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SUMMARY

Salford Archaeology were commissioned by Salboy Ltd to undertake an archaeological excavation on land located at BRWRY, Dutton Street, Manchester (Planning Reference: 118831/FO/2018; NGR: SJ 383866, 399293). The development will comprise the erection of two buildings (a part 17, part 12 storey building and a part 26, part 23 storey building) to form 556 residential units (Use Class C3a) together with the creation of 3490 sqm of commercial floor space (Use Classes A1, A2, A3, B1 and D1) with associated landscaping, access, and other associated works.

A desk-based assessment of the site was undertaken in 2018 by Wardell Armstrong (Howell 2018) and identified that the site could well provide *in situ* remains of early-to-mid-post medieval industrial, commercial and residential remains. There is also a high potential for building remains relating to Boddingtons Brewery to be extant below ground. In particular are a series of buildings visible on the mapping of 1787-94, labelled as Mr Smith's Dye Works, and described as the Jubilee Charity School which was built in 1810. Following the desk-based assessment Salford Archaeology was commissioned to undertake an archaeological evaluation of the site in accordance with a Written Scheme of Investigation (WSI) (Mottershead 2023 [a]). This work was undertaken between the 3rd and the 14th of April 2023 and demonstrated that, although the construction and subsequent demolition of the former brewery had caused extensive disturbance across much of the site, archaeologically significant remains had survived below ground in two areas. Area 1 contained the remains of brick structures associated with the former 18th century dye works and Area 2 contained remains of the former school.

In response to the evaluation results it was recommended by Greater Manchester Archaeological Advisory Service (GMAAS), in their role as advisors to the Local Planning Authority, that a programme of archaeological excavation be required to mitigate the loss of these remains during construction works. This was achieved by the full excavation of the two areas as depicted in Figure 2 which was undertaken in line with a second WSI produced by Salford Archaeology (Mottershead 2023 [b]).

The excavation concluded that four archaeological phases were uncovered, with archaeological remains pertaining to the early 19th century, the mid-to-late 19th century, and the 20th century onwards. The well-preserved remains of the 19th century Ladies' School observed on historic mapping were exposed in Area 1; while the poorly preserved remains of industrial buildings observed on historic mapping were observed in Area 2. The archaeological remains encountered were of local significance. No further on-site work is needed.

1 INTRODUCTION

1.1 Circumstances of the project

1.1.1 This report details the results and working methods of an archaeological excavation targeted on the remains of brick structures associated with the former 18th century dye works in previous evaluation Area 1, and the remains of the former school that were observed in previous evaluation Area 2. Invasive ground works would entail the complete destruction of these remains.

1.1.2 Salford Archaeology were commissioned by Salboy Ltd to undertake an Archaeological Excavation at land at BRWRY, Dutton Street, Manchester (centred on NGR: SJ 383866, 399293; Figure 1), herein referred to as 'the Site'.

1.1.3 Full planning permission (118831/FO/2018) was granted by Manchester City Council on 28th February 2019 for the erection of two buildings (a part 17, part 12 storey building and a part 26, part 23 storey building) to form 556 residential units (Use Class C3a) together with the creation of 3490 sqm of commercial floor space (Use Classes A1, A2, A3, B1 and D1) with associated landscaping, access, and other associated works.

1.1.4 Therefore, following consultation with the Greater Manchester Archaeological Advisory Service (GMAAS), which provides planning advice to Manchester City Council, the development was subjected to a planning condition which required the submission of a Written Scheme of Investigation, and subsequent implementation of a programme of archaeological works prior to the commencement of any demolition, development, or development related groundworks. The programme of archaeological works comprised an initial programme of archaeological investigation via evaluation, which was later upgraded to a full excavation, followed by the production of an excavation report and archive. The condition attached to planning reference 118831/FO/2018 stated:

> *5) No development shall take place for a phase of development until the applicant or their agents or their successors in title has secured the implementation of a programme of archaeological works to be undertaken in accordance with a Written Scheme of*

Investigation (WSI), prepared by the appointed archaeological contractor. The WSI should be submitted to and approved in writing by the local planning authority. A phase of development shall not be occupied until the site investigation has been completed in accordance with the approved WSI. The WSI shall cover the following:

a. A phased programme and methodology of investigation and recording to include:

a. specific desk-top research.

b. evaluation through trial trenching.

c. informed by the above, more detailed targeted excavation and historic research (subject of a new WSI).

b. A programme for post investigation assessment to include:

a. analysis of the site investigation records and finds.

b. production of a final report on the significance of the archaeological and historical interest represented.

c. Dissemination of the results commensurate with their significance, including a. provision for interpretation panels and a booklet.

d. Provision for archive deposition of the report and records of the site investigation.

e. Nomination of a competent person or persons/organisation to undertake the works set out within the approved WSI.

Reason - To investigate the archaeological interest of the site and record and preserve any remains of archaeological interest, pursuant to saved policy DC20.1 of the Unitary Development Plan for the City of Manchester and guidance in the National Planning Policy Framework.

1.1.5 Thus, in January 2018 Wardell Armstrong were commissioned by Prosperity Capital Partners Ltd to undertake an Archaeological and Cultural Heritage Desk Based Assessment (Howell 2018), and in March 2023, Salford Archaeology was commissioned by Salboy Ltd to undertake a Written Scheme

of Investigation (Mottershead 2023 [a]). These documents identified that the site had the potential to contain the remains of early-to-mid-post medieval industrial, commercial and residential remains, and that there was also a high potential for building remains relating to Boddingtons Brewery to be extant below ground. In particular are a series of buildings visible on the mapping of 1787-94, labelled as Mr Smith's Dye Works, and described as the Jubilee Charity School which was built in 1810. Any surviving buried remains would be of local significance.

1.1.6 Salford Archaeology was then commissioned by Salboy Ltd to undertake an archaeological evaluation between the 3rd and the 14th of April 2023 which demonstrated that, although the construction and subsequent demolition of the former brewery had caused extensive disturbance across much of the site, archaeologically significant remains had survived below ground in two areas. Area 1 contained the remains of brick structures associated with the former 18th century dye works and Area 2 contained remains of the former school.

1.1.7 As such, GMAAS required further mitigation be implemented on the Site. This included the submission of another Written Scheme of Investigation (Mottershead 2023 [b]), and subsequent implementation of a programme of archaeological excavation prior to the commencement of any demolition, development, or development related groundworks.

1.1.8 The approach adopted is consistent with the recommendations of the National Planning Policy Framework (NPPF), with the particular sections of relevance being Paragraphs 194 and 205 of 'Section 16. Conserving and enhancing the historic environment' (The Ministry of Housing, Communities and Local Government 2021).

1.1.9 National Planning Policy Framework paragraph 205 which states that 'Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible.' The revised National Planning Policy Framework sets out the Government's planning policies and outlines the presumption in favour of sustainable development, which is defined by three principles: economic, social and

environmental (Ministry of Housing, Communities and Local Government 2023). Of the core planning principles underpinning decision making, conserving heritage assets 'in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations' is one. Section 16 specifically deals with this historic environment (paragraphs 189-208). In accordance with Paragraph 190, local planning authorities should consider in their strategy for conservation and the enjoyment of the historic environment:

1.1.10 the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation:

1.1.11 the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation:
- the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
- the desirability of new development making a positive contribution to local character and distinctiveness; and
- opportunities to draw on the contribution made by the historic environment to the character of a place.

1.1.12 In the June 2023 archaeological mitigation of the site, comprising the excavation of two open areas commenced (Figure 2).

1.1.13 This programme of archaeological excavation recorded the well-preserved remains of the 19th century Ladies' School observed on historic mapping were exposed in Area 1; while the poorly preserved remains of industrial buildings observed on historic mapping were observed in Area 2.

2 AIMS AND OBJECTIVES

2.1.1 The main aim of the excavation was to establish the presence or absence of any buried remains of archaeological interest as noted on historical mapping within the proposed development area and where present, to characterise the level of preservation and significance, and provide a good understanding of their potential. This was achieved via the excavation of retaining concrete and destruction rubble to a depth where either archaeological deposits were encountered or the natural geology.

2.2 Academic Aims

2.2.1 The main aims of the excavation were to fully excavate and record, under archaeological conditions, all remains of archaeological significance within the two designated excavation areas (Figure 2). In particular this focused on the remains of the former 18th century dye works (Area 1), and the former charity Ladies' School (Area 2).

2.3 Objectives

2.3.1 The principal objectives were:

- to initially maintain a watching brief on the removal of concrete and any destruction rubble;
- in the event of significant remains being encountered (a case of when rather than if), these will be subject to more detailed excavation and full recording;
- to produce a report and archive on the findings of the excavation;
- to make available the results of the work.

2.4 Research potential

2.4.1 The research aims may be generated and developed from the results of the archaeological evaluation, with specific reference to the North-West Regional Research Framework (North-West Research Framework 2023). It is envisaged that the evaluation may potentially improve our understanding of the following research questions:

Ind04: *How well do we understand the survival and significance of historic water management features for industrial purposes including power and textile processing?*

Ind31: *How have mass housing developments and civic or public buildings such as prisons, schools, and workhouses, influenced settlement growth?*

Ind58: *How have industrial buildings adapted to new technology and processes?*

Ind59: *What is the evidence for academic research and innovation in technology and production?*

Ind104: *What are the key buildings and styles associated with the evolution and growth of educational institutes?*

3 LOCATION, GEOLOGY AND TOPOGRAPHY

3.1 Location

3.1.1 The site (centred on NGR: SJ 383866, 399293; Figure 1) was bounded to the north by Charter Street and KAM7 Studios, to the east by Dutton Street, to the south by Trinity Way, and to the west by the Manchester College and associated car park. The site is located 790m north of the confluence of the River Irk and the River Irwell from the west.

3.2 Geology

3.2.1 The underlying solid geology of the Site is comprised of sandstone of the Chester Formation, formed between 250 and 247.1 million years ago during the Triassic period (BGS 2023). The superficial deposits are composed of Till of the Devensian – Diamicton Formation formed between 116 and 11.8 thousand years ago during the Quaternary period (*ibid*).

3.3 Topography

3.3.1 The site is roughly rectangular in shape aligned north-west to south-east and is divided into three levels. The north-eastern portion lies at roughly 40m above Ordnance Datum (aOD), the middle portion lies at around 35m aOD, and the south-western portion lies at approximately 30m aOD (Howell, 2018, 6). The land is currently used as a car park.

4 HISTORICAL BACKGROUND

4.1.1 The following is based on information provided in the desk-based assessment (Howell 2018), and the written scheme of investigation (Mottershead 2023 [b]), along with other sources listed in the bibliography.

4.2 Prehistory (Pre-43 AD)

4.2.1 Although little is known about any prehistoric human activity in the Manchester area, it is conceivable that some areas in the city's centre, such as Castlefield and Ardwick, may have been suitable for late prehistoric settlement due to their topography and abundance of natural water sources, such as rivers (Gregory 2007).

4.2.2 A small number of residual finds in the Manchester area provide physical evidence of human activity in the area (Fletcher 2022). For example, in 1845, a Neolithic stone hammer and arrowhead were discovered in Manchester's Castlefield area (HER reference: 119.1.0), while in the same year, excavations at 77-83 Liverpool Road, two Mesolithic flints were discovered, along with a Neolithic/Bronze Age waste flake, and a single sherd of late Bronze Age/Iron Age pottery (HER reference: 13944.1.0). These discoveries add to a growing body of evidence for prehistoric activity in the area, which is known to be focused on well-drained sand and gravel sites near watercourses and moss lands (Fletcher 2022).

4.3 Romano-British period (43 AD – 410 AD)

4.3.1 The earliest military occupation of Manchester began with a five-acre wooden fort called Mamucium, located *c.*1.4km southwest of the Site (Bruton 1909). It was erected during the governorship of Agricola (AD 77–84) (*ibid*). The older defences were dismantled and improved during the fort's successive building phases (*ibid*). As a result of the continued military operations, the military complex developed from a primarily defensive location into a well-established supply depot that was crucial to the extension and stabilisation of control in the area (*ibid*). The expanding body of evidence for a military annexe, located to the north and east of the fort, is indicative of the development of the military

complex (Arrowsmith 2016, 9–12). Because there is so little information about this annexe, it is uncertain what kind of early settlement it represents (*ibid*).

4.3.2 A network of roadways was constructed as this military complex grew, and a sizable extramural settlement, or vicus, developed (Cole 2021). The security and economic advantages of the neighbouring fort attracted civilians to this town (*ibid*). The limits of this civilian settlement appear to have extended south-eastward along Chester Road, terminating somewhere near Great Jackson Street; northward from the fort to roughly Quay Street; westward along Liverpool Road for *c.*100m from the north-west corner of the fort; and eastward across Deansgate to the area now occupied by Beetham Tower (*ibid*).

4.3.3 This network of roads connected the fort at Manchester to Buxton in the southeast, Chester in the south, Wigan in the north-west, Ribchester in the north, Castleshaw in the north-east, and York in the south (*ibid*). Because of its strong trading connections, the community remained in place far into the 3rd century AD (*ibid).*

4.3.4 Despite the fact that there are no Romano-British assets recorded within the Site boundary, there are two located within the search area (Howell 2018).

4.3.5 The Roman Road, which ran roughly parallel to Deansgate, Victoria Street, Great Ducie Street, and Bury New Road, is aligned from Chester to Ribchester and Carlisle (HER references: 14.1.0 and 13903.1.0). This road would have passed by the Mamucium fort (Howell 2018).

4.4 Early medieval period (410 – 1066)

4.4.1 There is no evidence for Anglo-Saxon activity within the Site boundary or within the search area (*ibid*).

4.4.2 Between the end of Roman occupation and the Norman Conquest of 1066, there is relatively little archaeological evidence in the area as a whole (Cole 2021). During this time, several kingdoms had power over the region around Manchester (*ibid*). It is possible that during Edwin's occupation of Manchester in AD 620, the area around the cathedral in the town was first settled (Farrer and Brownbill 1908).

4.4.3 Manchester, which was then a part of Viking Northumbria, became a fortified base, or burh, in AD 919 under the rule of the Anglo-Saxon king Edward the Elder (*ibid*). According to some theories, the burh was located near the cathedral, which by the late 11th century had become a centre for settlement (*ibid*). It is believed that Manchester's Norman nobles built a castle on the land where Chetham's School now stands (*ibid*).

4.5 Late medieval period (1066 – 1540)

4.5.1 After the Norman Conquest, William I gave Roger of Poitou the majority of the territory between the Ribble and Mersey rivers (*ibid*). Roger of Poitou kept the Salford demesne but divided the rest of his newly acquired territory into many fiefdoms (Kidd 1996, 13 and Tupling 1962, 116). The largest of them was the landholding based on Manchester, located *c.*190m south-east of the Site, that was established when Albert Grelley was granted vast tracts of land in Salford, Leyland and West Derby (Tupling 1962, 116 and HER reference: 16050.1.0).

4.5.2 The mediaeval town developed around the Grelley family's manor home at the meeting point of the Irwell and Irk rivers by the 13th century (Hartwell *et al.* 2004, 256). They controlled the vast barony as well as the manor from this hall (*ibid*). Manchester received a yearly fair in 1222, and Edward I granted Thomas Grelley the Great Charter of Manchester in 1301, establishing the city as a free borough (*ibid).*

4.5.3 Although there is no evidence of medieval activity within the Site boundary, seven medieval HER assets have been recorded within the search area (Howell 2018).

4.5.4 To the north of medieval Manchester, the HER records a number of medieval assets which illustrate industrial activity along the River Irk, including a 14th century Manor (Upper) Watermill, located 225m south of the Site (HER reference: 9863.1.0); a 14th century Manor Fulling Mill, located 160m south-east of the Site (HER reference: 9864.1.0); and a 15th century Manchester Lower Mill, located 206m south of the Site (HER reference: 9862.1.0). On the Roman road from Manchester to Ribchester, Hunt's Bank Bridge over the River Irk was recorded in 1473 and was located within medieval Manchester (HER reference: 272.1.0). Although there is no evidence of an earlier bridge, the

crossing may have originally been constructed during the Romano-British period (HER reference: 16023.1.0).

4.5.5 The Strangeways area of Manchester, where the Site is located, was named after the (de) Strangeways family, and was first mentioned in the 12th century (Howell 2018). In 1459, John de Strangways held land along the River Irk (*ibid*). According to a settlement document from 1544, the estate consisted of 24 messuages (houses), 20 burgages (property within a town), 20 cottages, and a water mill, along with land in Cheetham, Strangeways, Rochdale, Spotland [sic], Oldham, Cheesden, Manchester, Salford, Oldfield, Withington, and Ardwick (*ibid*). The family settled in Strangeways Hall, which was established before 1590 and was located 180m to the north-west of the Site (HER reference: 275.1.0).

4.6 Post-medieval (1540 – 1750) and Industrial period (1750 – 1930)

4.6.1 The town of Manchester was growing in importance as a trading hub by the end of the 16th century, and by the end of the 17th century, Manchester was the focus of the cotton trade for the town itself as well as the neighbouring towns and villages in north-west England (Howell 2018).

4.6.2 A print works was located in the western portion of the Site (HER reference: 9736.1.0). The HER also lists 17 non-designated post-medieval assets within the search area (Howell 2018).

4.6.3 Two dye works, were respectively located 170m north-west and 245m east of the Site (HER references: 9861.1.0 and 11251.1.0), as well as Globe House Textile Works, which was situated 135m north of the Site (HER reference: 2038.1.0).

4.6.4 Prior to being handed to Thomas Reynolds, the Strangeways estate was owned by the Hartley Family in the 17th century (Howell 2018). Thomas Reynolds-Moreton became the 1st Earl of Ducie in 1837 after marrying into the Ducie Morton family, which also included the titles of Lord Ducie and Baron of Moreton (*ibid*). Strangeways Hall had been leased out to tenants for almost 40 years by the 1820s (*ibid*). In the grounds of Strangeways Hall, which was located 185m north-west of the Site, there were two sheets of water and a sizable lake (HER reference: 275.3.0).

4.6.5 The Strangeways area was referred to as countryside outside of Manchester until the 18th century and was characterised as having green fields and pastures (Howell 2018). The more affluent classes began to want to settle there, and the road leading to Broughton was lined with substantial properties owned by the middle and upper classes (*ibid*).

4.6.6 From the early 18th century onwards, the region began to become increasingly industrialised (*ibid*). Robert Norton received a lease from Francis Reynolds in 1768 to construct a home and silk dyeing works (*ibid*). Two grain merchants, Thomas Caister and Thomas Fray, founded the Strangeways Brewery in 1778, which extends into the western portion of the Site boundary (*ibid*). Given that Strangeways was outside of Manchester's city limits, the brewery there was exempt from a tax on grain grinding (*ibid*).

4.6.7 With more than 100 connected public houses by 1853, Henry Boddingtons established the brewery as the biggest in Manchester and one of the biggest in the north of England (*ibid*).

4.6.8 Assize Courts, which had formerly served as the magistrates' court and was located 185m north-west of the Site, replaced Strangeways Hall in 1860 (HER reference: 11769.1.0). This building no longer exists, having been demolished and the site repurposed as a prison car park by the end of the 20th century (*ibid*).

4.7 Modern period (1930 – Present Day)

4.7.1 Strangeways suffered extensive damage through air raids During World War II, including Strangeways Brewery, where production had to cease for several months (*ibid*). A firebomb was dropped between the glass works and 'Danley Works' in the northern part of the Site boundary (*ibid*). Several buildings within the Site boundary had to be demolished as a result of the bomb damage, including the Albion Rubber Works, the cotton waste mills, some of the brewery buildings, and nos.37-59 Claremont Terrace (*ibid*). Nos.49-59 Claremont Terrace extended into the south-western portion of the Site (*ibid*).

4.7.2 In 2007–2008, the Strangeways Brewery was demolished and turned into a car park (ibid). No archaeological recording or fieldwork was undertaken before or during its demolition (*ibid*).

4.8 Development of the site

4.8.1 The earliest map showing the Site was William Green's Plan of Manchester and Salford from 1794 (not illustrated) (*ibid*). This depicted a printing works, two dyeworks, a brewery, a bowling green, and a small brick kiln within the Strangeways area (HER references: 9861.1.0 and 11251.1.0). Buildings labelled as *'Mr Smith's Printing Works'* were depicted in the north-eastern section of the Site, along with buildings marked as a brewery in the west of the Site boundary (Howell 2018).

4.8.2 The next map in the sequence to show Site was Pigot's map of 1813 (not illustrated) (*ibid*). This depicted a building labelled as *'ladies' school'* in the south-eastern corner of Site, and the printing works were no longer depicted (*ibid*). Further changes were depicted for Strangeways Brewery, which had been extended into a U-shaped building adjacent to the Site boundary (*ibid*). Also, Ducie Road was depicted to the west of the Site, along with what would become New Bridge Street to the south (*ibid*).

4.8.3 Pigot's map of 1821 (not illustrated) depicted a large extension to Strangeways Brewery, extending into the western half of Site, and Nightingale Street had been added aligned south-west to north-east through the northern section of the Site (*ibid*).

4.8.4 Swire's map of 1824 (not illustrated) depicted additional large buildings to the north of the brewery, which were identified as a *'Print Works'* on the later Cheetham tithe map of 1844 (not illustrated) (HER reference: 9736.1.0). Furthermore, Swire's map of 1824 names the school within the Site boundary as *'Ladies Jubilee Charity School'* (Howell 2018).

4.8.5 The Cheetham tithe map of 1844 also recorded that the school building was labelled as *'site no. 537'* a *'dwelling house and outhouses'* on the apportionment (*ibid*). *'Site no. 534'* was located in the eastern part of the Site boundary, as well as the print works to the west of the Site, which indicated that all that land belonged to the print works company (HER reference: 9736.1.0). Included within this portion of land were three large irregular ponds, recorded as *'site no. 535'* (Howell 2018). This plot was labelled as field, a dwelling house, and road in the apportionment (*ibid*).

4.8.6 *'Site no. 536'* was allocated to the brewery buildings, which were recorded as buildings and a yard on the apportionment (*ibid*). Claremont Terrace was recorded as *'site no. 538'* and labelled as a dwelling house and road, which extended into the south-western section of the Site (*ibid*). In the far north of the Site, a row of terraced houses fronting Carter Street, and recorded as *'site no 506'*, were aligned adjacent to the far north-western boundary of the Site (*ibid*).

4.8.7 The 1850 Town Plan (not illustrated) depicted the area of the Site in much greater detail (*ibid*). The school within the Site boundary was a rectangle structure with eight rooms that was surrounded to the south, east, and west by open space and planting areas (*ibid*). The section of the Site boundary to the north of the school that had previously been undeveloped (apart from the area in the west where the brewery extended) was designated as a *"timber yard"* (*ibid*). Six terraced houses that were a part of Claremont Terrace, a row of ten identical terraced houses with a front and back gardens, and two terraces on the far western end with a front garden only, were observed in the south-eastern corner of the Site, which fronted New Bridge Street (*ibid*).

4.8.8 The brewery, which was located to the north of Claremont Terrace, consisted of a U-shaped building in the north and a long rectangular building in the south, which were centred around a courtyard (*ibid*). *'Strangeways Calico Print Works'* was recorded as the name of the buildings depicted on the preceding 1824 map, which were located to the north of the brewery (*ibid*). The intersection of Nightingale Street and Briddon Street served as the entrance to the print works (*ibid*). The print works and brewery's far-eastern buildings extended within the western part of the site (*ibid*).

4.8.9 Rapkin's 1860 map (not illustrated) depicted two structures in the Site's centre, that Bartholomew's 1870 map (not illustrated) identified as being a component of the print works (ibid).

4.8.10 The Site had undergone significant development, by the First Edition Ordnance Survey (OS) map from 1892 (not illustrated) (*ibid*). The school was still located on the southern portion of the Site, with a smaller structure added near the intersection of New Bridge Street and Dutton Street in the south-eastern corner (*ibid*). A row of terraced houses, numbers 7–25, faced Dutton Street to the north of the school, and to the west of the Site were a variety of

smaller and larger buildings (*ibid*). To the north of the housing, there were three large buildings, which were not labelled; however, these may have been industrial buildings such as warehouses (*ibid*).

4.8.11 An iron works was depicted north of these buildings, and *'Clarence Hat Works'* was situated in the Site's far north (*ibid*). *'Strangeways Calico Print Works'*, which was located to the west of the Site and to the north of the brewery, had been replaced by *'Strangeways Finishing Works'*; *'Albion Works'* was located to the east of the Site; and a variety of unidentified buildings that faced Briddon Street were depicted to the west, along with Catherine Street, which was previously named Charlotte Street (*ibid*). As with *'Strangeways Calico Print Works'* before it, both *'Strangeways Finishing Works'* and *'Albion Works'* extended into the western portion of the Site (*ibid*).

4.8.12 1893 saw the release of Goad's Fire Insurance maps for Manchester (not illustrated) (*ibid*). *'Jos. Cockshoot & Carriage Works'* was the name given to the structures behind the row of terraced homes that faced Dutton Street, which included a carriage showroom with a fodder loft above, carriage rooms, stables, a harness room, a coach house, paint rooms, a smithy, and a timber store (*ibid*). The ironworks, which were depicted on the 1892 map, had been renamed as *"J. Broughton & Co. Engineers & Millwrights Dutton St. Iron Works"*, and were located northwards, beyond *the "W. & B. Cowan Gas Metre Factory"*, included a machine shop, smithy, pattern store, stores, and offices (*ibid*).

4.8.13 *'Dickinson, Brown & Tait Seed WHSE & Cleaning'* was located to the north of the iron works, and *'N. Jacobson Clarence Hat Works'* was located in the far north of the Site (*ibid*). J and H Charlton owned Strangeways Finishing Works, which was located to the west of the Site's boundary (*ibid*). The six terraced homes on Clarence Terrace within the Site boundary included a lodging house, ABM HYAM Cap Fac, three temporary hotels, and a furrier (*ibid*).

4.8.14 Further adjustments within the Site boundary were depicted on the 1933 OS map (not illustrated) (*ibid*). The school was no longer depicted, and *'Jubilee Street Club'* was the name of a new street that had been established to the west of the school area. The iron works and the iron carriage works to the north of this had been replaced by cotton waste mills and *"Danley Works"* (*ibid*). A

glass works had taken the position of the hat works in the Site's far north, and *'Albion Rubber Works'* was depicted in the north-west of Site (*ibid*).

4.8.15 The Site boundary was also depicted on the 1948 OS map (not illustrated) and included a cabinet maker's, a garage, No. 3 Jubilee Street, a chimney associated with the brewery, and *'Danley Works'*, a garment waterproofing works, at No. 35 Dutton Street (*ibid*).

4.8.16 The brewery's extension into the Site with numerous tanks and structures was depicted on the OS map from 1990 (not illustrated) (*ibid*).

4.9 Methodology

4.9.1 The archaeological works was undertaken according to the written scheme of investigation (WSI). All archaeological work was conducted following the CIfA Standards and Guidance for archaeological field evaluation (CIfA 2020 [a]). Prior to the commencement of any excavation works, the location of the area targeted for archaeological investigation was laid out accurately with respect to the Ordnance Survey national grid. The position of the open area excavations was then scanned for live services using a cable avoidance tool. The excavations were regularly scanned as work progressed.

4.9.2 Machine excavation was used to define carefully the extent of any surviving structures, features, and other remains. This was carried out using a mechanical excavator of appropriate size and power under the supervision of an experienced archaeologist. Thereafter, remains were cleaned manually to define their extent, nature, form and, where possible, date.

4.9.3 Once the extent of buried archaeological remains were established, they were then subject to detailed archaeological excavation and recording by trained professional archaeologists.

4.9.4 All contexts were recorded using *pro-forma* sheets, and details were incorporated into a Harris matrix. All written recording of survey data, contexts, photographs, artefacts and ecofacts was cross-referenced from record sheets using sequential numbering.

4.9.5 A full and detailed photographic record of individual contexts was maintained and similarly general views from standard viewpoints of the overall site at all stages of the excavation was generated. Photography was undertaken in accordance with Historic England guidance, *Digital Image Capture and File Storage Guidelines for Best Practice* (Historic England 2015). All frames will include a visible, graduated metric scale. Photographs records will be maintained on photographic *pro-forma* sheets.

4.9.6 The precise location of all archaeological remains encountered was surveyed using a combination of GPS survey, 3D laser scanning and aerial drone/Hiview photogrammetry. This process generated scaled plans within AutoCAD, which were then subjected to manual survey enhancement. The drawings were generated at an accuracy appropriate for 1:20 scale but can be output at any

scale required. All information was geo-rectified to the Ordnance Survey National Grid and all levels were tied into Ordnance Datum.

5 ARCHAEOLOGICAL SEQUENCE

5.1 Introduction

5.1.1 Two areas were opened; Area 1 was located on the site of the former Ladies' School, with the smaller Area 2 being located on the industrial remains encountered during the evaluation trenching.

5.1.2 All brick structures were constructed of handmade, unfrogged red brick that measured an average of 120mm long x 111mm wide x 100mm thick unless otherwise stated.

5.1.3 A total of four archaeological phases were observed on Site as outlined below.

5.2 Area 1 (Figure 3)

5.3 Phase 1: Early 19th century

5.3.1 Area 1 was orientated north to south and measured a maximum of 55m long x 15m wide x 2.12 deep.

5.3.2 The earliest deposit encountered in Area 1 was the geological natural substrate [103] which comprised a firm mid-reddish-yellow sandy-clay.

5.3.3 The earliest archaeological remains encountered on Site was culvert [110] which was aligned roughly east to west and was cut into the geological natural substrate [103] and was constructed of brick which was capped by bluish-grey sandstone flags that measured between 130mm long x 120mm wide x 30mm thick and 320mm long x 350mm wide x 500mm thick (Plate 1). The bricks were laid in stretcher bond and had no bonding material surviving. The culvert in its entirety measured a maximum of 1.75m long x 0.64m wide x 0.1m tall.

5.3.4 Overlying drain [110] was a 0.07m thick deposit of redeposited geological natural substrate [109] which had a maximum length of 2.23m and a maximum width of 0.58m.



Plate 1: General shot showing culvert [110] in the centre, wall [106] to the left, and surface [107] at the top, looking south-east, Scales = 2 x 1m.

5.4 Phase 2: Early 19th century

5.4.1 Most of the remains uncovered in Area 1 date to this phase of activity when the Ladies' School was initially constructed.

5.4.2 Three external sides of the original early 19th century Ladies' School were uncovered during the excavation. The westernmost external side comprised walls [112], [116], [126], [129], [136], [138] and [140]. The southernmost external side comprised of wall [120] and chutes [148] and [149]. The easternmost external side comprised walls [120], [124], [125], [130], [137], and [142], staircase [123], and cellar light [147].

5.4.3 Wall [112] was aligned north to south and was constructed of red brick laid in English Garden Wall bond and bonded with a sandy lime mortar (see Figure 3). The wall measured an observed maximum of 5.52m long x 0.24m wide x 1.68m tall. A dark greyish sandstone windowsill [113] was fitted within wall [112] which was also bonded with a sandy lime mortar and measured a maximum of 0.62m long x 1.44m wide x 0.07m thick (Plate 2). Wall [112] was abutted at its northern end by column [138].



Plate 2: Windowsill [113] within walls [112] and [132], facing west. Scale = 1 x 1m.

5.4.4 A U-shaped north to south aligned wall [129] was constructed around windowsill [113] which abutted the western face of wall [132] (see Figure 3). Wall [129] was constructed of red brick laid in stretcher bond and bonded with a black ashy mortar. The wall measured a maximum of 2.34m long x 0.5m wide x 0.46m tall.

5.4.5 Brick column [138] was constructed of red brick laid in header bond and bonded with a sandy lime mortar. The column measured a maximum of 0.14m long x 0.13m wide x 1.54m tall and separated external walls [112] and [116].

5.4.6 The original northern, east to west aligned external wall of the Ladies' School comprised wall [116], which was also the northernmost wall of an east to west aligned internal corridor (see Figure 3). This wall was constructed within construction cut [141] which cut the geological natural substrate [103]. The wall was constructed of red brick laid in English Garden Wall bond and was bonded with a sandy lime mortar. The internal face of the wall was limewashed and it measured a maximum of 8.72m long x 0.38m wide x 1.49m tall. Wall [116] butted wall [125] at its eastern end and column [138] at its western end. Wall [116] was truncated near its centre by later wall [134], and also towards its eastern end.

5.4.7 Wall [126] was aligned north to south and abutted wall [116] at its southern end (see Figure 3). Wall [126] had been mainly robbed out at a later date when amendments were made to the school. The wall was constructed within construction cut [145] which cut the geological natural substrate [103]. Wall [126] was constructed of red brick laid in English Garden Wall bond and was bonded with a sandy lime mortar. The wall measured a maximum of 3.75m long x 0.5m wide x 0.11m tall. Once the wall was complete, construction cut [145] was filled by a 0.12m thick deposit of mid-yellowish-brown sandy-clay [146].

5.4.8 A further, small section of north to south aligned brick foundation wall [136] was observed abutting the southern face of wall [120] (see Figure 3). Foundation wall [136] was constructed of red brick laid in alternative header, stretcher, and rowlock bonding. No bonding material survived in this wall. The wall measured a maximum of 1.73m long x 0.25m wide x 0.25m tall.

5.4.9 The southern end of the building comprised of wall [120] and chutes [148] and [149] (see Figures 4 and 5). Wall [120] was a large L-shaped wall that created the southern end of the building and part of the eastern side of the building. The wall was constructed of red brick laid in English Garden Wall bond and bonded with a sandy lime mortar. The east to west aligned axis of the wall creating the southern end of the building measured a maximum of 12.22m long x 0.38m wide x 1.71 m tall.



Plate 3: Chute [148] within wall [120] and [132], looking south. Scale = 1 x 1m.

5.4.10 Two chutes [148] and [149] were constructed within the western end of wall [120] (Figure 4). Both chutes were constructed of concrete and sloped down from the external to the internal of the building. Chute [148] measured a maximum of 0.79m long x 0.26m wide x 0.18m thick (Plate 3), while chute [149] measured a maximum of 0.81m long x 0.26m wide x 0.18m thick. Interestingly, no signs that these chutes were used for coal were observed on Site, suggesting they may have been for more domestic uses such as laundry chutes.

5.4.11 A north to south aligned brick-built ledge [139] was also observed abutting wall [120] towards its eastern end (see Figure 3). Ledge [139] was constructed of red brick laid in English Garden Wall bond and bonded with a sandy lime mortar. The ledge measured a maximum of 0.99m long x 0.28m wide x 0.53m tall.

5.4.12 The easternmost external side comprised walls [120], [124], [125], [130], [137], and [142], staircase [123], and cellar light [147]. The north to south aligned section of L-shaped wall [120] which comprised part of the easternmost side

of the building measured a maximum of 2.97m long x 0.38m wide x 1.63m tall. Wall [120] butted wall [130] at its northern end.

5.4.13 Wall [130] was aligned north to south and was constructed of red brick laid in English Garden Wall bond and bonded with a sandy lime mortar (see Figure 3). The wall measured a maximum of 0.94m long x 0.36m wide x 1.63m tall. Along its eastern face, wall [130] was abutted by wall [137] along its entire length. Wall [137] was aligned north to south and was constructed of red brick laid in English Garden Wall bond and bonded with a sandy lime mortar. Wall [137] also acted as the internal wall of staircase [123].

5.4.14 Staircase [123] provided access into the cellar area of the school from outside the building to the east (see Figure 6 and Plate 4). It was constructed of smoothly worked sandstone steps and risers each measuring between 1.05m long x 0.25m wide x 0.04m thick and 0.9m long x 0.65m wide x 0.04m thick. Evidence of a door fixing was noted at the base of the staircase. The staircase measured a maximum of 2.1m long x 1.5m wide x 1.58m tall.

5.4.15 An L-shaped wall [124] created the outer wall of the staircase (see Figure 3 and Plate 4). Wall [124] was constructed of red brick laid in stretcher bond and bonded with a sandy lime mortar. The north to south axis of the wall measured 2.42m long x 0.27m wide x 0.74m tall, while the east to west axis of the wall measured 1.4m long x 0.12m wide x 1.12m tall.



Plate 4: Staircase [123] separating external walls [120] and [125], looking north. Scale = 1 x 1m.

5.4.16 North of the staircase [123] the external wall continued with wall [125] (Figure 7). The wall was constructed of red brick laid in stretcher bond and bonded with a sandy lime mortar. The wall measured a maximum of 5.1m long x 0.45m wide x 1.5m tall, however it did continue northwards past the limit of excavation. A cellar light [147] was observed in the centre of wall [125] along with the remains of a sandstone shelf [143] which ran along its western face (see Figure 7 and Plate 5)

5.4.17 Cellar light [147] was constructed of red brick laid in English Garden Wall bond and bonded with a sandy lime mortar, and a sandstone windowsill which measured a maximum of 1.24m long x 0.43m wide x 0.03m thick (Plate 5). The cellar light measured 1.52m long x 0.86m wide x 0.5m tall.

5.4.18 The remains of a sandstone shelf [143] was also observed fixed to the western face of wall [125] below cellar light [147] (Plate 5). The shelf was constructed of two sandstone legs each measuring 0.55m long x 0.1m wide x 0.51m tall, and a single sandstone block shelf which measured 3.07m long x 0.58m wide x 0.04m thick. A small metal fixing was observed at the top of the southernmost

sandstone leg which may have been for a supporting shelf below the surviving one.



Plate 5: Showing cellar light [147] within wall [125] and sandstone shelf remains [143], looking east. Scales = 2 x 1m.

5.4.19 A small section of north to south aligned wall [142] was observed to abut wall [125] on its eastern face for the entirety of its length (see Figure 3). Wall [142] was constructed of red brick laid in English Garden Wall bond and bonded with a sandy lime mortar. The wall measured a maximum of 0.93m long x 0.12m wide x 1.08m tall.

5.4.20 A central east to west aligned corridor was created within the building at the base of staircase [123] by internal walls [114], [116], and [119] (see Figure 3). Wall [114] was the south-westernmost wall of the corridor and abutted external wall [112] at its western end (Plate 6). Wall [114] was constructed of red brick laid in English Garden Wall bond and bonded with a sandy lime mortar (Figure 8). The wall measured a maximum of 3.85m long x 0.5m wide x 1.66m tall. The internal faces of wall [114] were whitewashed. A doorway was located at its eastern end (see Figure 8 and Plate 6).

5.4.21 A north to south aligned internal wall [117], which was separated into two sections, flanked the eastern side of the doorway (see Figures 3 and 8). This was of the same construction as wall [114] and created the westernmost wall of a second, north to south aligned internal corridor along with wall [118]. The northern section of wall [117] measured a maximum of 1.21m long x 0.42m wide x 1.67m tall, while the southern section measured 1.66m long x 0.42m wide x 1.8m tall. The faces of this wall were also limewashed. Wall [117] abutted wall [116] at its northern end.



Plate 6: Wall [114] with a doorway (blocked up) at its eastern end, looking east. Scales = 2 x 1m.

5.4.22 Wall [118] created the easternmost wall of the second, north to south aligned corridor, and was also separated into two sections (see Figure 3). Wall [118] was constructed of red brick laid in English Garden Wall bond and bonded with a sandy lime mortar. The northern section of the wall measured a maximum of 1.15m long x 0.51m wide x 1.71m tall, whilst the southern section of the wall measured 1.07m long x 0.5m wide x 1.71m tall. The faces of this wall were also limewashed. Wall [118] abutted wall [116] at its northern end.

5.4.23 East to west aligned wall [119] butted wall [118] on its eastern face and created the south-eastern section of the east to west aligned internal corridor (see Figures 3 and 9). Wall [119] was constructed of red brick laid in English Garden Wall bond and was bonded with a sandy lime mortar (Figure 9). The faces of this wall were also limewashed. Wall [119] measured a maximum of 5.49m long x 0.8m wide x 1.72m tall. Wall [119] was tied into wall [120] at its eastern end.

5.4.24 These internal walls separated the building into five different cellars (see Figure 3). Cellar 1 measured 5m long x 2.15m wide and was the south-westernmost cellar; Cellar 2 measured 6.2m long x 2.25m wide and was the south-easternmost cellar; Cellar 3 measured 5m long x 3.1m wide and was the central westernmost cellar; Cellar 4 measured 4.8m long x 3.1m wide and was the central easternmost cellar; and Cellar 5 measured 6.15m long x 4.1m wide (though it did continue northwards past the limit of excavation), and was the north-easternmost cellar.

5.4.25 The floor surfaces of the cellars comprised concrete surfaces. Surfaces [122], [127], [128], and [133] were likely the same surface. However, due to later editions, it was thought prudent to assign them different context numbers. Surface [122] in Cellar 2 also had an east to west aligned wall [121] constructed atop it (see Figure 3). Wall [121] was constructed of red brick laid in stretcher bond and bonded with a sandy lime mortar. The wall measured a maximum of 2.8m long x 0.36m wide x 1.7m tall. This wall may have originally been part of an internal staircase to provide access into the cellars from the school itself.

5.4.26 The final remains dating to this phase of activity comprised a small section of external cobbled surface [144] located in the north-eastern corner of the excavation. Cobbled surface [144] was constructed of cobbled stones measuring between 700mm long x 800mm wide x 50mm thick and 290mm long x 210mm wide x 50mm thick bonded with a black sandy-silty mortar. The area of cobbled surface measured a maximum of 3.12m long x 1.67m wide x 0.05m thick, however, it did continue past the limit of excavation.

5.5 Phase 3: Mid-late 19th century

5.5.1 This phase of activity dates to the mis-late 19th century when amendments were made to the Ladies' School.

5.5.2 An area of north to south aligned brick-built foundations [104] was observed in the south-western corner of Area 1 (Plate 7). Foundations [104] were constructed of re-used handmade red brick laid in an irregular stretcher bond and bonded with a firm greyish-black mortar. The foundations were constructed directly onto the geological natural substrate [103]. It is unknown what these foundations were for as no surviving remains were observed above them.



Plate 7: Brick-built foundations [104], looking west. Scale = 1 x 1m.

5.5.3 A north-west to south-east aligned modern drain cut the geological natural substrate just north of foundations [104]. Just south of the modern drain cut, and just north of early 19th century culvert [110], an east to west aligned wall [106] was observed (see Plates 1 and 8). Wall [106] was also constructed from re-used handmade red bricks laid in Stretcher bond and bonded with a dark brownish-grey sandy lime mortar. The wall measured a maximum of 5.3m long

x 0.35m wide x 0.18m tall, however, it did continue westwards past the limit of excavation.

5.5.4 Abutting wall [106] on its southern face was surface [107] which was laid on a 0.9m thick bedding deposit [108] of greyish-black sandy-silt, which in turn was laid over redeposited geological natural substrate [109]. Surface [107] was aligned east to west and was constructed of worked slate flagstones (Plate 8). The surface measured a maximum of 3.4m long x 0.58m wide x 0.08m thick and was likely the entrance to a courtyard.



Plate 8: Brick wall [106] at the bottom with slate surface [107] above, looking south. Scale = 1 x 1m.

5.5.5 To the east of wall [106] and surface [107] on the same orientation, a construction cut [111] was observed to cut the geological natural substrate [103]. Within this construction cut a brick wall [105] was constructed (Plate 9). Wall [105] was constructed of re-used handmade red bricks laid in stretcher bond and bonded with a sandy lime mortar. The wall was truncated at its eastern end and measured a maximum of 3.1m long x 0.44m wide x 0.22m tall. It is likely that this was the new southern wall of the Ladies' School after the amendments had been made.



Plate 8: Brick wall [105], looking south. Scales = 2 x 1m.

5.5.6 North of wall [105] was the building of the Ladies School (Structure No. 150). Wall [132] was aligned north to south and was added to the western face of wall [112], windowsill [113] and column [138] and the western edge of wall [116] (see Figure 3). Indeed, it continued northwards past the end of wall [116] creating an extension to the north-western corner of the school. Wall [132] was constructed of red brick laid in English Garden Wall bond and bonded with a sandy lime mortar. The wall measured an observed maximum of 10.78m long x 0.3m wide x 0.46m tall, however, it did continue northwards past the limit of excavation.

5.5.7 Wall [140] abutted wall [132] along its western face, and wall [129] on its southern face, just south of windowsill [113] (see Figure 3). Wall [140] was constructed of yellowish-grey sandstone bricks which each measured an average of 230mm long x 140mm wide x 40mm thick. The sandstone bricks were laid in stretcher bond and bonded with a black ashy mortar. The wall had been heavily truncated and measured a maximum of 0.81m long x 0.17m wide x 0.1m tall.

5.5.8 Wall [135] was added to the northern face of the western end of wall [116] and abutted the eastern face of wall [132]. Wall [135] was aligned north to south, was constructed of red brick laid in English Garden Wall bond and was bonded with a sandy lime mortar. The wall measured an observed length of 3.33m long x 0.26m wide x 0.46m tall. However, it did continue northwards past the limit of excavation.

5.5.9 Further amendments to the school were observed internally. Wall [134] was aligned north to south and abutted, and partly truncated wall [116] at its southern end (see Figure 3). Wall [134] was constructed of machine-made red brick each measuring 230mm long x 111mm wide x 70mm thick, laid in English Garden Wall bond, and bonded with a sandy lime mortar. The wall measured a maximum of 4.13m long x 0.37m wide x 1.61m tall, however, it did continue northwards past the limit of excavation. A concrete sheet and bluish-white plaster was observed on the eastern face of wall [134] and it created another cellar room (Cellar 6) in the north-western corner of the school. However, no floor surface survived in this cellar room.

5.5.10 Amendments to the floor surfaces of the velar rooms were also observed to date to this phase of activity. Surface [127] in Cellar 3 had two rectangular holes cut into it within which metal fixings were observed (Plate 9).



Plate 9: Rectangular holes with machine fixings in floor surface [127], looking north. Scale = 1 x 1m.

5.5.11 A drain [131] was also observed added into floor surface [133] in Cellar 5 (Plate 10). The drain was circular in shape and was constructed of ceramic and metal. A V-shaped gully led from the drain south-east towards the truncation in wall [116].

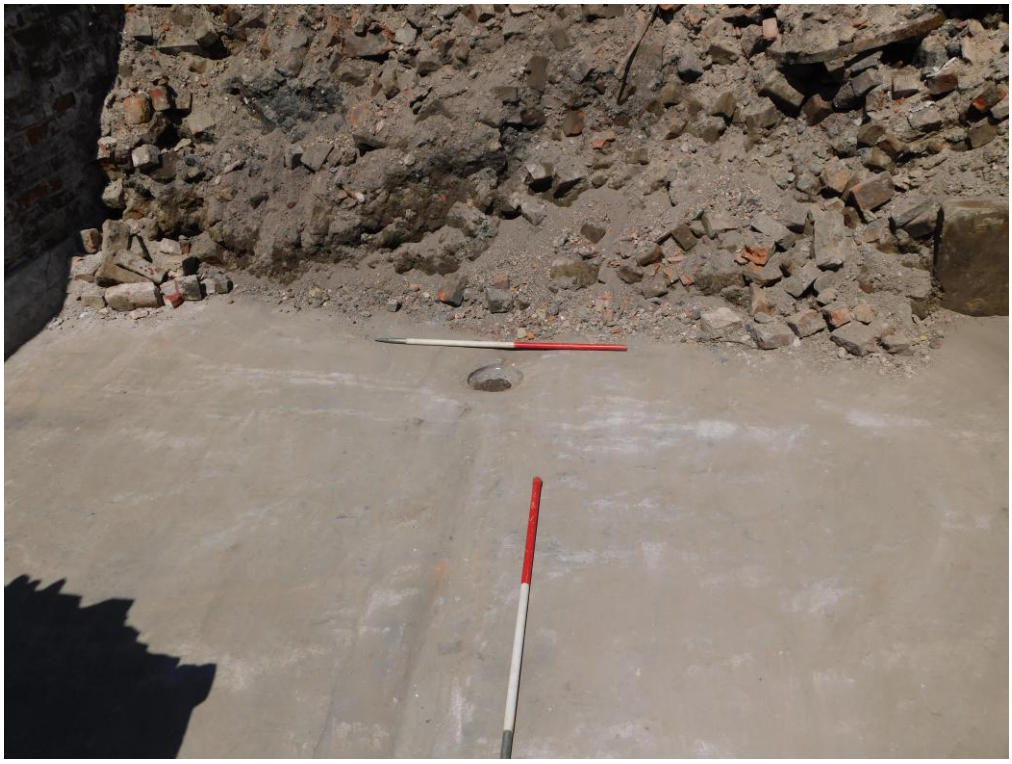


Plate 10: Drain [131] with V-shaped gully in floor surface [133], looking north-west. Scales = 2 x 1m.

5.5.12 The final remains observed that date to this phase of activity in Area 1 comprised the blocking of a doorway [115] east of wall [114] (see Plate 6). The doorway was blocked using red machine-made bricks laid in English Garden Wall bond and bonded with a sandy lime mortar. The blocked doorway [115] measured a maximum of 0.96m wide x 0.13m thick x 1.25m tall.

5.6 Phase 4: 20th century onwards

5.6.1 This phase of activity related to the demolition of the Ladies' School and backfilling of Site along with the construction of the modern car park.

5.6.2 Demolition debris/ silt mix made ground [102] covered all the archaeological remains in Area 1. The deposit was likely create using the material created

from the demolishing of the school and it had a thickness of between 0.17m and 1.89m.

5.6.3 Demolition debris/ silt mix made ground [102] was overlaid by a 0.14m thick deposit of MOT [101]. This was used as a levelling deposit. The entire area was then sealed by a 0.13m thick deposit of modern asphalt [100] which created the current ground surface.

5.7 Area 2

5.7.1 Area 2 was aligned north-west to south-east and was located in the south-eastern corner of Site Area 2 on the industrial remains encountered during the evaluation trenching. The entire area was heavily truncated and only had evidence of two phases of activity.

5.8 Phase 2: Early 19th century

5.8.1 The only 19th century remains encountered in Area 2 comprised a brick wall [203] and brick floor surface [204] (Plate 11).



Plate 11: Floor surface [204] and brick wall [203], looking east. Scale = 1 x 1m.

5.8.2 Brick wall [203] was aligned east to west and was constructed of handmade, unfrogged red brick measuring an average of 210mm long x 111mm wide x

80mm thick laid in English Garden Wall bond and bonded with a sandy lime mortar. The top of the wall had curved bricks attached (see Plate 11).

5.8.3 Brick floor surface [204] was located just north of wall [203] and was on the same alignment (see Plate 11). Floor surface [204] was also constructed of handmade, unfrogged red bricks laid in stretcher bond and bonded with a sandy lime mortar.

5.9 Phase 4: 20th century onwards

5.9.1 This phase of activity related to the demolition of the industrial buildings on Site and the backfilling of Site along with the construction of the modern car park.

5.9.2 Demolition debris/ silt mix made ground [202] covered all the archaeological remains in Area 2. The deposit was likely create using the material created from the demolishing of the buildings and it had a thickness of around 0.8m.

5.9.3 Demolition debris/ silt mix made ground [202] was overlaid by a 0.14m thick deposit of MOT [201]. This was used as a levelling deposit. The entire area was then sealed by a 0.13m thick deposit of modern asphalt [200] which created the current ground surface.

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6 DISCUSSION

6.1 Introduction

6.1.1 The earliest deposit recorded on the Site was the geological natural stratigraphy [103] which comprised a firm mid-reddish-yellow sandy-clay. This corresponds to the description provided by the British Geological Society (BGS 2023).

6.2 Phase 1: Early 19th century

6.2.1 The earliest archaeological remains encountered on the Site was the brick-built and slate capped culvert [110] which was then sealed by a deposit of re-deposited geological natural substrate [109]. This likely represents the installation of initial drainage on Site before the Ladies' School was constructed.

6.3 Phase 2: Early 19th century

6.3.1 This phase of activity represents the initial construction of the Ladies' School in Area 1 and the industrial buildings in Area 2. No ground level up remains of the school were encountered and all that survived were the well-preserved remains of the below ground section of the building.

6.3.2 The Ladies School originally appeared to be a north to south aligned L-shaped building with access to the cellar levels being granted by an exterior staircase [123] along with a possible internal staircase [121] in the eastern side of the building. The school cellar level was initially divided into five different cellar rooms (with the south-easternmost cellar room (Cellar 2) providing internal access to the cellars, along with an east to west aligned and a north to south aligned corridor.

6.3.3 A window light [147] was observed in the north-eastern external wall [125] of the school along with a second window light [113] in the centre of the western external wall [112].

6.3.4 Two concrete north to south aligned chutes [148] and [149] were observed in the southern external wall of the building [120]. However, no black staining or any other evidence of coal use was observed along these chutes. This

suggests that they were not coal chutes but were used for a different purpose. Perhaps they could have been laundry chutes with the south-westernmost cellar (Cellar 1) being a washer room. This is however conjecture as no physical remains of anything in the room survived.

6.3.5 The remains of a sandstone shelf [143] was also observed to be fixed along the internal face of the north-eastern external wall [125] beneath window light [147]. This was clearly used for storage with a possible second shelf located beneath shelf [147]. However, this second shelf did not survive, only a support within on the sandstone legs evidenced its existence.

6.3.6 Finally, all of the internal faces of the walls showed evidence of being whitewashed which gives an idea of how the school may have originally looked internally.

6.3.7 The remains of a brick wall [203] and brick floor surface [204] in Area 2 also likely date to this phase of activity and likely represent the industrial buildings observed on historic mapping in this part of Site. The fact that brick wall [203] had curved bricks along its top suggests that it was an external wall. However, as these remains were not well-preserved it is impossible to ascertain what their purpose was.

6.4 Phase 3: Mid-late 19th century

6.4.1 This phase of activity was represented by amendments made to the cellar level of the school during the mid-to-late 19th century.

6.4.2 At some point during this period the school was extended in its north-western end with external wall [135]. This changed the shape of the building from an L-shape to a rectangular shape. Original external wall [126] was demolished, and a new internal north to south aligned wall [134] was constructed just east of wall [126]. This seems to have created a sixth cellar room (Cellar 6) in the north-western corner of the complex. However, no floor surface survived in this room.

6.4.3 A further amendment was made in the cellar (Cellar 5) north of this. A ceramic and metal drain [131] was inserted into floor surface [133]. A V-shaped gully was also cut into floor surface [133] running from drain [131] south-east where it truncated internal wall [116]. This suggests that Cellar 5 had changed its use

from a possible storage room to a room that involved water management. Perhaps a washer room or weavers' room, as it was integral to keep a moist atmosphere in the room whilst weaving thread.

6.4.4 Within Cellar 3, the central western room of the complex, two rectangular holes were cut into floor surface [127] within which the remains of metal fixings were observed. This evidences that during this period a machine was attached the floor of Cellar 3. However, as nothing of this machine survived it is impossible to ascertain what it might have been.

6.4.5 The doorway on the eastern end of wall [114] in Cellar 3 was also bricked-up [115] during this period. This further evidences a dramatic change in the use of Cellar 3.

6.4.6 Externally, further amendments were observed on the building. A second north to south aligned wall was observed to abut the western face of walls [112] and [135] and column [138]. Furthermore, a small section of north to south aligned sandstone brick wall was observed to abut wall [132] along its western face.

6.5 Phase 4: 20th century onwards

6.5.1 This phase of activity was represented by the demolition of the school and industrial buildings on Site which created a demolition debris/ silt mix made ground [102]/[202] which covered all of the archaeological remains on Site.

6.5.2 This in turn was overlaid by a levelling deposit of modern MOT [101]/[201] upon which a deposit of modern asphalt [100]/[200] sealed the Site and created the modern ground surface.

7 CONCLUSIONS

7.1 Key Results

7.1.1 In summary, the excavations revealed in situ remains of four archaeological phases.

7.1.2 Phase 1 remains dated to the early 19th century. These were represented by the well-preserved remains of a brick-built and slate capped culvert in Area 1 which was likely the initial drainage installation phase before the Ladies' School was constructed.

7.1.3 Phase 2 also dated to the early 19th century. This phase of activity was represented by the well-preserved remains of the cellar complex of the Ladies' School seen on historic mapping in Area 1, and the poorly preserved remains of the industrial buildings observed on historic mapping in Area 2.

7.1.4 Evidence of amendments made to the cellar complex of the Ladies' School, along with a north-western extension represented Phase 3 of activity which dated to the mid-to-late 19th century.

7.1.5 Phase 4 dated to the 20th century onwards and was represented by the demolishing of all 19th century structures on Site creating a demolition debris made ground that completely covered all of the archaeological remains, and deposits that created the modern ground surface.

7.2 Significance

7.2.1 The archaeological fieldwork has demonstrated that significant buried remains survived on Site that dated to the 19th century which have been excavated and recorded in line with CIfA guidelines. These remains are of local significance. No further work was deemed necessary by GMAAS.

7.3 Key Initiatives

7.3.1 Of the five research aims that were hoped to be generated and developed from the results of the archaeological evaluation, with specific reference to the North-West Regional Research Framework (North-West Research Framework 2023), the following research questions have been answered:

7.3.2 ***Ind58: How have industrial buildings adapted to new technology and processes?***

7.3.3 Although not an industrial building, evidence of adaptation to new technology and process were observed within the cellars of the Ladies' School in Area 1. Within Cellar 3 amendments were made in the mid-to-late 19th century with the remains of a possible machine base being cut into and inserted into the floor surface. Although it cannot be ascertained what the machine was, as nothing but the rectangular cuts and a small number of fixings survived, this is evidence of a new type of technology which the school wished to take advantage of and made physical amendments to the building in order to insert it into the complex.

7.3.4 ***Ind104: What are the key buildings and styles associated with the evolution and growth of educational institutes?***

7.3.5 Although no above ground levels of the school survived, this excavation has evidenced the cellar complex of schools was key to the evolution and growth of educational institutes. This is further evidence by the extension of the cellar complex along with internal amendments made to the cellar complex in the mid-to-late 19th century observed in Area 1, in order to keep the complex up to date with the latest styles and technology.

7.4 Dissemination

7.4.1 The project archive comprises site drawings, context sheets, matrix, digital scans and surveys and photographs. A copy of this report will be deposited with the Greater Manchester Historic Environment Record. All drawn records will be transferred to a digital format and then a copy will be deposited with the Archaeological Data Service (ADS).

8 ARCHIVE

8.1.1 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 2020. 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. As part of the archiving process, the on-line OASIS (On-line Access to Index of Archaeological Investigations) form will be completed. The site archive will be so organised as to be compatible with the other archaeological archives produced in Greater Manchester. All drawn records will be transferred to and stored in digital format and deposited with the ADS (Archaeological Data Service). The integrity of the site archive will be maintained upon completion of the archaeological works with the archive ultimately being offered for deposition with an appropriate repository.

9 ACKNOWLEDGEMENTS

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APPENDIX 1: CONTEXT TABLES

Area 1 Context Table

Context	Type	Area	Description	Length (m)	Width (m)	Depth (m)	Phase
100	Surface	1	Concrete and asphalt modern ground surface	Through-out Site	Through-out Site	0.13m	4
101	Deposit	1	MOT Levelling deposit for [100]	Through-out Site	Through-out Site	0.14m	4
102	Deposit	1	Demolition debris/ silt mix made ground	Through-out Site	Through-out Site	1.89m	4
103	Deposit	1	Geological Natural Substrate	Through-out Site	Through-out Site	-	-
104	Foundation	1	N-S aligned brick surface foundation	1.7m	0.63m	0.08m	3
105	Wall	1	E-W aligned brick wall	3.1m	0.44m	0.26m	3
106	Wall	1	E-W aligned brick wall	5.3m	0.35m	0.18m	3
107	Surface	1	E-W aligned slate flagged floor surface	3.4m	0.58m	0.88m	3
108	Deposit	1	Black bedding deposit for surface [107]	2.23m	0.58m	0.09m	3
109	Deposit	1	Redeposited geological natural substrate	2.23m	0.58m	0.07m	1
110	Culvert	1	NW-SE aligned culvert below [109]	1.75m	0.64m	0.1m	1
111	Cut and Fill	1	Construction cut and fill for wall [105]	3.2m	0.3m	0.32m	3
112	Wall	1	N-S aligned internal brick wall	5.52m	0.24m	1.68m	2
113	Windowsill	1	N-S aligned sandstone windowsill in wall [112]	0.62m	1.44m	0.07m	2
114	Wall	1	E-W aligned internal brick wall with doorway	3.25m	0.5m	1.66m	2
115	Bricked-up Doorway	1	Bricked-up doorway in wall [114]	0.96m	0.13m	1.25m	3

Context	Type	Area	Description	Length (m)	Width (m)	Depth (m)	Phase
116	Wall	1	E-W aligned internal cellar brick wall	8.72m	0.38m	1.49m	2
117	Wall	1	N-S aligned internal cellar brick wall with doorway	1.66m	0.42m	1.67m	2
118	Wall	1	N-S aligned internal cellar brick wall with doorway	1.15m	0.51m	1.71m	2
119	Wall	1	E-W aligned internal brick wall with buttress	5.49m	0.8m	1.72m	2
120	Wall	1	Large L-shaped External brick wall with coal chutes	15.19m	0.38m	1.17m	2
121	Wall	1	E-W aligned Internal brick wall	2.8m	0.36m	1.70m	2
122	Surface	1	Concrete floor surfaces of Cellars 1 and 2	-	-	-	2
123	Stairs	1	Stone stairs to E	2.1m	1.5m	1.58m	2
124	Wall	1	L-shaped brick wall of Stairs [123]	2.42m	0.27m	1.12m	2
125	Wall	1	N-S aligned External brick wall abutted by wall [116]	5.1m	0.45m	1.5m	2
126	Wall	1	E-W aligned exterior brick wall abutting [116]	3.75m	0.5m	0.11m	2
127	Surface	1	Concrete floor surface with fittings of cellar 3	3.13m	4.83m	-	3
128	Surface	1	Concrete floor surface of Cellar 4	-	-	-	2
129	Wall	1	N-S aligned external brick wall behind [112]	2.34m	0.5m	0.46m	2
130	Wall	1	N-S aligned brick wall butting [120]	0.94m	0.36m	1.63m	2
131	Drain	1	Drain	0.32m	0.31m	0.05m	3

Context	Type	Area	Description	Length (m)	Width (m)	Depth (m)	Phase
132	Wall	1	N-S aligned brick wall between [112] and [129]	10.78m	0.3m	0.46m	3
133	Surface	1	Concrete floor surface of Cellar 5	3.2m	4.69m	0.1m	2
134	Wall	1	N-S aligned red brick wall W of wall [126]	4.13m	0.37m	1.61m	3
135	Wall	1	N-S aligned red brick wall butting [138]	3.33m	0.26m	0.46m	3
136	Foundation	1	N-S aligned red brick foundation wall butting [120]	1.73m	0.25m	0.25m	2
137	Wall	1	N-S aligned red brick wall flanking wall [124]	0.66m	0.12m	1.12m	2
138	Column	1	Red brick column between [112] and [116]	0.14m	0.13m	1.54m	2
139	Ledge	1	N-S aligned brick ledge on [112] protruding from [120]	0.99m	0.28m	0.53m	2
140	Wall	1	N-S aligned sandstone wall to W of [132]	0.81m	0.17m	0.1m	3
141	Cut	1	Construction Cut for wall [116]	12.68m	0.12m	1m	2
142	Wall	1	N-S aligned small wall behind [125]	0.93m	0.12m	1.08m	2
143	Shelf	1	N-S aligned sandstone shelf against wall [125]	3.07m	0.58m	0.54m	2
144	Surface	1	N-S aligned cobbled floor surface on exterior of building	3.12m	1.67m	0.05m	2
145	Cut	1	Construction cut for foundation wall [126]	4.08m	0.86m	0.12m	2

Context	Type	Area	Description	Length (m)	Width (m)	Depth (m)	Phase
146	Fill	1	Fill of construction cut [145]	4.08m	0.25m	0.12m	2
147	Cellar Light	1	N-S aligned cellar light in wall [125]	1.52m	0.86m	0.5m	2
148	Chute	1	W-most chute in the wall [120]	0.79m	0.26m	0.18m	2
149	Chute	1	Central chute in wall [120]	0.97m	0.59m	0.93m	2
150	Group Number	1	Group/ Structure Number	-	-	-	-

Area 2 Context Table

Context	Type	Area	Description	Length (m)	Width (m)	Depth (m)	Phase
200	Surface	2	Modern concrete car park surface	-	-	-	4
201	Deposit	2	MOT levelling deposit for [200]	-	-	-	4
202	Deposit	2	Demolition debris/ silt mix made ground	-	-	-	4
203	Wall	2	Handmade red brick wall south of [204]	-	-	-	2
204	Surface	2	Handmade red brick floor surface to the north of [203]	-	-	-	2

APPENDIX 2: FINDS REPORT

The Finds Evidence

Introduction

A small artefactual assemblage was recovered from the excavations at , Dutton Street, Manchester comprising 38 artefacts, weighing 8184.8g. The assemblage comprises finds from various material categories and is dominated by late 19th/early 20th century ceramics and glass, along with metalwork and ceramic building material. The material consist of material from mitigation phase as well as that recovered from an earlier evaluation of the site carried out in April 2023. The aim of the finds report is to describe and quantify the material evidence recovered, along with some chronological interpretation, relating it as far as possible to other known finds from the same site or area, in line with Chartered Institute for Archaeologists (CIfA) guidelines (2022).

Methodology

The examination of the artefactual assemblage was carried out in accordance with the guidelines set out by the Chartered Institute for Archaeologists Standard and guidance for the collection, documentation, conservation and research of archaeological materials (2014). The pottery was examined with reference to A Standard for Pottery Studies in Archaeology (Barclay et al 2016). Reference has also been made to Medieval and Post-Medieval Research Agendas drafted by the North West Region Research Framework (2022).
The finds recovered from the excavation comprised various categories of material including; late 19th/early 20th century ceramics, glass, metalwork and wall tile. For quantification and full contents of the assemblage, see Table A1.
All categories of finds were examined in full, with observations supplemented by the finds records generated during the course of the fieldwork. The finds were categorised according to type and class and have been entered onto a database in order to prepare a preliminary catalogue. The finds were then given a unique accession number (Finds Number/FN) and digitally photographed. Full details of all recovered material reside within the project archive held at Salford Archaeology.

Overview

Material	**Object count**	**Weight (g)**	**Number of contexts/ areas**	**Period (century)**
Pottery	8	1638.2	1	Mid/late 19th-20th century
Objects of metal (ferrous and non-ferrous)	5	1043	2	Mid/late 19th-20th century
glass	18	3895.7	4	Mid/late 19th-20th century
Organics (animal bone)	1	15.9	1	NCD
Ceramic building material	5	1265.2	2	Mid/late 19th-20th century
Industrial, stone and building materials	1	326.8	1	Mid/late 19th-20th century
Totals	38	8184.8		

Table A1: all material recovered

Main contexts with finds

Evaluation trench 3, deposit [305] located on the site of the former Ladies' School
This deposit produced 13 artefacts comprising dust pressed tiles manufactured between c 1869 and 1912, late 19th century/early 20th century champagne bottles, an unidentified refractory clay object, but possibly connected with iron casting, a fork and two copper alloy multifoil annular 'bobeche' for a candle or a light fitting. This deposit probably days to the early 1930s around the time when the school was demolished.

Phase 4: 20th century onwards

Demolition debris/ made ground [102], Area 1 located on the site of the former Ladies' School.

Fifteen objects were recovered from this deposit. They included a complete white stoneware master ink bottle dating to the second half of the 19th century, plus seven fragments in a similar fabric and dating to the end of 19th century, all belonging to Yates's Wine Lodge stone ginger beer bottles. Also from this deposit were small fragments of vessel glass and dust pressed wall tile and copper alloy Knob that was probably part of a lever catch for a sash window or possibly a handle for an item of furniture. That the school was no longer shown on the 1933 OS map suggests terminus post quem for the deposit.

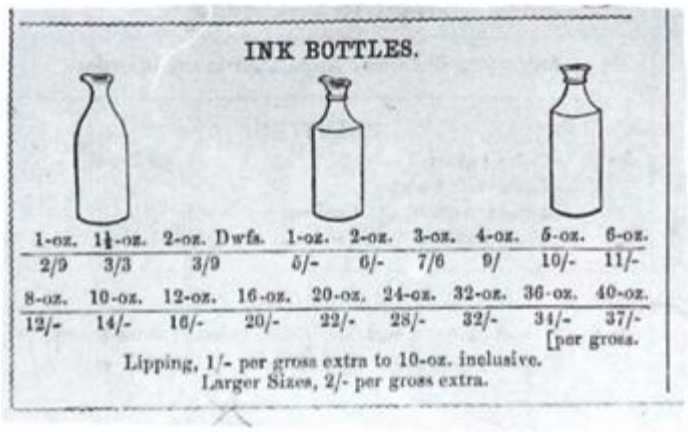
Demolition debris/ made ground [202], Area 2 located on the industrial remains

This deposit produced nine glass tile fragments that most likely date to the first half of the 20th century. The piecemeal demolition of the buildings on this part of the site does not permit close dating of the deposit.

The pottery

One complete vessel and 7 fragments of white stone ware were recovered from Phase 4 (20th century onwards) demolition/made ground deposit [202] in Area 2. The complete vessel (SECL2372-FN09) is known as a master ink (Plate A1, left). It is cylindrical in shape, with sharply defined shoulders a spouted rim with a single rib below. There is an inscription within an oval cartouche at the base which is mostly illegible: "PRIC[E?]/12/BRIS_". Almost identical ink bottles (spouted with a single rib below) were advertised by James Stiff and Sons of Lambeth, potters of Lambeth, London in 1873 (Green 1999, 363). They were manufactured in a range of sizes from 1 oz to 40 oz (approximately 28g to 1134g), with lipping charged extra (Plate A1, right). There was a wholesale move from away from stoneware bottles to mass produced glass bottles in the first decade of the 20th century with the introduction of the American Owens' fully automatic bottle machine. (Licence 2015, 13-14). The bottle was recovered from the demolition deposit above the Ladies' School that stood on the site, and therefore maybe related to it. It is also possible that it relates to the Strangeways Calico Print Works that was present on the site until the 1870s.





INK BOTTLES.

1-oz.	1½-oz.	2-oz. Dwfs.	1-oz.	2-oz.	3-oz.	4-oz.	5-oz.	6-oz.
2/9	3/3	3/9	5/-	6/-	7/6	9/	10/-	11/-
8-oz.	10-oz.	12-oz.	16-oz.	20-oz.	24-oz.	32-oz.	36-oz.	40-oz.
12/-	14/-	16/-	20/-	22/-	28/-	32/-	34/-	37/-

[per gross.

Lipping, 1/- per gross extra to 10-oz. inclusive.
Larger Sizes, 2/- per gross extra.

Plate A1: White stoneware in bottle, SECL2372-FN09, 10cm scale, with extract from James Stiff and Sons 1873 price list (right; Green 1999, 363)

Also, from deposit [202], were a further seven white stoneware bottle fragments from a minimum of five vessels (FN2372-3; Plate A2).Thes fragments displayed black underglaze printed labels and all appear to be from the same drinks manufacturer.. Although no single fragment displays a full inscription, this can be pieced together from the individual sherds, and would have originally read: “STONE GINGER BEER/BREWED & [BOTTLED]/YATES BROS’/ REGISTRED/WINE LODGE”. Underglaze printing first appears in c 1878 (Askey 1981,103). The body of the underglaze printed bottles was normally dipped in an off white or cream slip glaze as these examples show. One fragment, with partial inscription “_ _TON”, preserves the shoulder angle and displays a yellow-brown glaze, illustrating that at least one of the vessels was a ‘two tone’ bottle (Askey 1981,111). The sale of ginger beer in stoneware bottles began to decline in the decades after the First World War (Askey 1981,113, 122). Yates’s Wine Lodges were established in Oldham, Lancashire by Peter and Simon Yates in 1884, Yates’s Wine Lodges spread nationwide, but retained a stronghold in the North of England, with its headquarters in Manchester (Friends of the National Libraries 2023). The popularity of ginger beer in the years before the First world War may account why fragments of five or so Yates’s stone ginger beer bottles were found in demolition/made ground deposit [202]. Yates’s Wine Lodges in Manchester were located on Oldham Street (three), Portland Street, Market Street and High Street (Pubs of Manchester 2023). Another possibility is the Strangeways Brewery had a connection with Yates.



Plate A2: White stoneware ginger beer bottle fragments produced by Yates Wine Lodge FN2372-3

Objects of metal (ferrous and non-ferrous)

The excavation and evaluation produced five objects of metal all of which were from the area of the Ladies' School and all were found in demolition layers, [102] and [305]. Therefore, it is not clear whether these objects relate to the school or are dumped items dating to around the time of its demolition. Copper alloy Knob FN2372-8 was probably part of a lever catch for a sash window (Historic England 2017, 22), or possibly handle for an item of furniture. Metal Fork (FN2359-8) is a four tined (one tine is missing) variety typical of 19th century and later with 'Old English' style handle, but waisted toward the end forming a circular terminal and with fluting along its length. It is probably silver plated, with copper alloying showing through and corrosion deposits concealing any makers marks (Moore 2005, 36-37). Two copper alloy multifoil annular objects with opposed circular piercings on the outer edge and a central collar pierced with single circular hole (FN2359-9), are probably bobeches (Plate A3). These are defined as a cup or ring around the socket of a candlestick, intended to catch dripping wax (Collins Dictionary 2023). The presence of screw holes might suggest these decorative mounts are from a decorative electric light fitting rather than for candles. The final object was a 'tin' or 'can' (FN2372-6), probably composed of tinplate steel, which has been reused as a paint pot.



Plate A3: Two candle bobeches (FN FN2359-9), intended to catch dripping wax

Glass

The excavation and evaluation yielded seven complete bottles and eleven glass fragments. Except for a single unstratified bottle (FN 2359-7), all the other bottles were from demolition layer [305] located above the site of the Ladies' School. Vessel glass was from Area 1 demolition layer [102]. The bottles are a mixture milk and wine bottles, specifically champagne bottles. The glass tile fragments were from Area 2, which was located over the industrial remains.

The milk bottles are all machine-made and comprise a single pint (FN2359-7) and two half pint bottles (FN2359-5 and FN2359-6; Plate A4). All bottles are cylindrical with a shoulder-less profile and have capseat closures and finishes. Capseat closures were designed to accept a cardboard disk as a closure. A capseat closure and finish was an American patented design of 1889, bottled milk taking off earlier in the United States of America than in Britain (Lindsey 2023). Bottled milk was not common in the UK until the 1920s (Phelps 2010, 21).

All display the same embossed inscription of Lancashire Hygienic Dairies Ltd. The company becoming a limited company in 1899 and by the 1930s was based at Mulberry Street, Hulme, Manchester (Grace's Guide 2023). The base of bottle FN2359-5 is embossed with "J L & CO LD C/LHD/86L12" indicating that it was manufactured John Lumb & Co Ltd, with the 'C' following the 'LD' indicating that it was manufactured Castleford in present day West Yorkshire. John Lumb & Co existed from 1905-1937, although their origins go back to 1842. In 1937 the company became part of the United Glass Bottle Combine, whose mark was UGB (Lockhart et al 2016, 16; Lockhart et al 2019, 159). Base embossing on the other two bottles FN2359-6 and FN2359-7 are "LHD/FCC" and "LHD/32F, respectively. It is presumed that "LHD" stands for Lancashire Hygienic Dairies, but it not clear which company manufactured the bottles. All the milk bottles date to the 1920s and later. However, given that milk bottles were designed to be reusable, FN2359-6 is embossed with the polite message to "PLEASE RINCE AND RETURN", their actual deposition would be difficult to estimate, other than after the demolition date of the school. These bottles are unlikely to be connected to the Milk in Schools Scheme, which was introduced nationally in 1934, although milk had been provided to schools in Birmingham and Liverpool in the late 1920s (Atkins 2005).



Plate A4: A Lancashire Hygienic Dairies Ltd pint bottle (FN2359-7) and (right) half pint or 1/3 of pint bottle (FN 2359-6)

Four wine or champagne bottles were found in the demolition deposit [305] above the site of the school (SECL2359-FN01 to 04). Champagne bottles differ from the morphologically similar historical burgundy wine bottles being typically “proportionally wider in the body and made with distinctly heavier glass to withstand the internal pressures of carbonation” (Lindsey 2022). They have a cylindrical body and a long sloping shoulder which merges seamlessly into the neck. A champagne style single part banded finish tops the bottle. The bottles have a deep push up base and a mamelon, a "rounded eminence, a small circular protrusion found on the basal surface, usually at the tip of the pushup” base (ibid). the bottles appear to be mould blown with tooled finish and come in two different sizes (Plate A5).



Plate A5: Champagne bottles (SECL2359-FN01 and 04) from demolition deposit [305]

Other glass from the site comprises a fragment of cut or pressed glass with floral-like geometric shape design (FN2372-1), a fragment of moulded opaque green glass with gilding (FN FN2372-2), and nine fragments of glass tile (FN2372-10). The tiles, which were found in Area 2, demolition deposit [202] (Phase 4: 20th century onwards), consist of cuboid shaped fragments that exhibit fluting (Plate A6). They have a greenish hue and 'cloudy' appearance similar to smalti tiles where molten glass is mixed with iron oxides to create the colour. In the 1920s industrial processes were applied to smalti tile manufacturing where molten glass was poured into trays and often formed in to ¾ inch 'chiclet' or cube shaped pieces. Similar tiles have been recovered at other sites in Manchester, usually industrial rather than domestic, for instance at Snell Street glass works (Mottershead 2022, 25-27).



Plate A6: Smalti-like glass tiles (FN2372-10) from Area 2.

Ceramic building material

Five ceramic building material fragments were recovered from demolition deposits [305]/[102] above the Ladies' School. These comprised four glazed wall tile fragments and unidentified refractory clay object.

The four tile fragments are all dust pressed recognisable from the pattern of bars or squares on the back (Van Lemmen 1990, 35). Two border tiles (FN2359-10) display the same design, which features a blue six petalled flower within a six lobed yellow border, buttressed by green foliate terminals on a maroon background. Above and below is a green and white triangle border (Plate A7, left)Although the inscriptions on the reverse are incomplete enough has survived to indicate they were produced by Minton, Hollins & Co who produced printed or painted or majolica wall tiles (British Museum 2023). A partially complete address which would have originally stated 'Patent Tile Works' on one of the tile fragments suggests that along side "Minton, Hollins & Co" inscription that these tiles were manufactured between 1869 and c 1912 (Tile heaven 2016). A handwritten ink inscription "170 m" was also visible on the reverse of the larger of the two fragments.

Tile FN2359-11 is another border tile, but complete. It measures153mm long x 103mm wide and is 9mm thick. It is decorated with an art Nouveau-style fleur de lis motif picked out in greenish brown on a yellow background (Plate A7, right). Plaster adhering to the back of the tile has obscured any makers marks. The final tile in the assemblage (FN 2372-4) is a small

plain maroon glazed tile, in a white fabric. Dust pressed tiles are composed of powdered clay which has a very low moisture content and were originally pressed into shape by a hand operated machine (Van Lemmen 1990, 35). The techniques were invented in 1840 Richard Prosser and most tiles were subsequently made by this method until 1873 when the first steam driven press was introduced (ibid).



Plate A7: Minton border tiles (FN2359-10), top and below, border tile with art Nouveau-style fleur de lis motif (FN2359-11) from an unknown manufacturer

Find number 2359-12, it is an unidentified circular refractory clay object measuring 87mm in diameter x 22mm thick (Plate A8). One side is flat whilst the other has a spiral groove, where this terminates there would have been, it is presumed, a cylindrical extension (now missing). The side of the object exhibits three parallel grooves. Dark slag like material can be seen adhering to parts of the object. As the object is made of refractory clay it is possible that it is connected with the ironworks, which was depicted on the 1892 map OS map, and named as "J. Broughton & Co. Engineers & Millwrights Dutton St. Iron Works" on the 1893 Goad Fire Insurance map for Manchester. It is possible that the object is connected with iron casting. In this process steel ladles lined with refractory bricks were filled with molten iron or steel. The molten metal left the vessel via an aperture in the refractory lined floor of the ladle. The aperture was made up of a refractory 'nozzle box' which sits in the ladle floor. The nozzle sat inside, and was cemented into the nozzle box. In to the nozzle, which is effectively a valve opening, a refractory-lined 'stopper rod' with a 'stopper' brick at one end fitted into the nozzle to make a seal. The stopper rod was then lifted up and down thereby opening and closing the nozzle/stopper interface allowing steel to flow or not flow out depending upon the position of the stopper rod. After every emptying of the ladle the nozzle and the stopper rod refractories are discarded (Richard Bramall, per comm, 03/05/2023). Thus, it is possible that the object is a discarded stopper.



Plate A8: unidentified circular refractory clay object (FN2359-12)

Area 1 demolition deposit [102] (located above the Ladies' School) produced a single animal bone. The abraded surface of the bone makes it unclear whether this is a horn corn or that it has been modified to produce a tapered shape.

Industrial, Stone and Building Materials

Also, from deposit [102] was a moulded plaster fragment (FN2372-5). It is not apparent what the moulding represents, and indeed it may be an undiagnostic fragment.

Potential of assemblage and recommendations

The finds assemblage comprises little in the way of interpretive value, particularly as most of the material was recovered from demolition deposits. A 19th century white stoneware master ink bottle (FN2372-9) may relate to either the Strangeways Calico Print Works or even the school as both would have been heavy users of ink. Also, from deposit [202], were a further seven white stoneware fragments from at least five separate bottles, which would have contained ginger beer produced by Yates's Wine Lodges, a familiar site on the British high street throughout the 20th century. The peak popularity of ginger beer was in the years before the First world War, declining thereafter (Askey 1981, 113, 122). References to Yates's ginger beer bottles appear to be rare within both academic and collectors' circles.

The provision of milk in hygienic glass bottles produced in efficient processing factories and the conviction that milk was a nutritionally rich and well-balanced food that would help the growth of all children, not just the poor and hungry (Atkins 2005; Phelps 2010, 21), is evidence for the improvement of urban public health during this period (Ind23, North-West Research Framework 2023). The champagne bottles, also from deposit [305], again may be rubbish disposed of when the site was cleared or given that they date to the decades around the turn of the 20th century, they may derive from the Strangeways Brewery site.

Discard/ retention

All the finds are of low/local significance, however, in view of the rarity of the Yates's Wine Lodges ginger beer bottle fragments, completeness of the master ink bottle and the positive role of milk in public health, these finds should be offered to, firstly to Science and Industry Museum or Manchester Museum.

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APPENDIX 3 : FIGURES

Figure 1: Site location
Figure 2: Excavation Area locations
Figure 3: Plan of Area 1
Figure 4: North facing elevation of wall [120], and chutes [148] and [149] in Cellar 1
Figure 5: North facing elevation of wall [120] in Cellar 2
Figure 6: West facing elevation of staircase [123]
Figure 7: West facing elevation of wall [125], shelf [143], and cellar light [147]
Figure 8: South facing elevation of walls [114] and [117], and blocked-up doorway [115]
Figure 9: North facing elevation of wall [119]

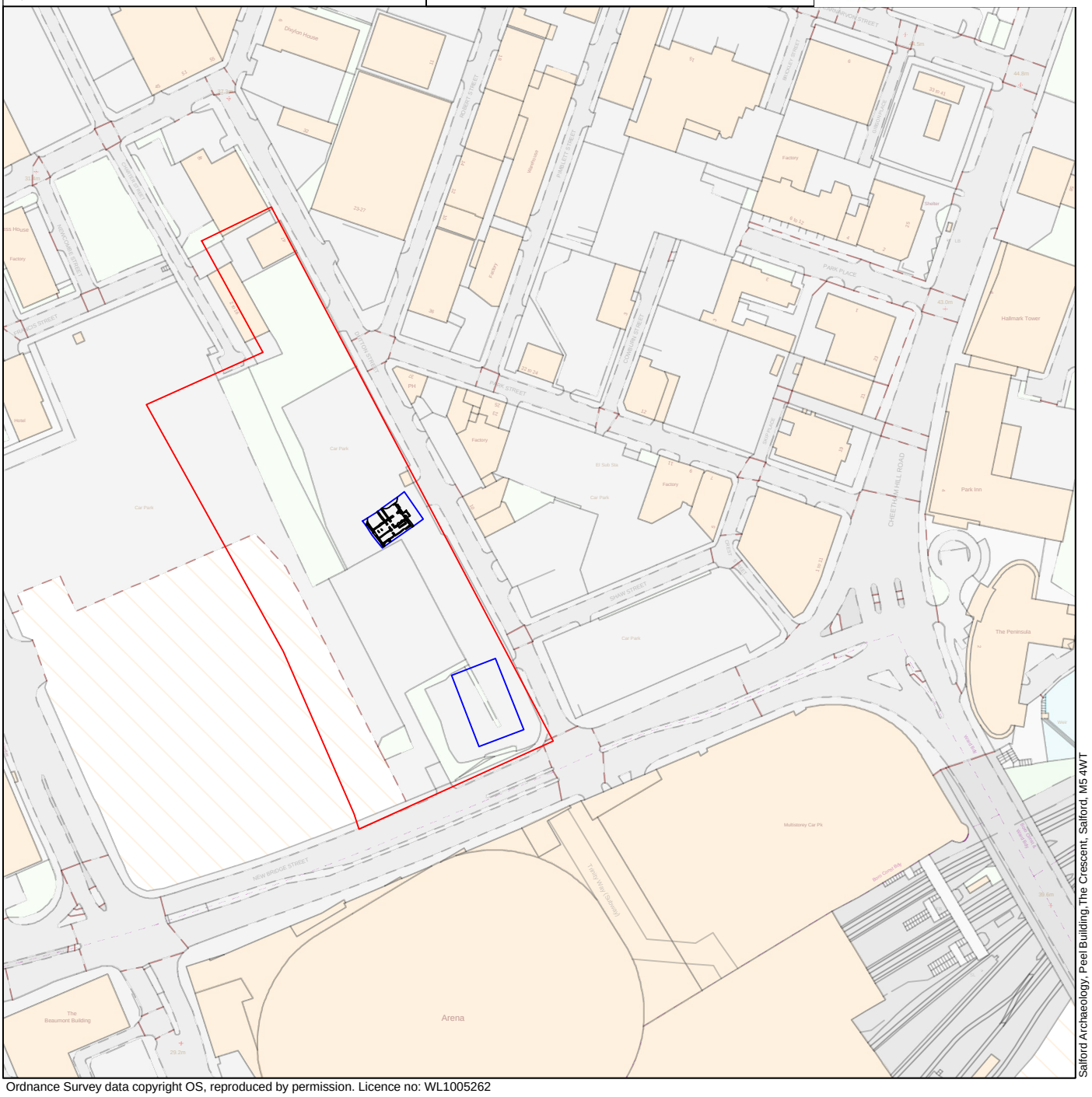
Figure 1



BRWRY, Dutton Street

Figure 1: Site location plan

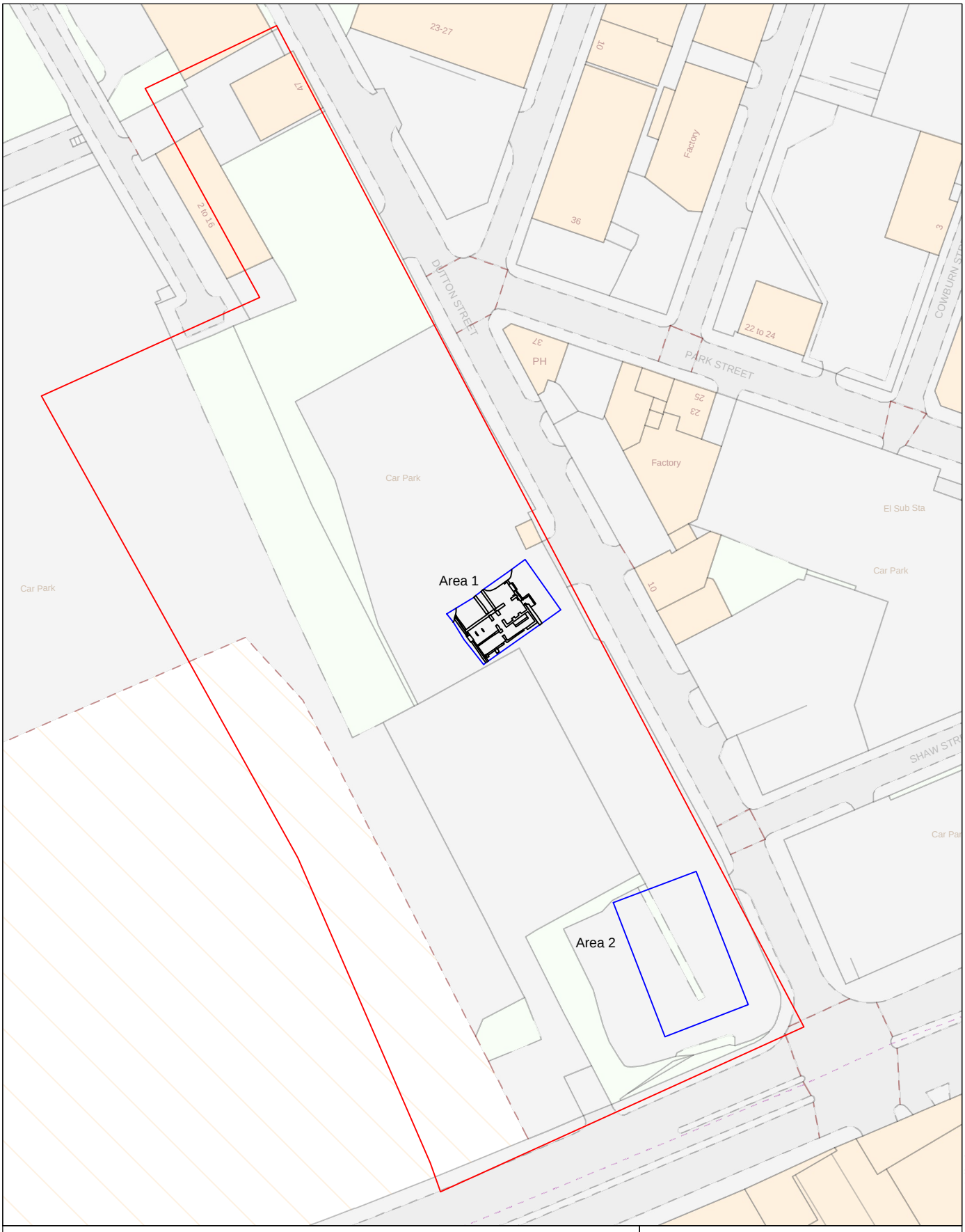
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Figure 2



BRWRY, Dutton Street

Figure 2: Excavation areas locations

N

Key:

site boundary

proposed mitigation areas

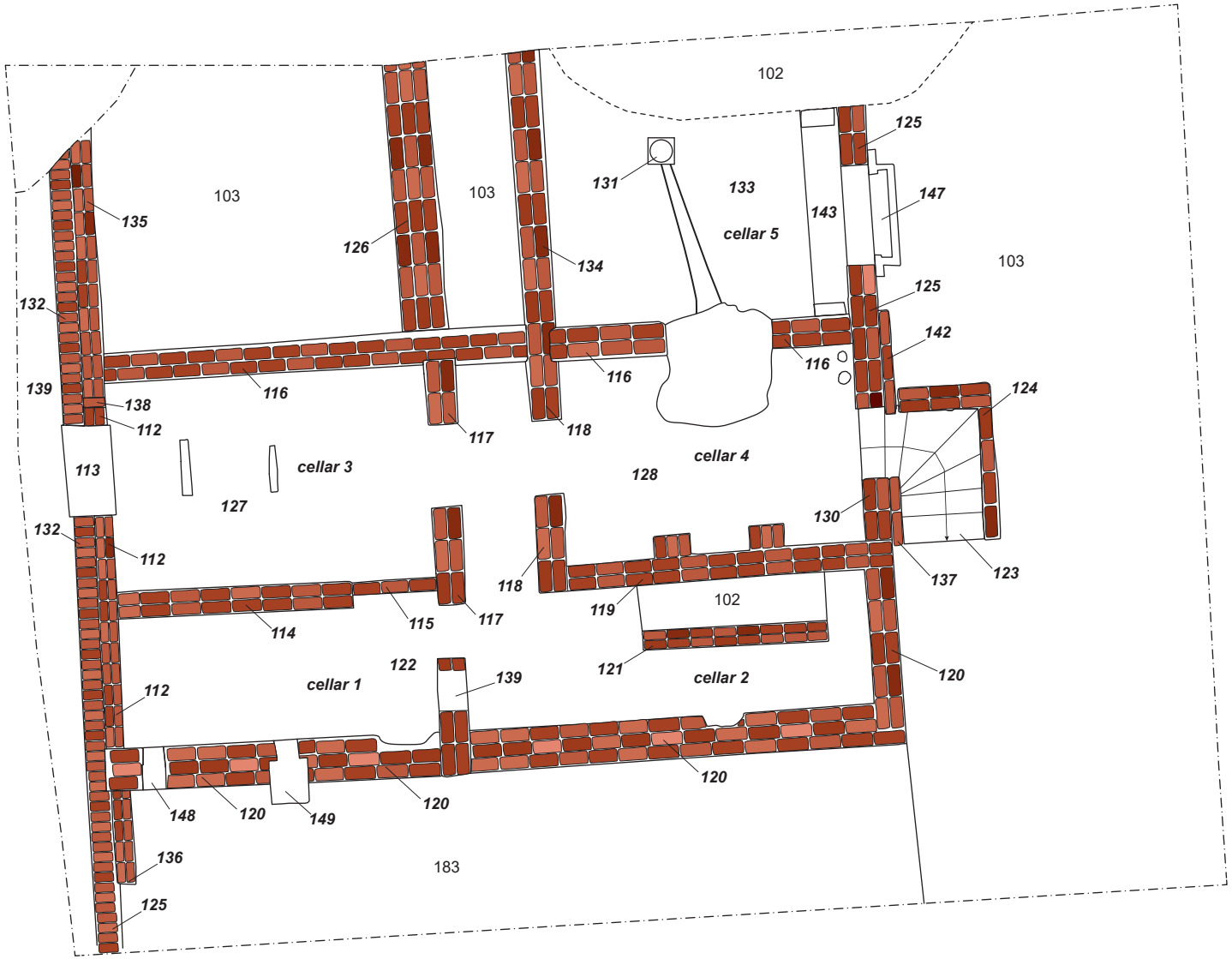
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0 50 m

Scale at A4 1:1000

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Figure 3



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0 5 m
Scale at A4 1:100

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Figure 3: Plan of Area 1

Key:

bricks

000 fill / layer

000 cut

000 group / structure

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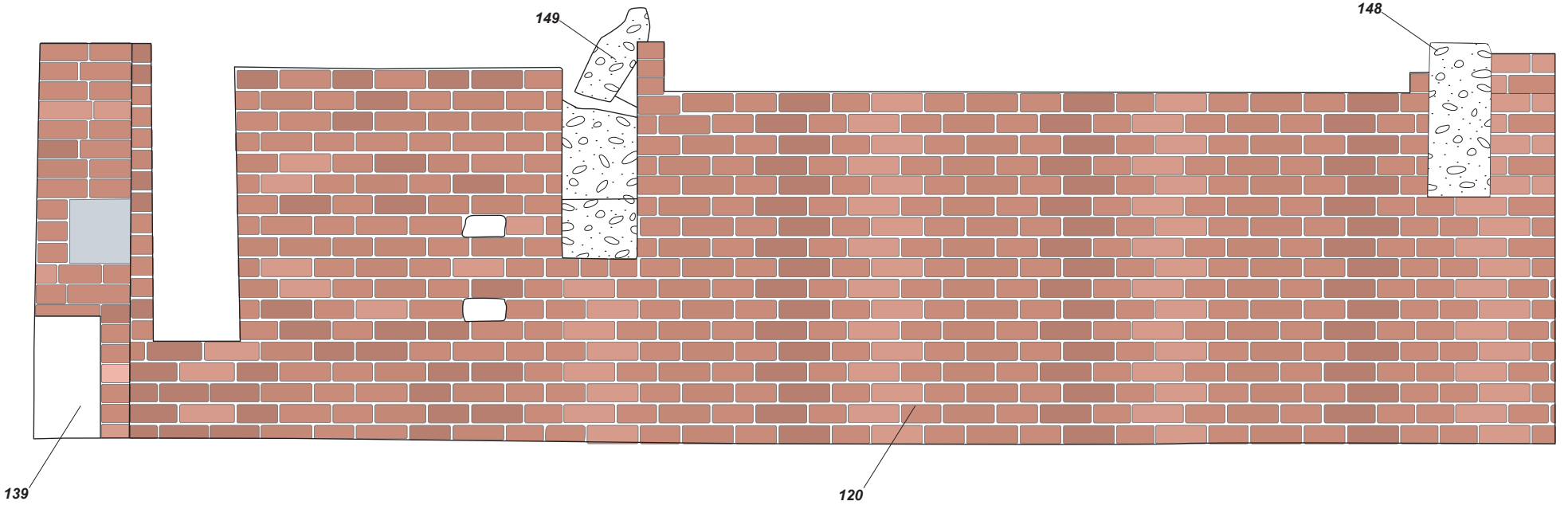
Figure 4

Cellar 1

north facing elevation

E

W



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0 1 m

Scale at A4 1:25

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Figure 4: North facing elevation of wall ***120,*** and chutes ***148*** and ***149*** in ***cellar 1***

Key:

bricks

concrete

000 fill / layer

000 cut

000 group / structure

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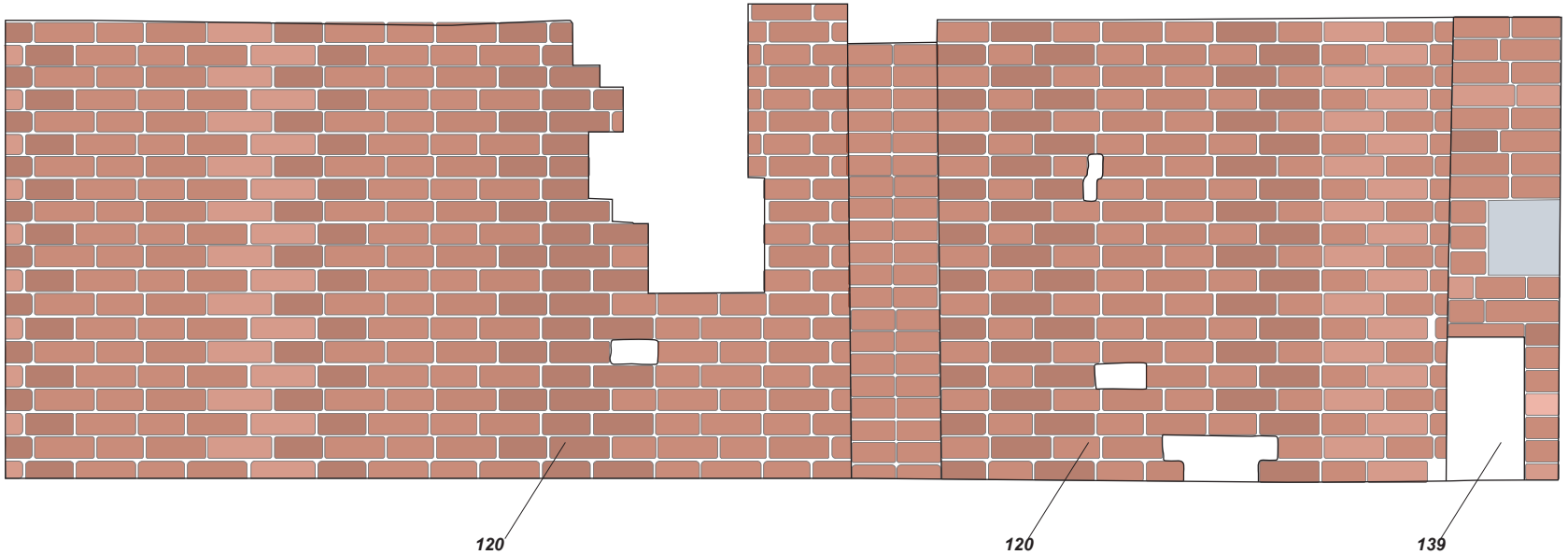
Figure 5

Cellar 2

north facing elevation

E

W



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0 1 m

Scale at A4 1:25

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Figure 5: North facing elevation of wall ***120*** in ***cellar 2***

Key:

bricks

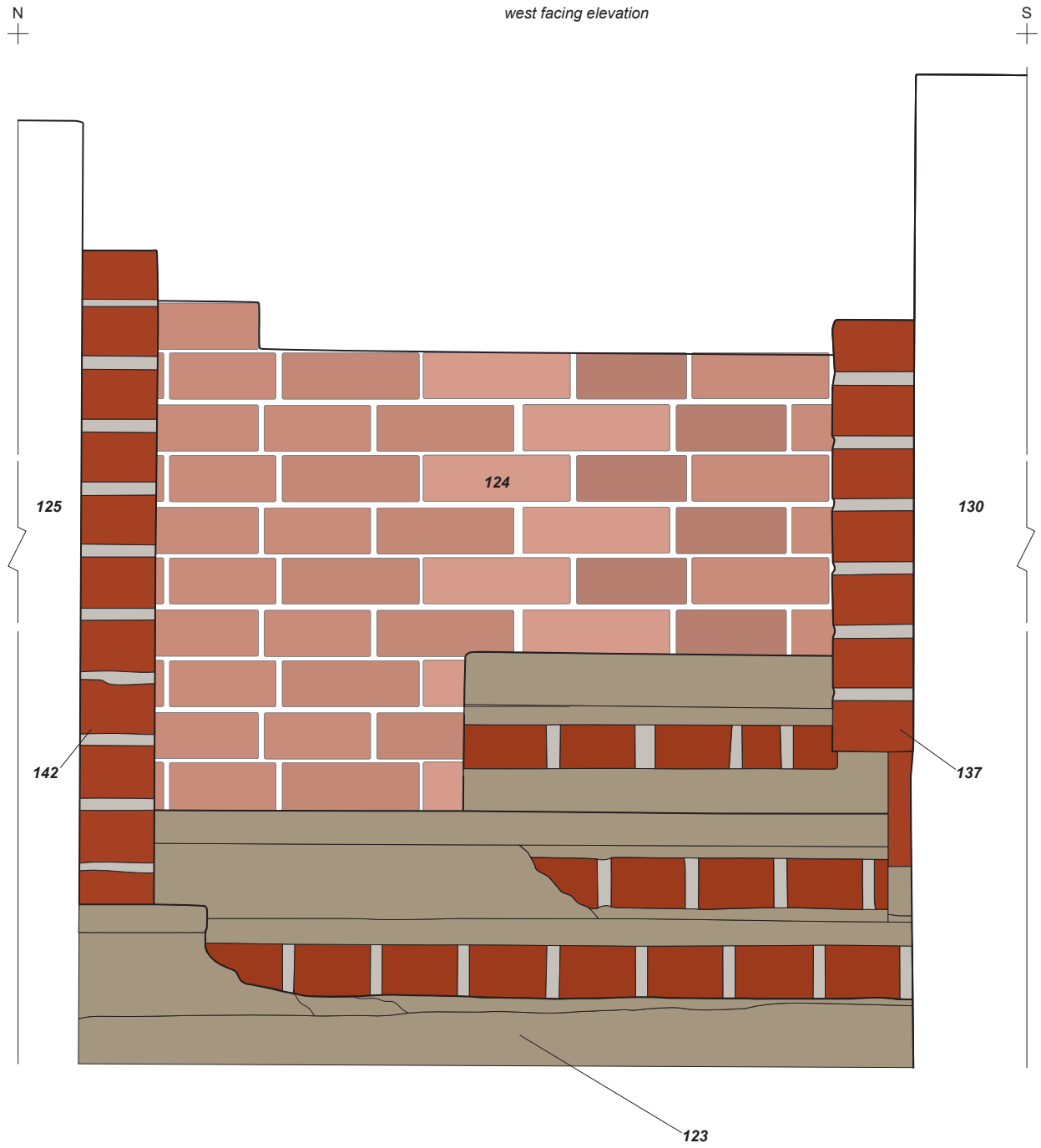
000 fill / layer

000 cut

000 group / structure

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Figure 6



BRWRY, Dutton Street

Figure 6: West facing elevation of staircase ***123***

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0 50 cm

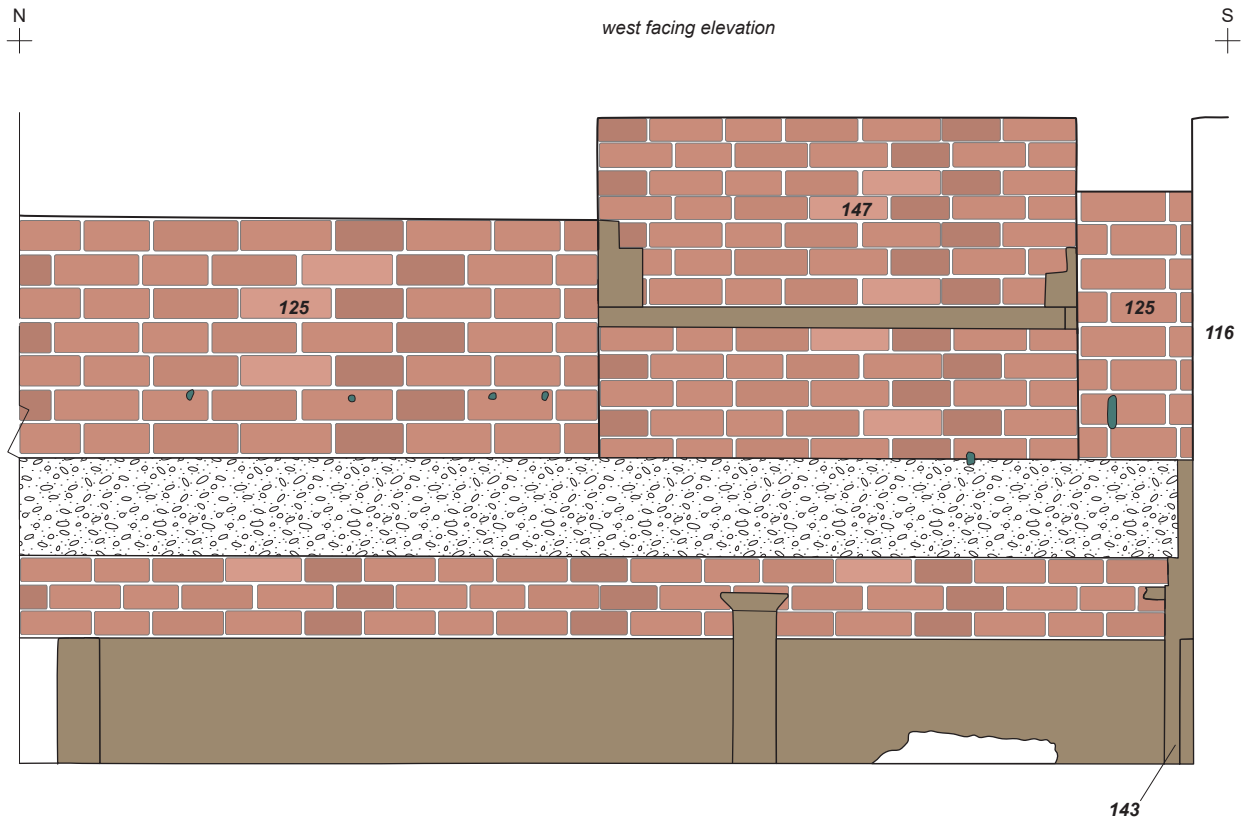
Scale at A4 1:10

Key:

- brick
- 000 fill / layer
- **000** cut
- ***000*** group / structure
- stone
- mortar

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Figure 7



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0 1 m

Scale at A4 1:20

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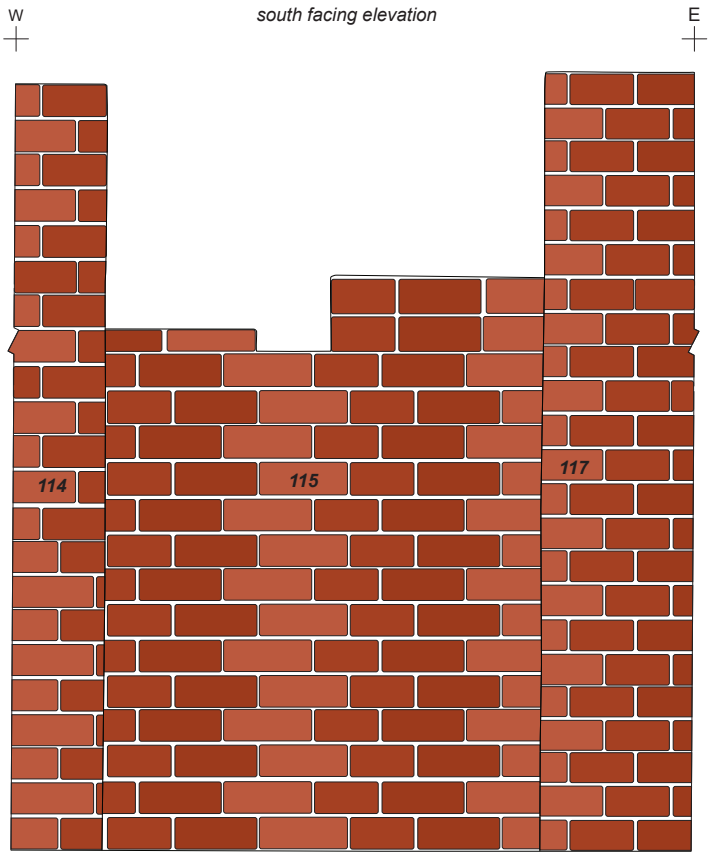
Figure 7: West facing elevation of wall ***125***, shelf ***143*** and cellar light ***147***

Key:

- brick
- metal
- stone
- concrete
- 000 cut
- *000* group / structure

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Figure 8



BRWRY, Dutton Street

Figure 8: South facing elevation of walls ***114*** and ***117***, and blocked-up doorway ***115***

Key:

brick

000 group / structure

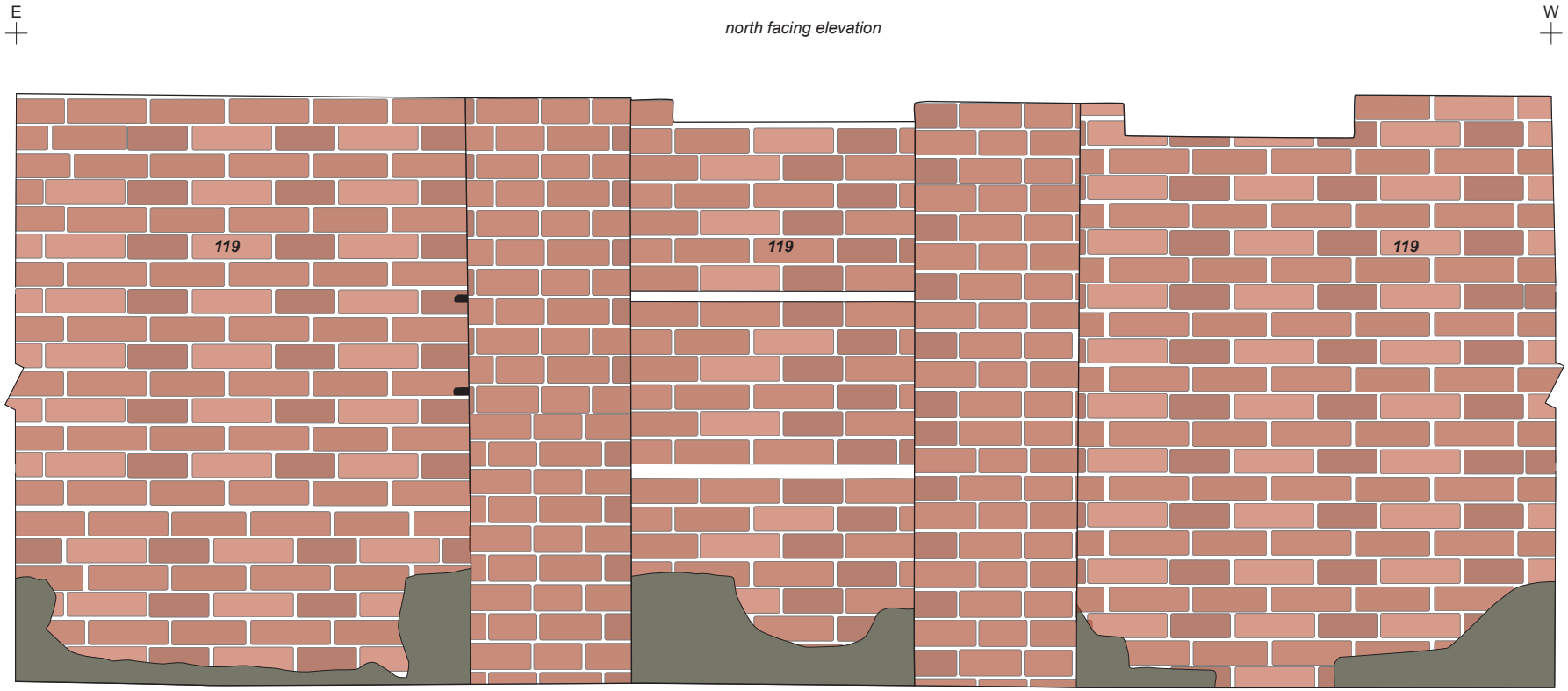
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0 1 m

Scale at A4 1:20

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Figure 9



Salford Archaeology
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0 1 m

Scale at A4 1:20

BRWRY, Dutton Street

Figure 9: North facing elevation of wall ***119***

Key:

brick

morter

000 group / structure

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