) wall of hand-made bricks, *227*, which was aligned north-west/south-east, and survived to a height of 0.26m (three courses) and was bonded with white lime mortar. The wall continued beyond the trench edges to the north and south, abutted structure *224* to the east and flagstone surface *241* to the west. This surface formed the base of a channel bounded to the west by a single course hand-made brick wall *228*, measuring 0.26m high x 0.11m wide.

Plate 11: General view of Area B. Looking east

Wall *228* had a single, two-course buttress projecting westwards from the western face, and also abutted culvert *229* further north. The features identified to the west of this channel lay within a mixed layer of greyish-brown silty loam with frequent inclusions of broken brick and stone and several lenses of blackened clinker and pinkish-grey clay (Plate 12).

Plate 12: General view of walls *227* and *228* with *241* between. Looking south-east

Culvert *229* extended westwards from *228* beyond the western trench edge, measuring 6.50m x 0.65m (Plate 13). The culvert was formed from yellowish-grey sandstone flags, *c* 0.50m x 0.60m, supported on upright stones *c* 0.10m wide. A break in the flagstones at the western end of the trench was able to reveal that a second culvert *238* running north-west/south-east, crossed *229*. Although the break in *229* suggested that *238* continued southwards, no evidence of this feature could be seen on the surface to the south of the break (Plate 14). The northern end of *238* was identified by several broken capping stones lying within a U-shaped hand-made brick feature *239*, measuring 1.25m x 0.75m.

The feature was excavated to a depth of two courses, and was two-courses wide on all sides and was bonded with a white lime mortar. A lens of pinkish-grey clay was identified lying against brick feature *239*, which was thought to be related to the sealing of the culvert.

Plate 13: Culvert 229 with wall 230 to the left and 228 in the foreground. Looking west

Plate 14: Remains of culvert 238 showing the break in 229 in the foreground. Looking north

Situated approximately 1.80m to the east of *238*, and lying either side of *229*, were a pair of mirrored L-shaped brick features bonded with black mortar (Plates 15 and 16). To the north lay *235*, running north/south and measuring 0.75m x 0.23m, and composed of hand-made bricks.

Plate 15: Firebrick walls 235 and 236. Looking east

Plate 16: Second L-shaped brick 233 and 234, showing the relationship with 229

Structure *235* was abutted by *236*, aligned east/west, measuring 0.80m x 0.23m and was composed of a mix of hand-made and firebricks. To the south of *229*, wall *234* ran north/south, measuring 0.80m x 0.23m and abutted *233*, running east-west and measuring 1.30m x 0.23m. Both walls to the south were composed of hand-made bricks. The position of these walls in relation to those identifed on the fire insurance plan from 1895, and frequent patches of blackened deposits in this area suggests that both features were associated with coal storage as marked on the plan.

Wall *233* was abutted to the south-east by a larger wall composed of firebricks, *232*, which measured 1.75m x 0.45m and was aligned east/west (Plate 17). The wall was four-courses wide with stretchers to the outer courses and headers in the middle and continued eastwards to abut wall *228*. This was thought to be associated with two further firebrick features, *230* and *231*, also mirrored to either side of *229*. These were short, two-course walls with bullnose bricks measuring 0.85m x 0.23m and lying 1.20m apart. These walls were originally thought to abut wall *228*, but following the excavation of a sondage to the west of this wall, *230* was found to stop 0.20m west of *228*. It is likely that these features were used to support the charging area floor in front of the boiler, or were used to deliniate a separate coal store for each boiler.

Plate 17: Wall 232, looking east

The location of the boilers was determined by the large brick platform *224*, identified abutting the eastern side of *227* (Plate 18). This measured 9.70m x 1.80m x 0.30m and comprised a mix of hand-made and firebricks bonded with grey and pink mortar respectively. A large stone block had been inserted into the centre of the structure which measured 0.70m x 0.60m with a 0.20m wide void on all four sides. Extending east of this stone block an alignment of firebricks within *224* was revealed, which appeared to have been truncated and were thought to have projected from the top of the platform. A possible second alignment may have lay to the north, although these bricks were more degraded and could only be identified by colour rather than form. Two hand-made brick surfaces were revealed on either side of *224*; these were *225* and *226* to the south and north respectively. Both lay *c* 0.30m below the level of *224,* measuring up to 0.40m wide and bonded with a white lime-based mortar.

Plate 18: General view of 224. Looking east

The north-eastern corner of *224* was obscured by the trench edge, but appeared to be abutted by a two-course hand-made brick wall running eastwards, *243*. However, the south-eastern corner possesed a sloping channel *242* that also continued eastwards and through a large north/south-aligned wall *244* (Plate 19). The channel measured 1.90m x 0.60m and was constructed from firebricks with the outer walls standing to a height of c 0.30m (four courses). The interior of *242* was heavily blackened and truncated to the south (Plate 20). Wall *244* continued beyond the trench edges to the north and south, standing to a height of *c* 1.80m, and was constructed from hand-made bricks with a discoloured whitewash coating. Iron fittings were identified embedded into the top four courses of the wall at the northern end, and were thought to be associated with some form of support structure. At the base of the southern part of the wall were three openings of varying sizes. The first allowed *242* to pass through the wall, the second lay 0.15m higher to the south and still contained a length of wire cable and the third allowed a large iron pipe to pass through continuing eastwards.

Plate 19: Features lying at the eastern end of Area B showing wall 244 with wall 243, flue 242 and surface 225 in front, along with the remains of a cast iron water pipe. Looking east

Based on the form and location of *224* and its associated features *225, 226, 242* and *244*, it was interpreted as a boiler base and flue system for some of the six boilers marked on the insurance plan of 1895 in the basement of the northern canal-side building. Although wall *244* fits well with the location of the eastern wall of this building, the presence of *242* running through it may suggest that, along with *243*, it forms part of the housing for the economisers marked on the 1895 insurance plan. Alternatively, both the flue and the iron pipe may continue further east below the yard area to link with the mill's chimney and supply water to the boiler house to the east.

Plate 20: Overview of flue 242 showing wall 243 to the north. Looking east

7. Finds

7.1 Introduction

The archaeological work undertaken at Abbey Hey Lane resulted in the recovery of 27 artefacts, weighing 8551g. All finds were collected from excavation deposits, evaluation trenches and unstratified contexts. All finds were recorded as deriving from contexts *201*, *225*, *229*, evaluation trenches or unstratified deposits. The finds were catalogued, counted and weighed (Table 1). The main classes of material present are late 19th- to early 20th-century glass bottles and fragments of pottery.

Finds were collected from site using a pre-determined sampling procedure during the excavation. All finds were returned to the Salford Archaeology finds lab. Finds were washed and catalogued by material, and sealed in labelled polyethylene bags. A finds catalogue was produced for the assemblage, providing details on each artefact's context, description, quantification, weight and date.

Material	Count	Weight (g)	Period
Clay tobacco pipe	1	6	1820-60
Copper	1	232	20th century
Glass	14	5350	19th-20th century
Iron	2	1918	20th century
Other ceramic	2	190	20th century
Pottery	6	844	19th-20th century
Tile	1	11	19th-20th century
TOTAL	**27**	**8551g**	

Table 1: Table of materials

7.2 The Pottery

The pottery assemblage is fragmentary and consists of a single sherd of blue and white porcelain as well as stoneware fragments. The stoneware consists of a marmalade jar, fragments of a white and orange teapot, and a complete beer bottle labelled 'W.F.CORNFORTH. Harehound botanic beer, Edge Lane, Droylsden' (Plate 21). These bottles date back to the 1830s and continued to be produced into the early 20th century.

7.3 Clay Tobacco Pipes

A single clay tobacco pipe bowl was retrieved from a hand-made brick surface *225*. It is a small, plain, squat bowl, dating to 1820-1860 (Plate 22).

7.3 Tile and Other Ceramics

A single fragment of a decorated wall tile was retrieved from deposit *229*. This tile is decorated in cream and brown glaze and is probably early 20th century in date. A cream coloured 20th-century light fitting with internal twist thread was also retrieved from deposit *225*.

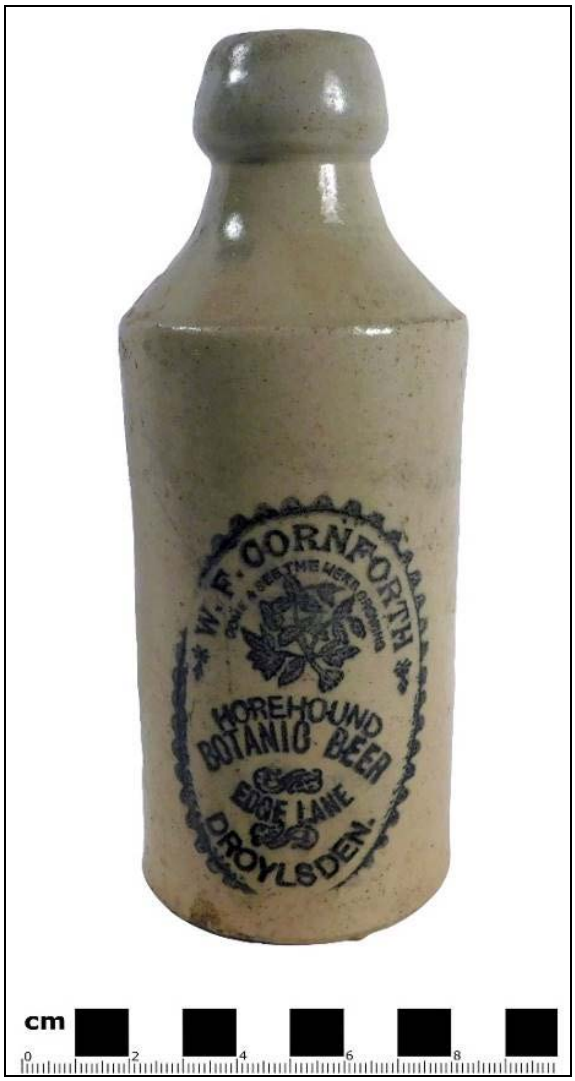


Plate 21: Stoneware botanic beer bottle from context 225, fn 18

Plate 22: Plain clay tobacco pipe bowl from context 225, fn 19

7.4 Glass

Glass forms 52% of the finds assemblage from the excavation, the majority of which are unstratified late 19th- to early 20th-century bottles. Amongst the bottles include: a complete green beer bottle from Wilson's brewery, founded in 1834; a complete screw cork mineral water bottle of 'A. Edge, Longsight' which began production in 1885; and a complete Kay's Atlas beer bottle which was registered in 1896. A list of bottles present in the assemblage is presented in Table 2.

Context	Identification	Date	Description/label
U/S Fn 1	1 milk bottle (complete)	20th century	'L.P. Boden Brook Farm Dairy, Gorton'
U/S Fn 2	1 green beer bottle (complete)	Early 20th century	'WILSON'S BREWERY LD Newton Heath'
U/S Fn 3	1 clear bottle (complete)	20th century	'A. Edge Longsight' mineral water bottle with screw cork (plate_)
U/S Fn 4	1 green beer bottle (complete)	20th century	'KAY'S ATLAS BREWERY LTD. MANCHESTER'
U/S Fn 5	1 blue bottle (complete)	20th century	'BOOTS CASH CHEMIST' bottle with oval base
U/S Fn 6	1 sauce bottle (complete)	20th century	Clear sauce bottle with octagon base and outer screw top
U/S Fn 7	1 sauce bottle	20th century	Complete sauce bottle with square base
U/S Fn 8	2 small green bottles	Last 19th century	Two small bottles/vials, one with ridged edge, poison bottle 'NOT TO BE TAKEN'
U/S Fn 12	1 clear ink bottle (complete)	20th century	Clear ink bottle with circular base
U/S Fn 13	1 round bottle (complete)	20th century	Complete round bottle, possible perfume with cork and interior residue
EVAL 20 Fn 20	2 Codd bottles	Late 19th century	Two Codd bottles 'R.A. BARRETT and co. Ashton under Lyne', and 'Matthew Pomfret ltd Bury'

Table 2: Table of glass bottles

7.5 Metalwork

A very small amount of metalwork was retrieved from the excavation. This includes a copper fuse with ceramic thread, as well as a modern iron saucepan and an iron fitting from an economiser, used to remove soot from pipes.

7.6 Conclusion

The finds' assemblage from Abbey Hey Lane is very small and is fairly typical of a late 19th- early 20th-century urban assemblage. Little stratigraphy is recorded on site and the potential for finds to enhance understanding of the site is minimal.

As the material from Abbey Hey Lane derives from unstratified contexts and modern structural layers, it is not deemed necessary to study the collection further. Local recipient museums will be notified of the collection, though if it is not deemed worthy of being accessioned the material will be held at Salford Archaeology for educational purposes and selectively discarded.

8. Discussion

8.1 Discussion

The excavation of Gorton Mills has provided a valuable opportunity to examine the remains of an early integrated spinning and weaving factory in the semi-rural township of Gorton. The excavations focused on the power systems in use during the mill's occupation throughout the 19th century. The main areas of interest were the engine houses lying between the Canal Side and Old Mills, and the boiler house in the cellar of the northern canal-side building.

The location of Gorton Mills owes much to the proximity of the Stockport Branch of the Manchester and Ashton-under-Lyne Canal. Like many of the large mill complexes in Manchester, especially in Ancoats, Gorton Mill could utilise the water of the canal for engine condensing and to supply its boilers without the need of having to construct a dedicated reservoir (Williams and Farnie 1992). The canal also provided the means of transport to deliver both the finished products to the lucrative markets in Manchester and the coal required to fire the boilers. The construction of such transport networks opened up opportunities for the rural hinterlands surrounding the larger cities and enabled manufacturing to be moved away from the increasingly overcrowded cities without the loss of communication or accessibility (Brennand 2007).

Not only did the canal, and by association the mills along it, bring the prospect of prosperity for entrepreneurial manufacturers, it also transformed the areas it passed through by creating work for those living outside the towns. This was certainly the case in Gorton, where prior to the construction of the mill, the area contained only a handful of scattered farmsteads placed along rural trackways. However, the influx of hundreds of workers in the early 19th century created a ready-made community which formed the basis of the modern town. The fortunes of the community were so closely linked with the mill that when it closed in 1840, much of Gorton was plunged into unemployment and destitution (Salford Archaeology 2018). It is no surprise, therefore, that when Rylands and Co. took over the mill in 1844, production could begin almost immediately with a full workforce drawn from the surrounding area. This absolute reliance on the mill illustrates the impact that industrialisation had on the new settlements outside the main towns and cities (Brennand 2007). Having been the catalyst for the development of these communities, the mills and canals now governed their success and stability.

As one of the earliest integrated textile mills, Gorton Mills was almost certainly a response to the contemporary development of the power loom (Williams and Farnie, 1992). The owners of spinning companies could increase their profits by adding weaving to their processing sites and mechanising all stages of production from the raw material to the finished cloth. The rural location of the site also enabled the construction of an integrated mill as it could provide the necessary open space needed to build a large weaving shed alongside the spinning blocks, something which was not always possible in the built-up town centres where available space was at a premium (Williams and Farnie 1992).

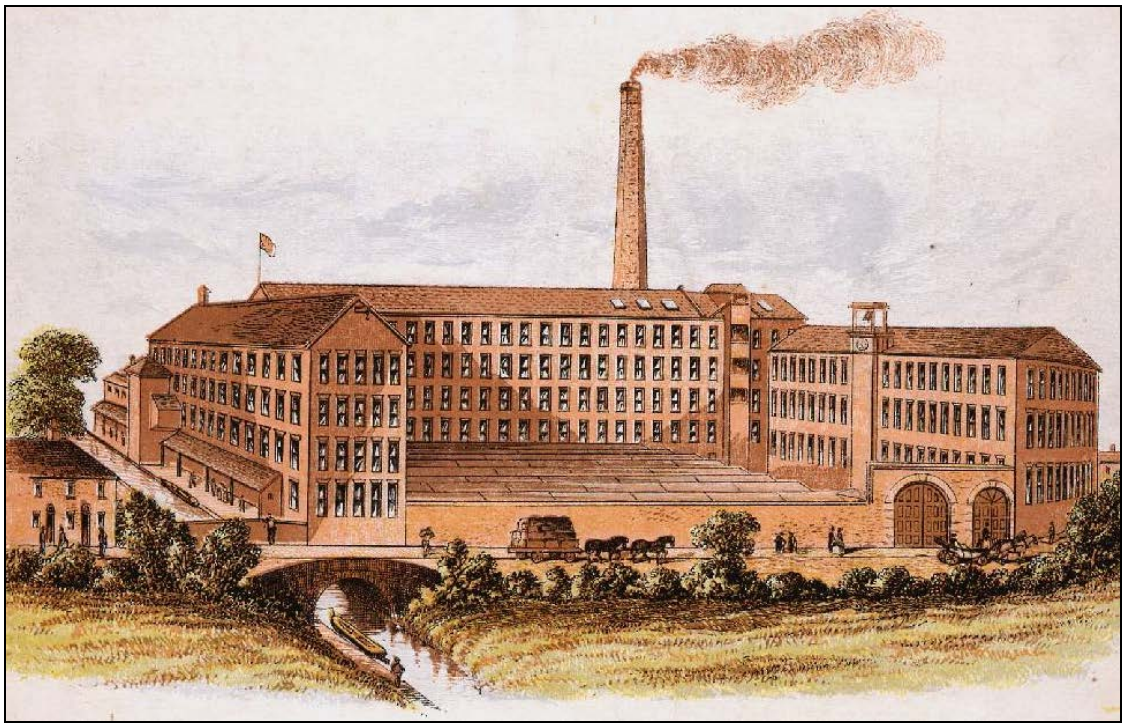


Plate 23: Illustration of Gorton Mills produced in the 1840s, showing the mill from the south and the canal to the west

As available space on which to build was not a problem at Gorton Mill the site experienced near continuous construction from 1824 to 1833. The Old Mill and weaving shed were the first buildings in use but were quickly followed by the other spinning blocks to the east and west as well as workshops and smaller buildings to the north. Each new phase of construction seems to have been accompanied by an increase in the power systems with the site containing four separate engines and nine boilers by the late 19th century.

An advertisement from 1843 offering the mill's wagon-type boilers for sale indicates that some upgrading to the steam raising plant occurred following John Rylands' take over (Salford Archaeology 2018). This may give an indication as to when changes were made to the Canal Side Mill engine, which, according to the 1895 plan, had had a high-pressure cylinder added to increase its productiveness and efficiency (McNaughting). This system was introduced by William Mcnaught in 1845, who devised a method of fixing an additional high-pressure cylinder within an existing beam engine. To do so involved using a long pipe to connect the cylinders, and an extra set of valves to balance them. In effect this acted as a receiving chest, and a new type of compound had been invented. This system allowed greater control of the steam intake and cut-offs. An engine could be slowed by either a throttle which reduced the pressure of the steam, or by adjusting the cut-off on either cylinder. The latter was more efficient as no power was lost. The cycle was smoother as the two cylinders were not in phase.

The location and alignment of the engine bed found during the excavation would suggest that it related to this 'McNaughted' engine and represented the central part of the bed. As only a small section of the flywheel pit was identified and at a shallow depth, the engine bed was thought to have originally been more extensive, continuing both north and southwards and with at least one other layer of stone blocks to accommodate the remainder of the wheel.

The McNaughted engine appears to have been served by Lancashire boilers, so the efficiency could be maintained throughout the power system. This revolutionary boiler design, patented by Fairbairn and Hetherington in 1844, was a variation on the Cornish design and became widely adopted during the second half of the 19th century. The Lancashire boiler had two furnace tubes, each about one third of the diameter of the outer shell, and would measure typically 2.44m (8') diameter by 9.1m (30') long with a working steam pressure of 120 pounds per square inch (Hayes 2001, 28). The construction of this type of boiler consisted typically of a steel cylindrical shell, comprising several rings of steel plate that were rolled into cylindrical form and rivetted longitudinally. A single end plate would then have been connected to each end of the shell. The front part of each furnace tube would have held the fire-bars, through which was drawn the air required for combustion. The boilers will have been built into a brickwork setting.

Both the process of McNaughting and the development of the Lancashire boiler were developed in the 1840s to improve the performance and output of manufacturing power systems, an advance which proved highly sought after in the mill towns around Manchester (Williams and Farnie, 1992). In each case, improvements were made to increase the steam pressure generated and harnessed in order to allow greater economy of fuel. The adoption of both by John Rylands in 1843-4, his first year in charge of the mill, illustrates the importance of the site to his growing company and his commitment to its success.

A third development originally dating to the 1840s, was the economiser, also known as a feed water heater, which used the super-heated exhaust from the steam raising plant to preheat water before it entered the boilers, again making greater efficiencies with coal. Developed by William Green in 1843, the economiser would have consisted of banks of cast iron pipes, usually 4" (0.1m) diameter and 9' (0.23m) long (Plate 24), and could reduce the temperature of flue gases by as much as 150^0C whilst increasing the temperature of feed water from about 65^0 to 120^0C. In order that the feed water did not enter the economiser at too low a temperature, a National Circulator was frequently fitted. This device allowed the cold feed to mix with heated water, and prevent furnace gases condensing on the tubes, which would have resulted in corrosion. The tubes were kept free from soot by a scraper mechanism, which consisted of a worm wheel driven chain drive. Whilst the scrapers fitted to later models were powered by electric, it is possible that the excavated example was driven by auxiliary steam.

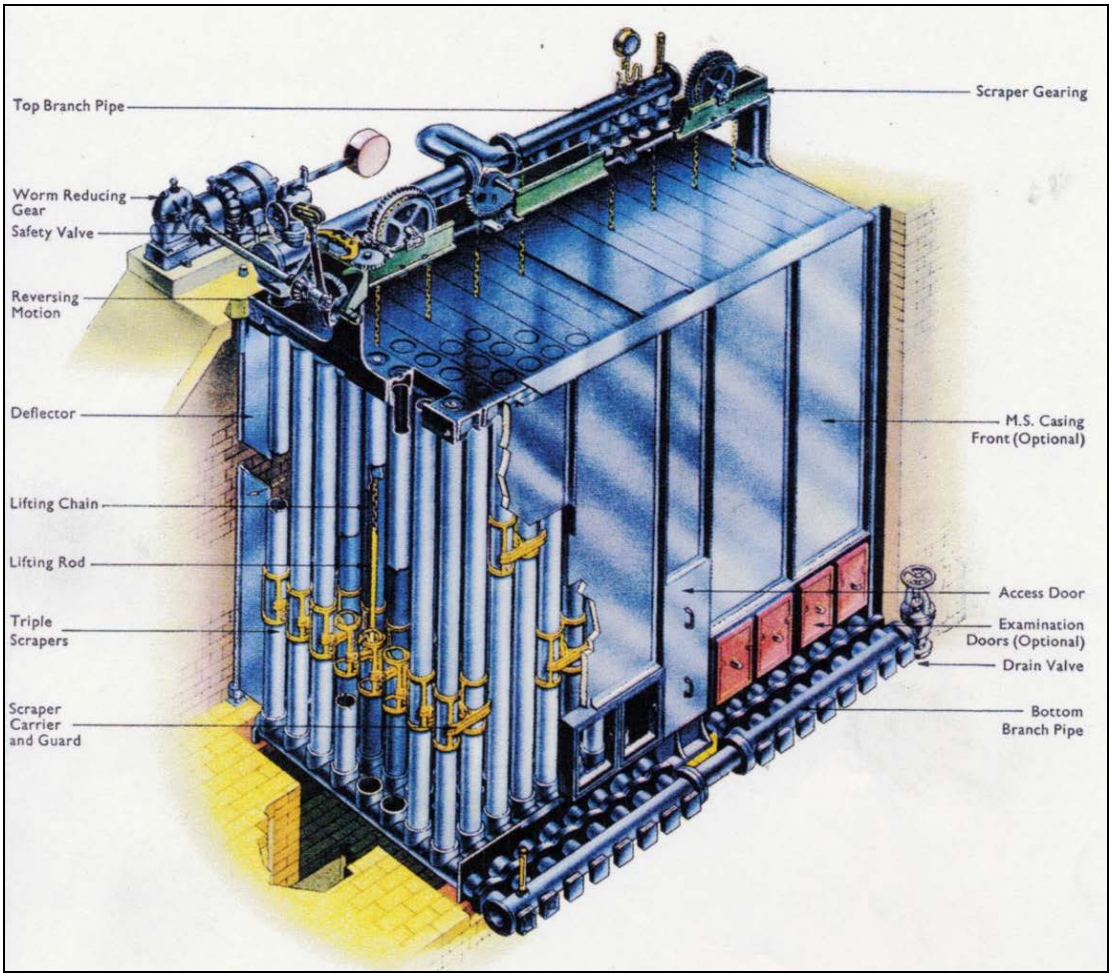


Plate 24: Design drawing of an economiser

The excavation of Gorton Mill has revealed an important aspect of the industrial past of this sub-urban location. Whilst little is known of its early ownership, it is clear from both the results of the excavation and documentary evidence that following John Rylands acquisition of the mill it became an important part of a large and productive textile firm. The inclusion of up-to-date, efficient machinery along with an experienced local workforce, situated on a direct route to Manchester, with available space to expand if necessary, gave the mill the ideal conditions to successfully continue production into the 20th century.

9. Archive

9.1 Archive

The results of the archaeological investigation will form the basis of a full archive to professional standards and in line with current CIfA guidelines updated 2014. 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.

The archive comprises of drawings, survey data and photographs, all of which are in digital format. The archive also contains a small assemblage of artefacts, although these are of very little interest and it is recommended that they are discarded. The entire project archive is currently held by the Centre for Applied Archaeology.

A copy of this report will be deposited with the Greater Manchester Sites and Monuments Record held by the Greater Manchester Archaeological Advisory Service (GMAAS). A digital copy of the report will also be deposited with the Archaeological Data Service (ADS).

Acknowledgements

Salford Archaeology would like to thank Southway Housing Trust for commissioning and monitoring the archaeological works, and in particular David Holland, for his help and support throughout the project. Salford Archaeology would also like to thank Norman Redhead for providing monitoring support and advice through GMAAS.

The on-site excavations were conducted by Sarah Cattell and Andy Coutts. This report was written by Sarah Cattell, and the illustrations were prepared by Sarah Mottershead. The report was edited by Ian Miller, and John Roberts was responsible for project management.

Sources

Maps

Hennet, G, 1830 *Map of Lancashire*

Ordnance Survey, 1:1056, Published 1843

Ordnance Survey 1:2500, Published 1893

Ordnance Survey 1:2500, Published 1908

Ordnance Survey 1:2500, Published 1922

Ordnance Survey 1:1250, Published 1951

Newspapers

The Bolton Chronicle, 8 July 1843, *Second Hand Boiler*, Vol XIX. No 935

Manchester City News, 15th April 1865

The Ashton Weekly Reporter, and Stalybridge, and Dukinfield Chronicle, 21 January 1871

Manchester Guardian, 2 February 1877

Secondary Sources

Anon 1903 'Catalogue of the Old Manchester and Salford Exhibition, held at the City Art Gallery, Manchester, 1904' in *Transactions of the Lancashire & Cheshire Antiquarian* Society, **21**

Baines, E, 1835 *History of Cotton Manufacture in Great Britain*, London

Brennand, M (ed) 2007, Research and Archaeology in North West England, An Archaeological Research Framework for North West England: Volume 2 Research Agenda and Strategy, Manchester

Brunton, FA, 1909 *The Roman Fort at Manchester*, Manchester

Chartered Institute for Archaeologists. 1994, revised 2017 *Standard and Guidance for Archaeological Desk-Based Assessment*, Reading

Conway, RS, Maclnnes J, and Brooke, GC, 1909 'The Roman Coins of Manchester' in FA Bruton (ed) *The Roman Fort at Manchester,* Manchester

Corbett J, 1907 *The River Irwell* (reprinted 1974), Didsbury

Department for Communities & Local Government, March 2012 *National Planning Policy Framework (NPPF)*, London

Farrer, W, and Brownbill, J, 1911 *A History of the County of Lancaster: Volume (Gorton 275-279*). Victoria County History, London

Farnie, DA, 1993 John Rylands of Manchester, Manchester

France, E, 1989 *A History of Gorton and Openshaw*, Manchester

Hadfield, C, and Biddle, G, 1970 *The Canals of North West England*, **1**, Newton Abbot

Hartwell, C, Hyde, M, and Pevsner, N, 2004 *The Buildings of England. Lancashire: Manchester and the South-East*, London

McNeil, R and Newman, C, 2007, *The Post-Medieval Research Agenda*, 115-133, In Brennand, M (ed) 2007, Research and Archaeology in North West England, An Archaeological Research Framework for North West England: Volume 2 Research Agenda and Strategy, Manchester

McNeil, R and Newman, C, 2007, *The Industrial and Modern Period Research Agenda*, 133-159, In Brennand, M (ed) 2007, Research and Archaeology in North West England, An Archaeological Research Framework for North West England: Volume 2 Research Agenda and Strategy, Manchester

Nevell, M, 1998 *Lands and Lordships in Tameside*, Manchester

Salford Archaeology, 2018 *Abbey Hey Lane, Gorton, Manchester: Archaeological Assessment*, unpublished report

Tupling, GH, 1962 Medieval and Early Modern Manchester, in CF Carter (ed) *Manchester and its Region: A Survey Prepared for The British Association*, Manchester 115-130

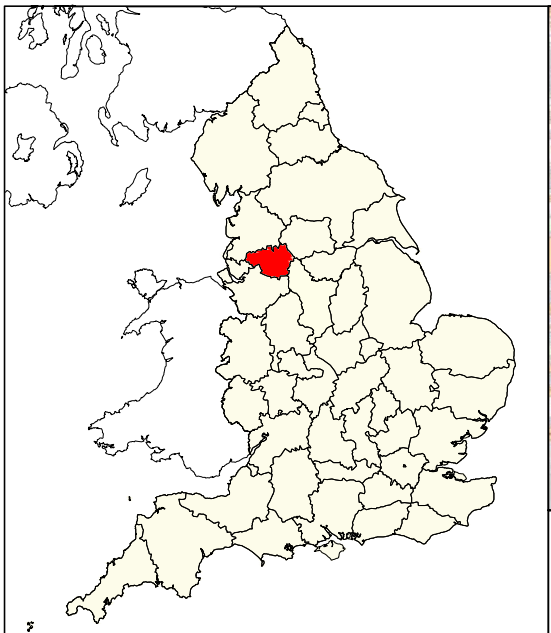
Williams, M, with Farnie, DA, 1992 *Cotton Mills of Greater Manchester*, Preston

Appendix 1: Context List

CONTEXT NO	DESCRIPTION
Area A	
201	Turf and topsoil
202	Demolition layer, compacted machine-made brick and black mortar.
203	Compact orange clay below *202*.
204	Second demolition layer of loose hand-made bricks and lime mortar which lies on top of *208*.
205	Mid-greyish-brown grainy silt lens between *202* and *204*.
206	Cache of broken slate cutting *202* and *205*, lying against *211*.
207	Stone-flagged floor of southern cellar room comprising flags measuring *c*.0.60m x 0.60m.
208A	Western wall of southern cellar room. Constructed from hand-made brick with white wash discoloured blue
208B	Southern wall of southern cellar room identical to *208A*.
208C	Eastern wall of southern cellar room identical to *208A* but with doorway edged with bullnose bricks and iron asymmetrical doors.
209	Stone-flagged surface at ground-floor level to the north of *210*. Runs E-W from the eastern trench edge and poss. reached *212*. Metal disc found on northern side measuring 0.23m dia.
210	Northern wall of southern cellar room. Contains doorway to west edged by bullnose bricks with remains of timber frame and blocked window to east *c*.1.55m with sill visible. Abuts *208C* and *212*.
211	Short section of walling to west of doorway in *210*, thought to be southern wall of western cellar room. Edged with bullnose brick and timber frame.
212	Eastern wall of cellar corridor. Hand-made brick with white mortar measuring 11.90m x 0.50m with 2 openings, North one blocked by *219* and south one reduced by *217* and *218*. Regular spaced iron brackets on the western face at c.1.40m from cellar floor level.
213	Hand-made brick structure to east of *212* and south of 215. Laid with pinkish-white mortar around a central void measuring 1.00m x 0.66m abuts *212*. Measured 0.74m and 0.64m wide black staining identified on the inside face of void.
214	Two course grey machine-made brick wall inserted into *215* and projects into void between *213* and *215*. Laid with pinkish-yellow mortar and measures 0.23m x 0.37m.
215	Hand-made brick surface similar to *213* lying between voids to the north and south. Stands *c*.0.25m higher than *213* and abuts *212*.
216	Hand-made brick wall abutting *212* forms northern edge of northern void. Excavated to seven courses high with white lime mortar, 0.62m wide.
217	Frogged brick insertion to reduce opening in wall *212*. Evidence of white wash and black mortar laid two courses wide. Measures 0.35m x 0.66m.
218	Identical to *217* but slightly larger at 0.82m x 0.63m in size.
219	Two-course hand-made brick blocking of 2nd opening in wall *212*. Laid in stretcher bond with black mortar and measures 1.25m x 0.23m.
220	Hand-made brick surface surrounding *221* and coated with black cement covering with 2 square holes to south, both with iron bolts *in-situ* 0.05m dia. and *c* 1.10m apart.
221	Collection of six light grey gritstone blocks *c*.0.50m-0.75m wide x 1.00m-1.50m long forming engine block. Three bolt holes identified.
222	Partially dismantled hand-made brick structure to north of *221*, possible support for second engine block. P shaped with square opening in centre, bonded with white lime mortar and abuts *223*. Square part measured 2.00m x 2.00m with 0.70m x 0.70m central void, eastern projection measured 1.00m x 0.65m.

Context No	Description
223	Hand-made brick structure abutting *222*, two-courses wide (0.23m) laid as headers with black mortar. Continues north beyond trench edge. Measures 1.50m long.
Area B	
224	Hand-made brick platform with mix of pinkish-white lime and black mortars. Large sandstone block (0.70m x 0.60m) sits within central hole in *224*, with evidence of formerly standing sections. Stands five courses high, edged with fire brick with other areas of fire brick in the centre. Abuts wall *227*. Possible boiler bed. Measures 9.70m x 1.80m x 0.30m.
225	Hand-made brick surface to south of *224* bonded with white lime mortar and measures *c*.0.40m wide.
226	Almost identical brick surface to *225* but lying to the north of *224*.
227	Two course hand-made brick wall to west of *224*, aligned north/south. Bonded with white lime mortar standing three courses high, abuts *241*. Excavated dimensions were 0.23m x 9.00m x 0.26m.
228	Single course hand-made brick wall running north/south to west of *241*. Stands three-courses high with white lime mortar with two-course buttress to west. Excavated dimensions 0.11m x 9.00m x 0.26m.
229	Stone-capped culvert running north/south at west end of Area B. Broken at west end and found to be *c*.0.50m deep with water still present and evidence of degraded mortar. Forms T-shape with culvert *238* and measures 6.50m x 0.65m.
230	Firebrick wall, two-courses wide running east-west with bullnose bricks to west. Excavated to one course high, measures 0.85m x 0.23m.
231	Almost identical to *230*, lies 1.20m to north and north of *229*.
232	Firebrick wall, four-courses wide measuring 1.75m x 0.45m. laid with two headers and two stretchers with degraded, pinkish lime mortar. Abuts *228*.
233	Hand-made brick wall, two-courses wide, laid as headers. Runs east/west, measuring 0.23m x 1.30m. Abuts *234* to west and *232* to east.
234	Handmade brick wall, single course laid as headers, forms L shape with *233*. Measures 0.23m x 0.80m.
235	Firebrick wall, single course laid as headers, running north/south. Forms L shape with *236*, measures 0.23m x 0.75m.
236	Firebrick wall abutting eastern end of *235*. Running east/west, laid as headers. Measures 0.23m x 0.80m.
237	Firebrick wall running east/west beyond trench edge. Two-courses wide measuring 0.11m x 0.55m.
238	Stone culvert running north/south but only revealed by break in *229*. Not visible on the surface, so no measurements taken.
239	U-shaped handmade brick feature, two-courses wide laid as stretchers with white lime mortar. Measures 0.75m x 1.25m overall.
240	Mid-grey loamy demolition deposit with frequent patches of blackened clinker and reddish-yellow clay lying across west end of Area B.
241	Alignment of flagstones lying between *227* and *228*, running north/south. Stones measured *c*.0.50m x 0.50m with no bonding material visible.
242	Sloping fire brick flue area at eastern end of *224*. Inner face is stained black. Measured 1.90m x 0.60m with the outer walls standing to a height of *c* 0.30m (four courses).
243	Hand-made brick wall to the north of *242*. Two-courses wide laid with white lime mortar. Measured 0.23m x 1.35m/
244	Hand-made brick wall standing to a height of *c*.1.80m with discoloured white wash. Iron fittings embedded into the top four courses at the northern end, possible supports. Three openings at south end base of the wall 1st for *242* to pass through the wall, Second 0.15m higher to the south and contained a length of wire cable. Third for a large iron pipe continuing eastwards. Probable rear wall of canal side building.

Appendix 2: Figures



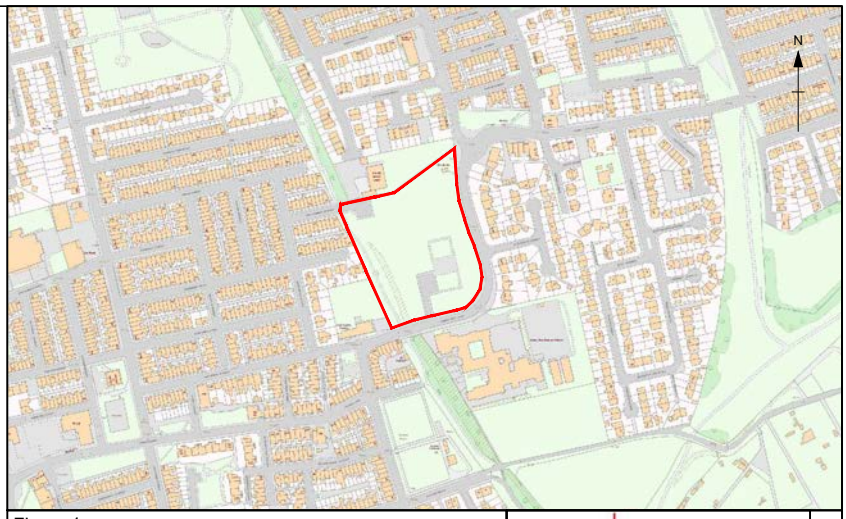
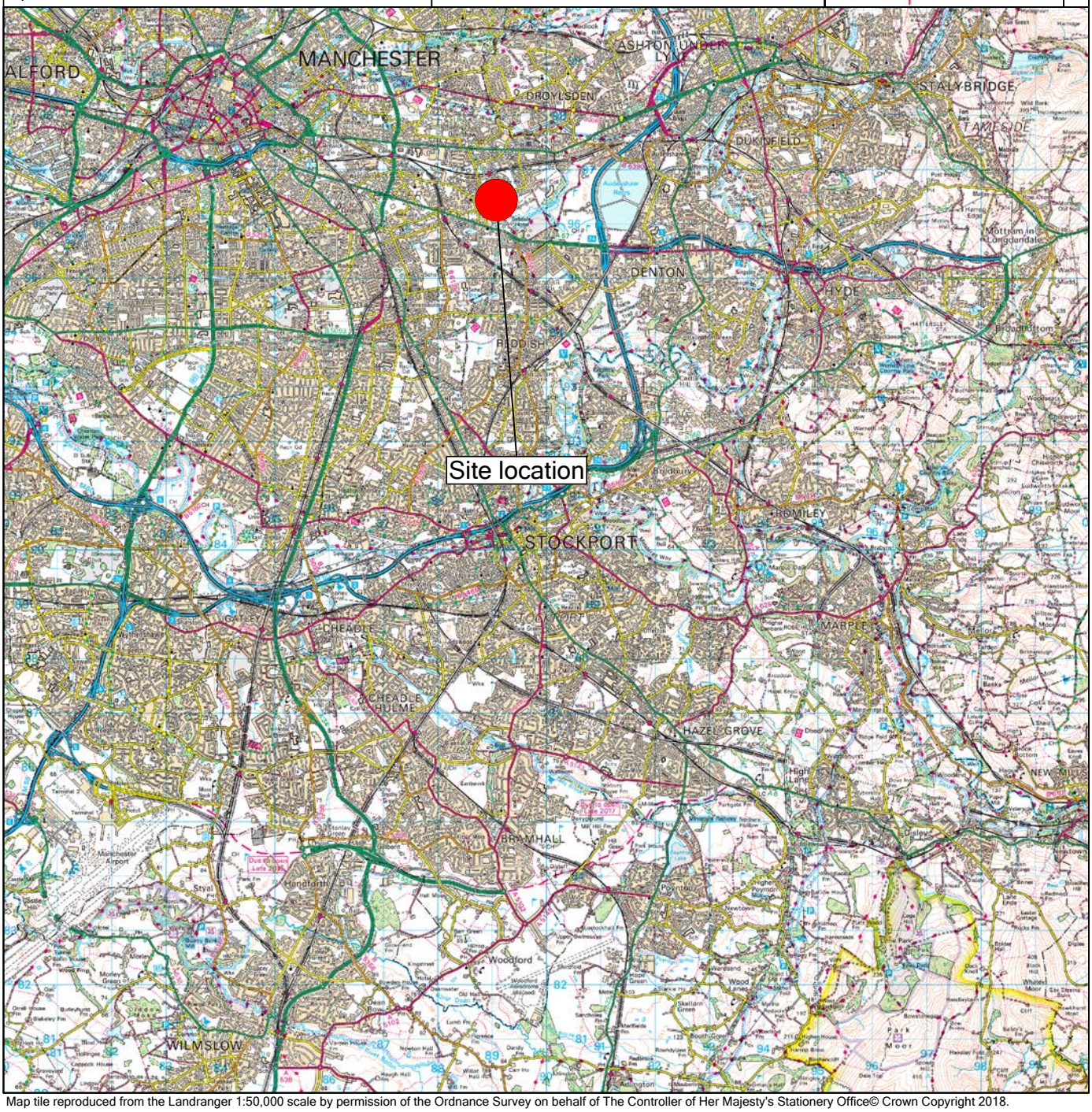


Figure 1:

Site Location

University of Salford MANCHESTER

SA SALFORD ARCHAEOLOGY



Map tile reproduced from the Landranger 1:50,000 scale by permission of the Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office© Crown Copyright 2018.

Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

Figure 3:

Trench Location

N

Key:

Trench Location

SALFORD ARCHAEOLOGY

0 50 m

Scale at A4 1:1000

Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

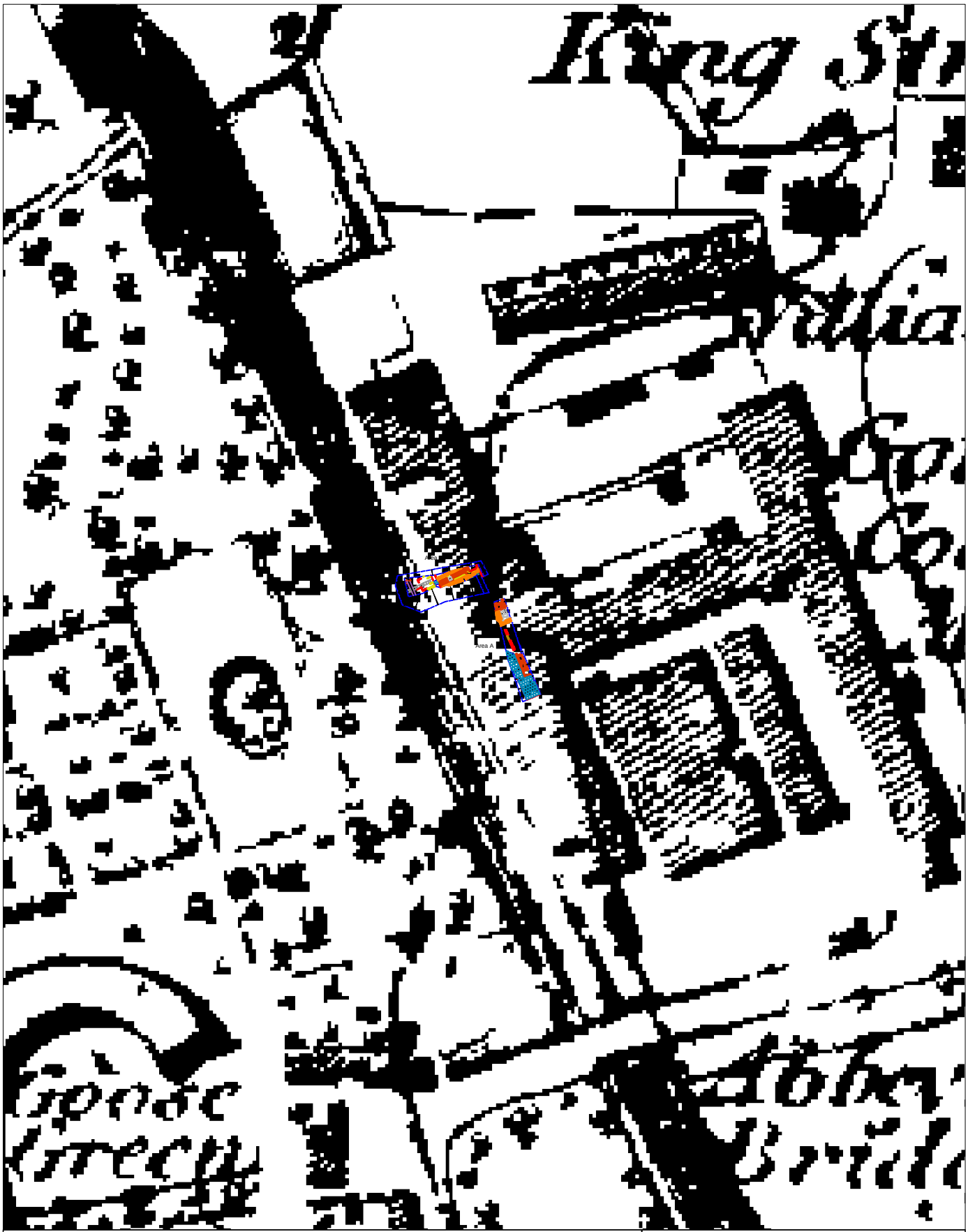


Figure 32:

Excavation Superimposed onto 1:10560 County Series Map of 1848

N

Key:

- Brick Wall
- Brick Surface
- Brick Structure
- Fire Brick
- Flags
- Brick Blocking
- Metal
- Brick Surface
- Concrete
- Stone
- Stone Drain

SALFORD ARCHAEOLOGY

0 50 m

Scale at A4 1:1250

Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

Figure 33:

Excavation Superimposed onto 1:2500 County Series Map of 1894

N

Key:

- Brick Wall
- Brick Surface
- Brick Structure
- Fire Brick
- Flags
- Brick Blocking
- Metal
- Brick Surface
- Concrete
- Stone
- Stone Drain

SALFORD ARCHAEOLOGY

0 10 m

Scale at A4 1:250

Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

Area A

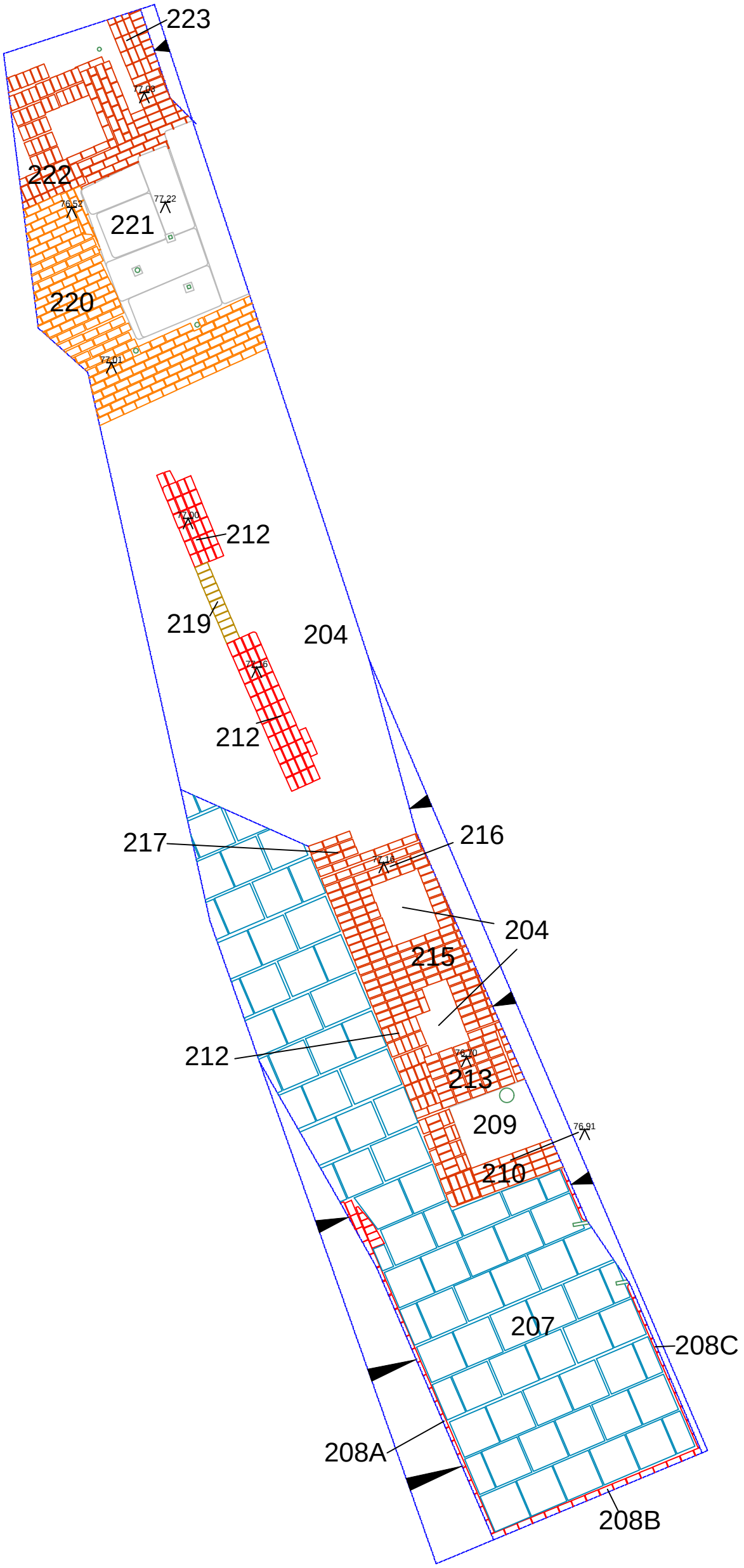


Figure 5:

Area A Plan

N

SALFORD ARCHAEOLOGY

0 5 m

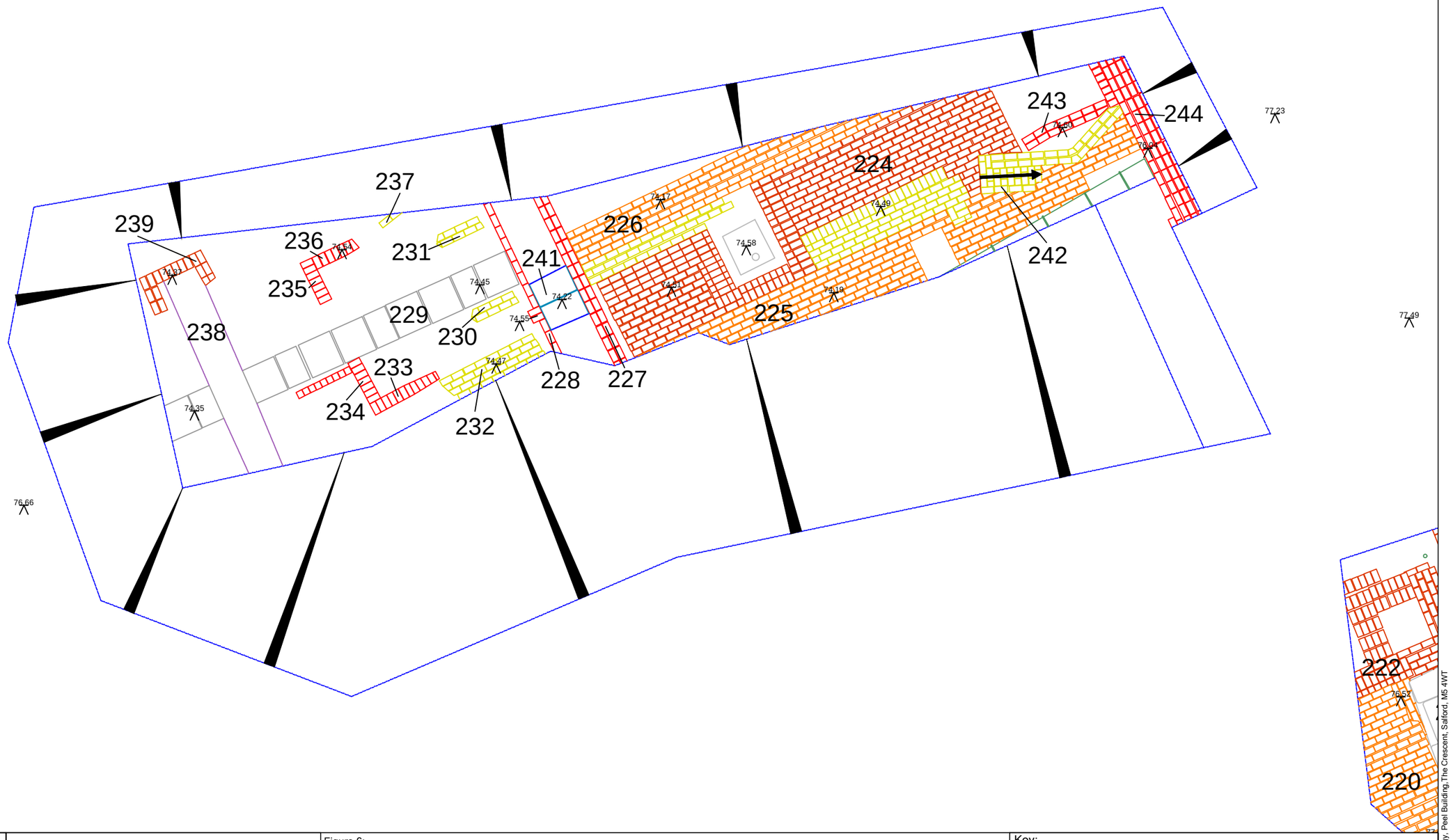
Scale at A3 1:75

Key:

- Brick Wall
- Brick Surface
- Brick Structure
- Fire Brick
- Flags
- Brick Blocking
- Metal
- Brick Surface
- Concrete
- Stone
- Stone Drain

Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

Area B



SALFORD ARCHAEOLOGY

0 5 m

Scale at A3 1:75

Figure 6:

Area B Plan

N

Key:

- Brick Wall
- Brick Surface
- Brick Structure
- Fire Brick
- Flags
- Brick Blocking
- Metal
- Brick Surface
- Concrete
- Stone
- Stone Drain

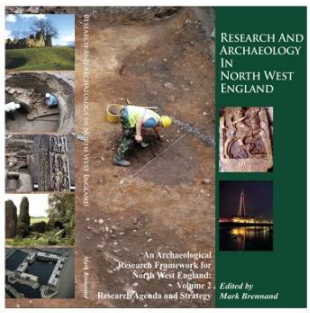
Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

University of Salford MANCHESTER

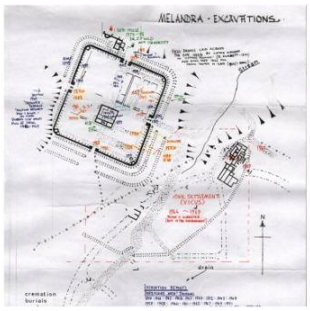
The Centre for Applied Archaeology

REGISTERED ORGANISATION CIfA

CONSULTANCY



DESK BASED ASSESMENTS

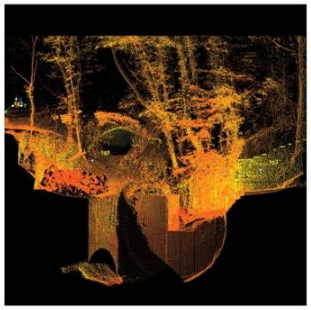


WATCHING BRIEF & EVALUATION

EXCAVATION

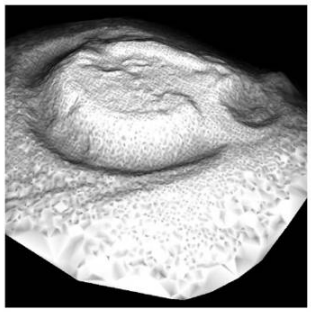
BUILDING SURVEY

3D LASER SCANNING



COMMUNITY INVOLVEMENT

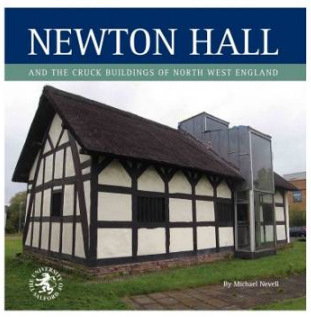
LANDSCAPE SURVEYS



GEOPHYSICAL SURVEYS

WORKSHOPS & VOCATIONAL TRAINING

RESEARCH PUBLICATIONS



SEMINARS, DAYSCHOOLS CPD EVENTS

Centre for Applied Archaeology (CfAA), School of the Built Environment, University of Salford
Joule House, 1 Acton Square, The Cresent, Salford, M5 4NW
Telephone: 0161 295 3818 email: a.thompson@salford.ac.uk