Archaeological Works at Manchester Museum, Oxford Road, Manchester

Trench 2, looking north-west.

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Archaeological Works at Manchester Museum, Oxford Road, Manchester

ARS Ltd Report 2019/46

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Executive Summary

Project Name: *Archaeological Works at Manchester Museum, Oxford Road, Manchester*
Site Code(s): *MMC18, MMC19*
Planning Authority: *Manchester City Council*
Planning Ref: *118410/FO/2017*
Listed Building Consent Refs: *118412-LO-2017; 118413-LO-2017; 118414-LO-2017*
Geology: *Sandstone of the Chester Formation overlain by superficial deposits of Devensian till (BGS 2018)*
Date of fieldwork: *6th December 2019; 12th December 2019; 20th February 2019*
Date of report: *February 2019*

In December 2018 Archaeological Research Services Ltd (ARS Ltd) was commissioned by Purcells to undertake archaeological evaluation trenching within an entrance courtyard of Manchester Museum in part satisfaction of conditioned planning permission for the construction of a two-storey extension.

Initially the evaluation was designed to comprise two trenches that targeted features associated with 19th century townhouses of Exmouth Terrace. Trench 1 was originally located to evaluate a potential garden area. However, as part of ground works the on-site contractors were to excavate an engineering test-pit in the area of Trench 1, this to assess the foundation depth of an adjacent wall which retained the courtyard 'island' to allow for a light-well to serve the basements of the museum buildings. The excavation of this Test pit was then monitored as an alternative to excavating Trench 1.

Trench 2 was cited on the gently-sloping north-eastern side of the courtyard and targeted the rear area of one of the town houses as depicted on the 1850 Ordnance Survey.

Excavation of Test Pit 1 and Trench 2 demonstrated that the courtyard had been established on fill and levelling-up material and that any archaeological deposits had been cleared prior to the construction of the retaining wall associated with the creation of the light-well to the basement. No archaeological deposits or structures were encountered.

1 Introduction

1.1 Project and Planning Background

1.1.1 In December 2018 Archaeological Research Services Ltd (ARS Ltd) was commissioned by Purcells to undertake archaeological evaluation trenching within the entrance courtyard to Manchester Museum accessed from the pedestrianised road named Coupland Street off Oxford Road, Manchester. The proposed development comprises a two storey extension to Manchester Museum (Use D1 – Museum) to create two new galleries including a Special Exhibition Gallery (temporary exhibitions) and South Asia Gallery (house permanent collection) and associated ancillary space, escape stair and bridge link.

1.1.2 Archaeological works were carried out in accordance with Condition 9 of the planning permission (118410/FO/2017) and Condition 6 of Listed Building Consents (118412-LO-2017, 118413-LO-2017, 118414-LO-2017), all of which have the same wording, stating that:

> *"Before the works within the courtyard (including demolition works) to construct the main extension hereby approved commence, the applicant or their agents or their successors in title shall secure 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. The development shall not be occupied until the site investigation has been completed in accordance with the approved WSI."*

1.1.3 A full account of the planning conditions is presented in the approved Written Scheme of Investigation (WSI) for the works (ARS Ltd 2018) (see Appendix IV).

1.2 Site Description

1.2.1 The courtyard is roughly square shaped, bound on its south-eastern side by Coupland Street. The remaining three sides are formed of a light-well/moat (*c.*4m in depth) that serves the basement levels of the existing museum buildings, though an entrance causeway is preserved on the north-western side providing entrance to the museum. The site is centred at NGR: SJ 84500 96640 and is outlined in red on Figure 1 (Appendix II).

1.3 Geology

1.3.1 The underlying solid geology of the site comprises sandstone of the Chester Formation. Sedimentary bedrock formed approximately 247 to 250 million years ago in the Triassic Period when the local environment was dominated by rivers. This is overlain by superficial deposits of Devensian Till – Diamicton; formed up to 2 million years ago in the Quaternary Period when the local environment was dominated by ice age conditions (BGS 2019).

2 Archaeological and Historical Background

2.1 A detailed archaeological and historical background is provided in a Desk-Based Assessment (DBA) issued by the client (Kerr 2017, 19-29). A brief overview, including date ranges quoted in the DBA, is given below with particular focus on the development area.

2.2 The potential for prehistoric (up to AD 43), Roman (AD 43-410) and Early Medieval (AD 410-1066) remains to survive within the development area was considered very low due to the likelihood that later developments would have removed the majority of traces of earlier activity and given the fact that early settlement activity was concentrated in other parts of the city.

2.3 There are no records within the Greater Manchester Historic Environment Record (GMHER) for the medieval period (AD 1066-1499) that relate to the proposed development area (PDA), though it is in this period that 'Cherelton' is first mentioned, developing into the settlement of Chorlton Row by the 16th century, centred on Chorlton Hall. Maps from the post-medieval period (AD 1500-1799) show that the main settlement area was concentrated to the east of Chorlton rather than within the study area of the DBA, whilst the development area was within agricultural land. Hearth Tax Return records for Chorlton from 1666 show that the township of Chorlton-upon-Medlock had a limited size of 49 hearths.

2.4 Oxford Road (originally Oxford Street) was laid out in 1790 and the development area is depicted within agricultural fields adjacent to the road on Charles Laurent's map of Manchester and Salford, 1793 (Kerr 2017, 21). As the population trebled in the first 40 years of the 19th century the new middle-classes began to populate the area of Chorlton-upon-Medlock, moving out of the industrial centre of the city to the suburbs. James Piggot's Map of Manchester and Salford, 1836 (Kerr 2017, 22) depicts the site occupied by a building with front and rear gardens, whilst OC maps dating between 1848 and 1893 (Kerr, 23-25) show a terrace of five properties set back from Oxford Road by individual front gardens. The 1851 OS map provides a further level of detail, naming the buildings as Exmouth Terrace on the north side of Exmouth Street (later renamed Coupland Street). A photograph from 1885 shows that Exmouth Terrace existed as five 3-bayed townhouses with front steps that might suggest that they had basements.

2.5 On the South side of Exmouth (Coupland) Street, buildings labelled as Exmouth Place on the 1851 OS map are no longer present on maps from 1893 due to the establishment of Owen's College in 1873 and an extension to the college in 1882-3 with the construction of the first of Manchester Museum's galleries. Further development of the area into the arly-20th century saw the piecemeal replacement of Exmouth Terrace by the construction of the Museum's Haworth building and its subsequent extensions that framed the north and north-eastern sides of the courtyard by 1927.

3 Aims and Objectives

3.1 Regional Research Aims and Objectives

3.1.1 Research topics identified in *Research and Archaeology of North West England. An Archaeological Research Framework for North West England* (Brennand 2007) for the industrial and modern period urban landscape include the need to excavate urban cellars to examine life 'below stairs' in the middle class house and cellar dwellings and workshops in working class houses (Newman and McNeil 2007, 146-147).

3.2 Evaluation Trenching Aims and Objectives

3.2.1 The aim of the archaeological evaluation was to identify and record the presence/absence, location, nature, extent, survival, quality, significance and date of post-medieval archaeological deposits that might exist within the development area.

3.2.2 The objective of the archaeological evaluation was to gather sufficient evidence to establish, supplement, improve and make available information about the archaeological resource existing within the development area, and to provide an appropriate post-excavation assessment, analysis, reporting, archiving and dissemination.

4 Sequencing of the Works

4.1 The initial WSI for the works proposed the excavation of two targeted trenches:

- Trench 1: orientated north-west/south-east and located on the western side of the courtyard to target a potential garden area to the rear of former 19th century townhouses known as Exmouth Terrace, and
- Trench 2: orientated north-east/south-west and located on the eastern side of the courtyard to target the rear portion of one of the terraces including wall lines of the main house and its rear extension.

4.2 During a pre-commencement site visit (12/11/18) ARS Ltd were informed that an engineering test-pit was to be dug in the vicinity of Trench 1 with a proposed depth of 5m in order to ascertain the depth of the courtyard retaining wall. The visit also enabled the identification that the proposed position of Trench 2 overlapped with the light-well on the eastern side of the courtyard and that the trench needed repositioning.

4.3 In consultation with the Senior Planning Archaeologist of the Greater Manchester Archaeological Advisory Service (GMAAS) it was agreed that excavation of the engineering test-pit might serve as an alternative Trench 1 should it be archaeologically monitored and the underlying sequence of deposits fully recorded. The re-positioning of Trench 2 was also sanctioned, subject to submission of an updated WSI, so that it was on the same orientation as Trench 1, fully within the footprint of the courtyard and targeting the potential rear portion of one of the 19th century townhouses.

4.4 Reduction works on the western side of the courtyard began on the 6th December 2018 with the test pit excavation beginning on the 12th December 2018 but ceasing on the same day when thick concrete foundations were encountered. Removal of the footings and the excavation of the test-pit to its full depth were undertaken with

ARS Ltd not having been informed that works had recommenced and so no archaeological attendance was made during these works. Photographs were sent by the client that showed the made-ground formation of the courtyard 'island', but it was deemed necessary that Trench 2 would need to be excavated to ensure that each side of the courtyard had been appropriately monitored and recorded. Trench 2 was excavated on Wednesday 20th February 2019.

5 Methodology

5.1 The approved WSI (ARS 2018) sets out the methodology that was to be employed during the evaluation trenching (see Appendix IV) and the approved proposed trench plan is shown in Figure 2 (Appendix II). However as works varied, the methodology was adjusted, in consultation with GMAAS, to allow for initial ground reduction works on the western side of the courtyard and the excavation of the Test-pit as an alternative to the proposed Trench 1.

5.2 The engineering test pit that was partially located within the proposed footprint of Trench 1 was mechanically excavated using a 22-tonne, 360° tracked excavator fitted with a wide toothless bucket. A hydraulic pecker was used to remove concrete foundations and the trench was then excavated within the confines of a trenching box to the foundation depth of the courtyard retaining wall. Trench 2 was excavated using a 2.5 tonne mini-digger.

5.3 Modern overburden and any removed materials were stored separately and were visually scanned for artefacts as they were removed. Where trenches were too deep to allow safe access/egress only a photographic record was maintained and depth measurements were taken from the surface.

5.4 All aspects of the archaeological fieldwork followed the Chartered Institute for Archaeologists' *Code of Conduct* (CIfA 2014a) and *Standard and Guidance for an Archaeological Field Evaluation* (CIfA 2014b).

5.5 A risk assessment was undertaken before commencement of the work and all site operations were undertaken in accordance with current Health and Safety Legislation, the ARS Ltd Health and Safety Policy and a site specific induction provided by MBC Building Contractors NW Ltd on behalf of Purcells.

5.6 All aspects of the project were managed on behalf of ARS Ltd by Reuben Thorpe (Senior Project Manager). The evaluation was undertaken in three stages: monitoring of the engineering pit in the vicinity of Trench 1 on the 6th and then the 12th December 2018 followed by Trench 2 on the 20th February 2019. The works were overseen by Ben Dyson (Senior Project Officer) and Dr Rebecca Trow (Project Officer).

6 Results

(Figure 3, Appendix II)

6.1 Introduction

6.1.1 The results presented here should be read in conjunction with the figures in Appendix II and the Attendance Reports in Appendix III. A table of all encountered contexts is presented in Appendix 1.

6.2 Engineering Test-Pit (in the vicinity of proposed Trench 1)

6th December 2018 (See Attendance Report 1 in Appendix III)

6.2.1 Prior to arrival on site the ground-works contractors had lifted the modern flagstone surface of the courtyard revealing a sandy bedding deposit (100) for the flagstones. The precise location of the proposed engineering test-pit was unknown other than it being in the vicinity of Trench 1 on the south-eastern side of the courtyard against the retaining wall. The required trenching-box was not yet on site so the decision was taken to reduce the level of the south-eastern side of the courtyard by 1m in preparation for the arrival of the safety equipment and the marking-out of the engineering test-pit.

6.2.2 Reduction works began close to the north-west corner of the courtyard leaving an access hatch for a manhole and an electric supply hatch in position. The upper layer (100) consisted of up to 0.1m of sharp builder's sand that was the levelling material for the removed slabs. Beneath this was a layer of white/grey construction gravel (Type 1/MOT) (101) that had a thickness of at least 1m. Occasional large blocks of concrete were identified within the gravel that were randomly distributed within the made-ground, though two north-west/south-east oriented concrete ducts were found *in-situ* that were aligned with the drainage manhole and electric access hatch.

6.2.3 At a depth of 1m in the central area of the western side of the courtyard the upper horizon of a red/brown clay layer was encountered (102) that was heavily compacted and contained demolition materials including fragmented modern bricks (machine made and frogged), concrete, wood, wires and other debris. An area measuring roughly 11x8m was reduced down to a depth of 1m below ground level before the ground-workers ran out of room to store spoil (Appendix II Figure 4 and Appendix III Attendance Report Figure 1).

12th December 2018 (See Attendance Report 2 in Appendix III)

6.2.4 At 0.8m below existing ground level a concrete slab (103) was encountered abutting the interior face of the concrete retaining parapet wall around the courtyard. This was 0.2m thick, 1.92m wide and resting on a thin layer of cement, (104), which bonded slab (103) to a lower slab (105). This lower slab was also 0.2m thick and protruded out from beneath slab (103) by 0.76m (Appendix II, Figure 5). This lower slab appeared to be resting on natural clay (114) except in the middle of the trench where it sat on an earlier brickcrete foundation (107). This foundation slab was 0.2m thick and 0.81m wide. A brick wall {106}, constructed of machine made bricks laid in stretcher bond with cementitious mortar ran along the centre of foundation slab (107) but had

been truncated by the insertion of concrete slabs (103) and (105). The construction cut for this wall cut through discoloured clay (114) (Figure 6, Appendix II).

6.2.5 A second similar foundation slab (110) protruded from the south-eastern section of the test pit. This was also of brickcrete, 0.19m thick and protruding by 0.61m from a wall {109} which was built on top of it. The top of brickcrete foundation (110) was 0.17m lower than that of foundation (107). Both 20th century walls were sealed by clay/rubble layer (102) probably representing demolition/construction debris (Figure 7, Appendix II). It is unclear what these walls represent but they are likely associated with an earlier building depicted within the courtyard area on historic mapping up until at least 1992.

6.2.6 Removal of the concrete foundation slabs and brickcrete beams took place the week after ARS Ltd's second attendance on-site. The test pit was excavated down to the footing of the courtyard retaining wall at a depth of around 4m below ground level. The removed ground was formed of disturbed clay with demolition inclusions, coming down onto clean red/brown natural clay. The disturbed clay is likely to be associated with the build-up of the courtyard following the completion of construction of the museum buildings. Figure 8 comprises a number of photographs supplied by MBC Building Contractors NW Ltd following excavation of the test-pit below the concrete slabs and beams observed by ARS Ltd (Appendix II).

6.3 Trench 2

6.3.1 Trench 2 measured 6x4m and was located on the north-eastern side of the courtyard, positioned to target the rear portion of one of the Exmouth Terrace houses as depicted on the 1851 OS map (Figure 3, Appendix II).

6.3.2 At its north-western end the trench was excavated through 30mm of sand bedding (200) for the previously removed flagged surface of the courtyard and up to 0.87m of underlying construction gravel (203). A localised deposit of re-deposited clay containing demolition debris (202) was identified within the gravel (203) which was partially covered by a slumped piece of tarmac (201), but this extended no further than 0.3m into the trench, visible more in section than in plan (Figure 9, Appendix II). Similar to the large concrete inclusions within the gravel that were identified during the initial ground reduction on the south-western side of the courtyard, it is probable that the clay and tarmac are intrusive, mixed into the gravel off-site before being laid down, or during its installation as a bedding deposit.

6.3.3 At a distance of 1.35m into the trench a concrete footing for a north-east to south-west orientated channel drain (204) was encountered. The concrete beam was 0.9m wide and 0.4m deep, carrying a 0.12m wide surface channel formed by two parallel steel walls. The concrete footing was resting on levelling gravel (203) (Figure 10, Appendix II)).

6.3.4 At a depth of 0.9m the upper surface of a level concrete foundation slab (205) was encountered. The depth below ground-level corresponded with the depth of foundation slab (103) from the engineering test-pit and it is likely that the slab was associated with the concrete parapet wall found around the perimeter of the courtyard. Unlike slab (103), concrete surface (205) did not have a visible edge and was encountered across the base of the full area of the trench, though due to the slope of

this side of the courtyard its depth below ground level at the south-eastern extent of the trench was only 0.61m (Figure 11, Appendix II).

6.3.5 In consultation with the Senior Planning Archaeologist of GMAAS, it was agreed that breaking-out of the concrete would only reveal the same sequence of further foundations and made-ground deposits as already recorded in the test-pit and no further archaeological monitoring was deemed necessary.

7 Discussion

7.1 The made-ground deposits identified below modern ground level during the evaluation suggest that the courtyard 'island' is human-made, retained on three sides by 19th century walls that were built in tiers and later capped with the concrete foundations of a concrete perimeter parapet wall. The deep light-well around the perimeter of the courtyard reflects the depth of the construction cut for the basements of the museum buildings.

7.2 The only evidence of structures that predate the modern foundations and bedding deposits for the modern surface were identified in the engineering test-pit. Frogged, red bricks dating to the 20th century were stretcher laid and bonded with cementitious mortar onto two brickcrete beams orientated north-east/south-west. It is possible that these relate to a featureless, unlabelled rectangular structure depicted on the south-east side of the courtyard on maps dating between 1948 and 1992 (Hopkirk, 2017, 73-85).

8 Archiving Statement

8.1 The site has produced no artefacts and the archive consists only of paper and digital records which, for the moment, are stored at the offices of ARS Ltd.

8.2 In lieu of deposition of a full archive, a hard copy and digital version of this report in PDFA format will be deposited with the Greater Manchester Archaeological Advisory Service.

9 Publicity, Confidentiality and Copyright

8.1 Any publicity will be handled by the client. Archaeological Research Services Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

10 Statement of Indemnity

10.1 All statements and opinions contained within this report arising from the works undertaken are offered in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of the report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

11 Acknowledgements

11.1 Archaeological Research Services Ltd would like to thank Purcells for commissioning the work, Manchester Museum for their communication throughout the project and to MBC Building Contractors NW Ltd and Kershaw Civil Engineering Ltd for the implementation of groundworks. In particular thanks are given to Sonoe Shimizu of Purcell for her input during the project design phase, to Sam Johnson of Manchester Museum for her correspondence between periods of fieldwork, to Tom Bunting and Stevie Woods of MBC Building Contractors NW Ltd for their on-site management of the project and to Dan Sackfield of Kershaw Civil Engineering Ltd for his assistance on site during the excavation of Trench 2. Thanks are also given to Andrew Myers of GMAAS for his advice, support and correspondence throughout the project.

12 References

ARS Ltd. 2018. *Archaeological Works at Manchester Museum, Oxford Road, Manchester.* Written Scheme of Investigation. Archaeological Research Services Ltd.

Brennand, M. (ed.) 2007. *Research and Archaeology of North West England. An Archaeological Research Framework for North West England: Volume 2. Research Agenda and Strategy.* Council for British Archaeology North West, Manchester.

British Geological Survey. 2019. http://mapapps.bgs.ac.uk/geologyofbritain/home.html? [Accessed 21st February 2019]

Chartered Institute for Archaeologists (CIfA) 2014a. *Code of Conduct.* Chartered Institute for Archaeologists, Reading.

Chartered Institute for Archaeologists (CIfA) 2014b. *Standard and Guidance for an Archaeological Field Evaluation*. Chartered Institute for Archaeologists, Reading.

Hobkirk, J. 2017. *Manchester Museum Courtyard. Ground Engineering Desk Study Report.* BuroHappold Engineering Ltd.

Kerr, B. 2017. *Manchester Museum Courtyard Archaeology Desk Based Assessment.* Issue 1. Purcell, April 2017.

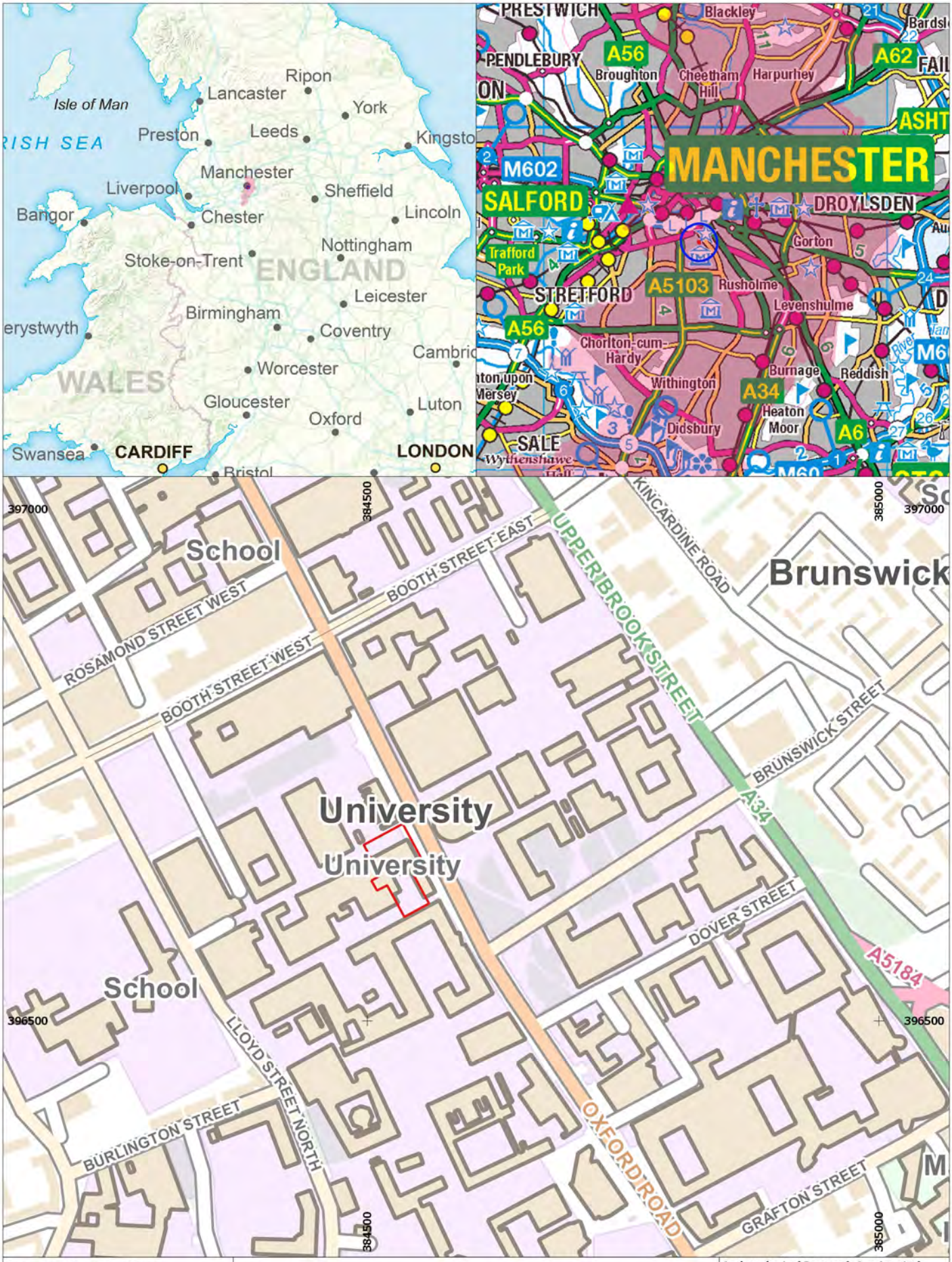
Newman, R. and McNeil, R. 2007. The Industrial and modern Period Research Agenda. In M. Brennand (ed.) *Research and Archaeology in North West England. An Archaeological Research framework for North West England: Volume 2: Research Agenda and Strategy.* Archaeology North West Vol. 9, 133-58.

Appendix I. Context Summary Table.

Trench	Context	Type	Description/Processual Interpretation	**Max. observed dimensions** (d) depth, (w) width, (l) length, (h) height	**Max. depths BGL** (below ground level)
1	(100)	Deposit	Sharp construction sand. Levelling for modern slab surface of courtyard.	0.1m (d), found site wide beneath surface slabs	Ground level to 100mm BGL
	(101)	Deposit	Gravel chippings (MOT/Type1). Deposit of made-ground to build-up the level of the courtyard above foundation slab (103).	1.1m (d)	100mm-1.2m BGL
	(102)	Deposit	Clay/rubble disturbance layer. Possibly associated with demolition and used for the same purpose as (101) to level-up the courtyard.	Observed in plan during initial ground reduction, *c.*4m (l) x2m (w)	1.2m – 1.74m BGL
	(103)	Foundation	Concrete slab (finished surface). Toe of concrete parapet wall that caps the retaining walls and made-ground deposits below.	0.2m (d)	1.2m – 1.4m BGL
	(104)	Deposit	Thin layer of concrete to bond slabs (103) and (105).	0.14m (d)	1.4m – 1.54m BGL
	(105)	Foundation	Concrete slab (unfinished surface). Used as the primary foundation for slab (103).	0.2m (d)	1.54m – 1.74m BGL
	{106}	Wall	NE/SW wall. Machine-made red bricks with cement mortar, stretcher bond, built off brickcrete footing beam (107). 4 courses, 2 skins.	0.21m (w) x 0.75m (l) x 0.31m (h)	1.74m – 2.05m BGL
	(107)	Footing	Brickcrete foundation beam for wall {106}.	0.81m (w) x 0.2m (d)	2.05m – 2.25m BGL
	[108]	Cut	Construction cut for footing (107) and wall {106}. Cut through disturbed, potentially redeposited clay (114).	0.81m (w) x 0.51m (d)	1.74m – 2.05m BGL
	{109}	Wall	NE/SW wall seen in SE facing section of engineering test pit. Machine-made red bricks with cement mortar, stretcher bond built off brickcrete footing beam (110). 7 courses, 1 skin visible.	0.75m (l) x 0.55m (h)	1.74m – 2.49m BGL
	(110)	Footing	Brickcrete foundation beam for wall {109}.	0.21m (d)	2.49m – 2.7m BGL
	[111]	Cut	Construction cut for footing (110) and wall {109}. Cut through natural clay (114).	0.76m (d)	1.74m – 2.7m BGL

Trench	Context	Type	Description/Processual Interpretation	**Max. observed dimensions** (d) depth, (w) width, (l) length, (h) height	**Max. depths BGL** (below ground level)
	(112)	Fill	Rubble/clay backfill of cut [108].	0.81m (w) x 0.51m (d)	1.74m – 2.05m BGL
	(113)	Fill	Rubble/clay backfill of cut [111].	0.76m (d)	1.74m – 2.7m BGL
	(114)	Discoloured clay	Disturbed, potentially redeposited clay associated with intentional build-up of courtyard after museum construction (114). Base not encountered on site but seen in photos from client after full excavation of test-pit. Overlies stiff red/brown natural clay.	*c.*2.75m (d)	2.25m – *c.*5m BGL
2	(200)	Deposit	Sharp construction sand. Levelling for modern slab surface of courtyard.	30mm (d) , found site wide beneath surface slabs	Ground level – 30mm BGL
	(201)	Deposit	Slumped tarmac inclusion within gravel (203), partially covering clay deposit (202).	0.7m (w), 90mm (d)	30mm – 120mm BGL
	(202)	Deposit	Re-deposited clay with demolition debris inclusions identified within gravel (203).	0.4m (d)	30mm – 0.43m BGL
	(203)	Deposit	Gravel chippings (MOT/Type1). Deposit of made-ground to build-up the level of the courtyard above foundation slab (205).	0.61-0.9m (d)	30mm – 0.93m BGL
	(204)	Footing	Concrete beam footing carrying NE/SW surface channel drain.	4m (l) x 0.87m (w) x 0.27m (d)	Ground level – 0.27m BGL
	(205)	Foundation	Concrete slab (finished surface). Toe of concrete parapet wall that caps the retaining walls and made-ground deposits below.	Only the surface was revealed.	0.93m BGL

Appendix II. Figures.



Site name: Manchester Museum
Date: September 2018
Drawn by: BD
Scale: Varies

Figure 1:
Site location

N

Site Boundary

Manchester City Council

Archaeological Research Services Ltd

Suite 1
First Floor
Dunham House
Cross Street
Sale
M33 7HH

Tel: 01619 762544

www.archaeologicalresearchservices.com

Figure 2

Trench location plan overlain onto the 1851 OS map.

Scale: As shown

Site boundary with position of courtyard indicated in yellow

Areas of the courtyard available for trenching

Trench 1: 10m x 2m

Trench 2: 6m x 4m

Approximate location of 5m deep test pit (somewhere within hatched box)

N

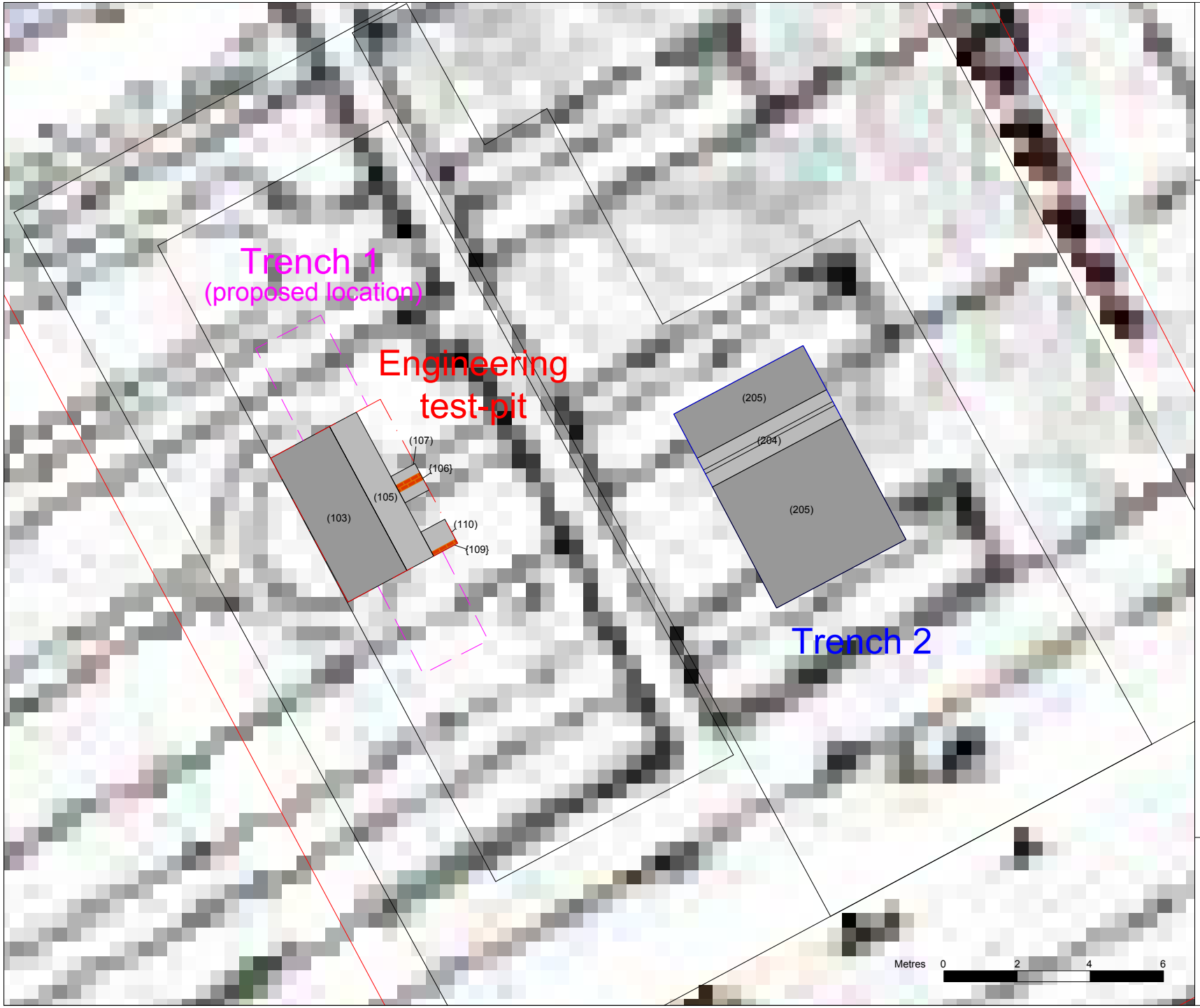


Figure 3

Post-excavation plan showing the locations of trenches and identified surfaces/foundations. Overlain onto the 1851 OS map.

Scale: As shown.

Figure 4. Overview of the south-western area of the courtyard following reduction of the modern ground surface by 1m. Looking south-east.

Figure 5. Foundation slab (103) for parapet wall around the courtyard, overlying lower slab (105) Found prior to excavation of the engineering test-pit. Looking south-west.

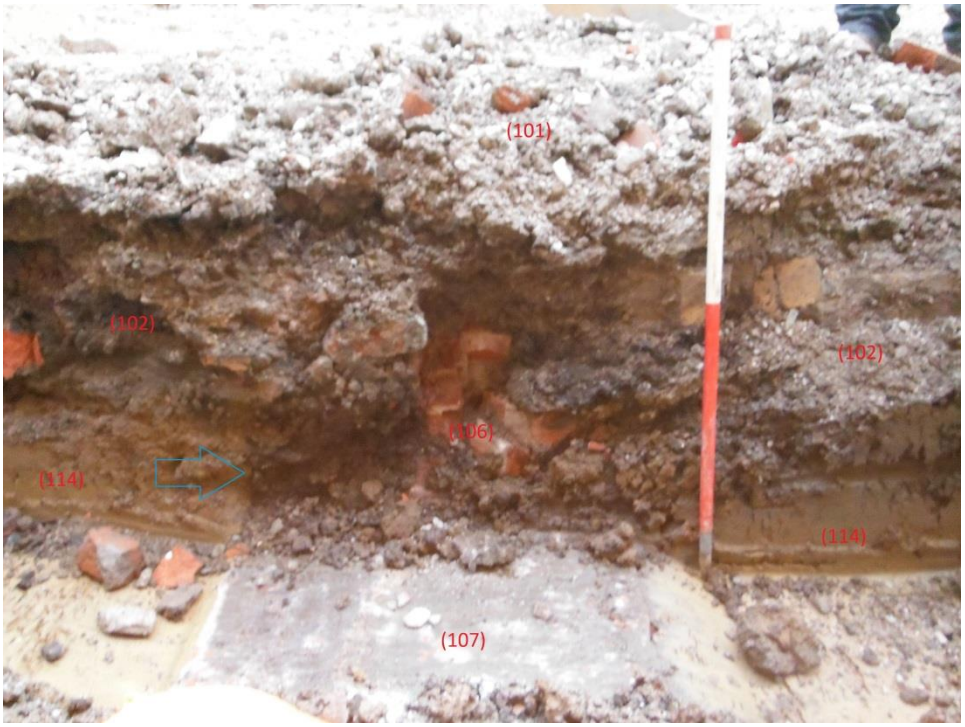


Figure 6. South-west facing section (annotated) showing wall (106) on foundation beam (107) within construction cut [108] (blue arrow). Construction is cut through natural clay (114). Scale: 1m.

Figure 7. Oblique view of the south-west facing section during excavation of the engineering test-pit. Concrete slabs (103) and (105) visible in foreground. Brickcrete beam (107) and wall (106) visible in the centre. Wall (109) on concrete beam (110) visible on the right hand side of the photograph (south-east end of test-pit.

Removal of upper slab (103)

Removal of lower slab (105)

Stepped foundation of courtyard retaining wall, cut through and overlying natural clay

Depth of test-pit following removal of concrete slabs, made-ground deposits and natural clay to expose foot of wall

Figure 8. Excavation of the engineering test-pit after removal of the upper parapet wall foundations. Photographs supplied by MBC Building Contractors NW Ltd.

Figure 9. South-east facing section of Trench 2 showing re-deposited tarmac (201) and clay backfill (202) within the gravel levelling deposit (203) found over concrete slab (205). Scale: 2x1m.

Figure 10. Concrete beam (204) carrying surface channel drain north-east/south-west across the courtyard. Scale: 2x1m.

Figure 11. Trench 2, post-excavation. Slab (205) visible across the base of the entire trench. Scale: 2x1m.

Appendix III. Attendance Reports.

Statement of Attendance, 1

Manchester Museum Courtyard, Test Pit, 6/12/18

Ben Dyson

1.1 I attended Manchester Museum on Thursday 6th December 2018 on the understanding that a 5m deep test pit would be excavated in the south-west corner of the courtyard in order to ascertain the depth of the foundations of the light-well retaining wall and to gain insight into the make-up of the ground that forms the courtyard island.

1.2 Following induction I was informed that due to the ground-workers having not taken delivery of a trenching-box the 5m deep test pit was not going to be excavated and that the digger driver was under the impression that we would be doing a 500mm (0.5m) dig over the areas of the two proposed trenches as depicted on Figures 2 and 3 of the WSI produced by ARS Ltd.

1.3 I rang Reuben to explain this and then spoke with the site manager, Daryl Mullett, to explain that a 0.5m dig might not serve any purpose as any surviving archaeology might well be deeper down. Daryl contacted his project manager, Tom Bunting, to find out where the confusion had come from. Tom explained that the digger driver was only on site to initiate a ground reduction on the west side of the courtyard, preparing for the test-pit dig that would happen in the week commencing 10-12-18.

1.4 Reuben suggested I ring GMAAS to explain the circumstances. Andy Myers and Norman Redhead were not available so I spoke with Lesley Dunkley and she agreed that a watching brief approach during the initial ground reduction would serve as suitable archaeological monitoring and that if any archaeology was encountered then works would cease until a new methodology was agreed.

1.5 Reduction works began in the north-west corner of the courtyard where paving slabs had already been removed; leaving an access hatch for a manhole and electric supply in position. We had been informed of slab removal prior to our attendance. The upper layer (100) consisted of up to 0.1m of sharp builder's sand that was the levelling material for the removed slabs. Beneath this was a layer of white/grey construction gravel (Type 1/MOT) (101) that had a thickness of at least 1m. Occasional large blocks of concrete were identified within the gravel that were randomly distributed within the made-ground, though two north-west/south-east oriented concrete ducts were found *in-situ* that were aligned with the drainage manhole and electric access hatch.

1.6 At a depth of 1m in the central area of the western side of the courtyard the upper horizon of a red/brown clay layer was encountered (102) that was heavily compacted and contained demolition materials including fragmented modern bricks (machine made and frogged), concrete, wood, wires and other debris. An area measuring roughly 11x8m was reduced down to a depth of 1m below ground level before the ground-workers ran out of room to store spoil. Work will continue in this area with the excavation of the deep test pit after the removal of the current spoil pile and a trenching-box has been delivered.

1.7 A basic site plan showing the main areas of work is shown in Figure 1.

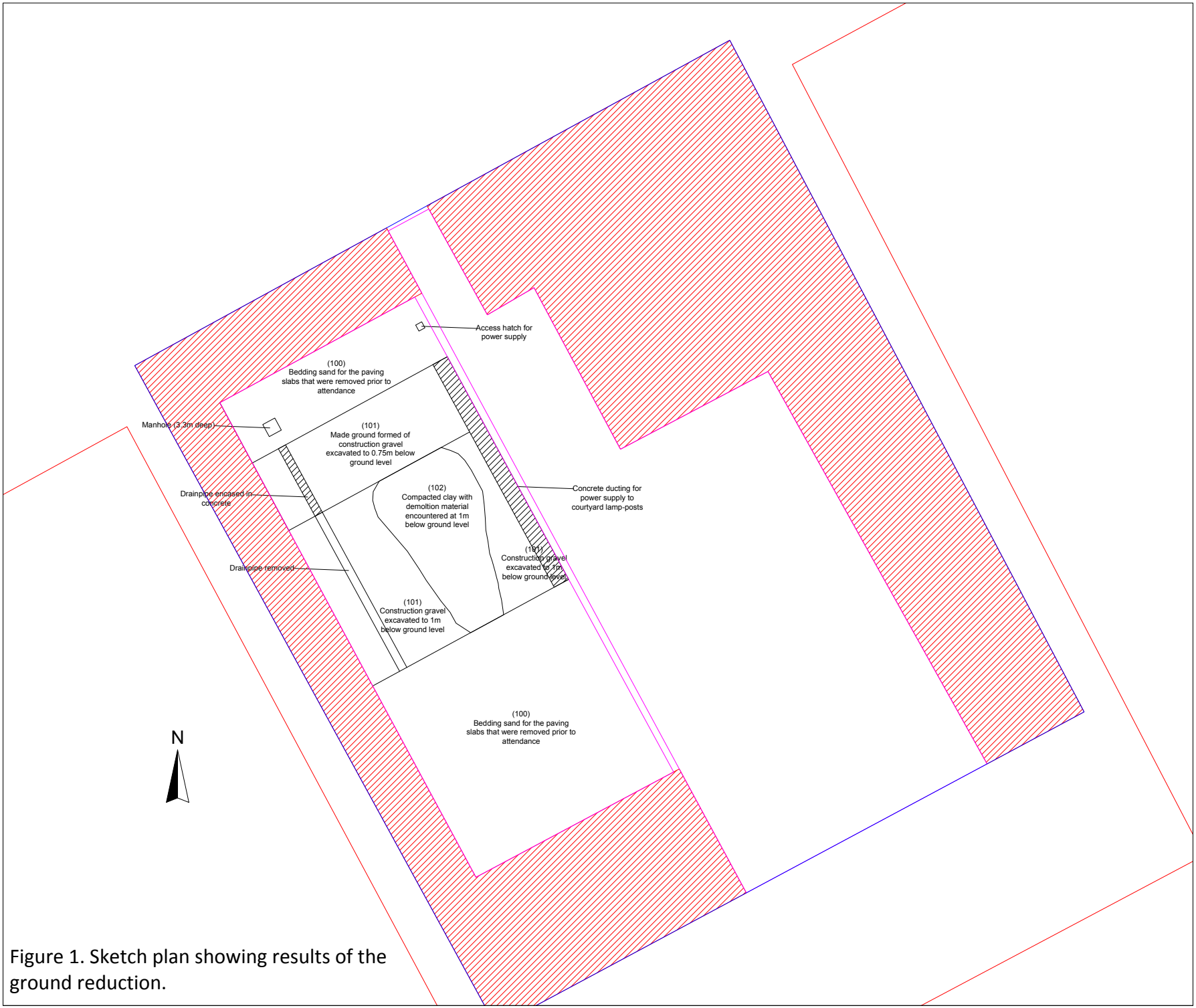


Figure 1. Sketch plan showing results of the ground reduction.

Statement of Attendance, 2

Manchester Museum Courtyard, Test Pit, 12/12/18

Rebecca Trow

1.1 The excavation of an exploratory test pit to ascertain the depth of the retaining wall for the cellar light running around the courtyard was observed. The test pit was located on the south-western side of the courtyard. On arrival at the site the MOT overburden (101) had already been largely removed under the supervision of Ben Dyson on 6/12/18.

1.2 At 0.8m below existing ground level a concrete slab (103) was encountered abutting the interior face of the concrete retaining wall around the courtyard. This was 0.2m thick, 1.92m wide and resting on a thin layer of cement, (104), which bonded slab (103) to a lower slab (105). This lower slab was also 0.2m thick and protruded out from beneath slab (103) by 0.76m. This slab appears to be resting on natural clay (114) except in the middle of the trench where it rests on an earlier brickcrete foundation (107). This foundation slab is 0.2m thick and 0.81m wide. A brick wall {106}, constructed of machine made bricks laid to a stretcher bond with cementitious mortar ran along the centre of this foundation slab but had been truncated by the insertion of the concrete slabs. The construction cut for this wall was through natural clay. A second similar foundation slab (110) protruded from the south-eastern section of the test pit. This was also of brickcrete, 0.19m thick and protruding by 0.61m from a wall {109} which was built on top of it. The top of foundation (110) was 0.17m lower than that of foundation (107). Both walls were sealed by a clay/rubble layer (102) probably representing demolition/construction debris. It is unclear what these walls represent but they are likely associated with earlier buildings within the courtyard area shown on historic mapping up until at least 1992.

1.3 No pre-20th century remains were observed within the test pit. The test pit was located in an area that had previously been occupied by gardens, likely leaving ephemeral traces in the archaeological record. Any such remains have likely been obscured by later construction work on the site. The excavation of the test pit cannot inform the likelihood of survival of cellars in the area of the planned evaluation trench 2 on the opposite side of the courtyard. If the made-ground and demolition layers are of a similar depth across the courtyard then there is a good chance that remains associated with the cellars may be encountered, depending on the degree of ground reduction that has previously taken place in the courtyard area.

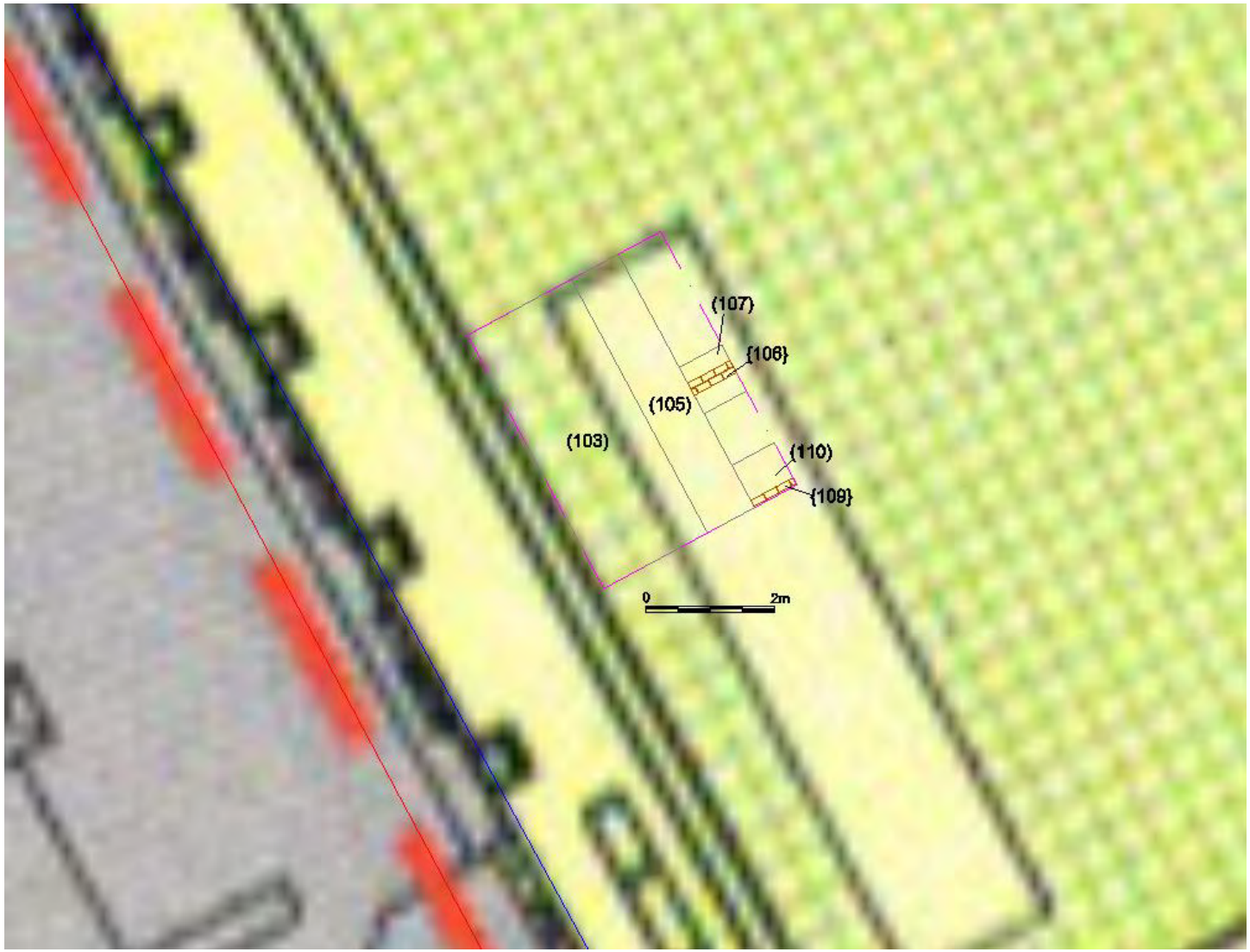


Figure 1. Plan showing location of test pit and features within it. Existing building is shown in grey.

Figure 2. Concrete slabs (103) and (105) looking south.

Figure 3. South-west facing section showing brickcrete foundation (107) with wall (106) above and wall (109) on the right, both sealed by clay/rubble overburden (102).

Appendix IV. Written Scheme of Investigation (WSI)

Archaeological Works at Manchester Museum, Oxford Road, Manchester

Written Scheme of Investigation

November 2018

Suite 1, First Floor, Dunham House, Cross Street, Sale, M33 7HH

www.archaeologicalresearchservices.com

Prepared on behalf of:	Purcell
Compiled by:	Ben Dyson ACIfA
Planning Reference:	118410/FO/2017
Listed Building Consent Refs.:	118412-LO-2017,
	118413-LO-2017,
	118414-LO-2017
Local Authority:	Manchester City Council
Site central NGR:	SJ 84500 96640

1 INTRODUCTION

1.1 Project Background

1.1.1 This Written Scheme of Investigation (WSI) has been prepared by Archaeological Research Services Ltd (ARS Ltd) for Purcell (the client). It details a scheme of works relating to the proposed development at Manchester Museum, Oxford Road, Manchester, M13 9PL. The development comprises a two storey extension to Manchester Museum (Use D1 - Museum) to create two new galleries including a Special Exhibition Gallery (temporary exhibitions) and South Asia Gallery (house permanent collection) and associated ancillary space, escape stair and bridge link.

1.1.2 Planning permission (118410/FO/2017) and Listed Building Consents (118412-LO-2017, 118413-LO-2017 and 118414-LO-2017) have been granted for the proposed development by Manchester City Council. Condition 9 of the planning permission and Condition 6 of the Listed Building Consents (all with the same wording) require that:

> *"Before the works within the courtyard (including demolition works) to construct the main extension hereby approved commence, the applicant or their agents or their successors in title shall secure 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. The 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 site investigation and recording to include:*
> *- Targeted field evaluation trenching*
> *- (Depending upon the above) more detailed targeted open area excavation and recording*
>
> *(b) A programme for post investigation assessment to include:*
> *- Production of a final report on the significance of the below ground archaeological and historical interest represented.*
>
> *(c) Deposition of the final reports on the site investigation with the Greater Manchester Historic Environment Record.*
>
> *(d) Provision for archive deposition of the report, finds 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."*

1.1.3 This document has been prepared by ARS Ltd in accordance with the guidance provided by the Greater Manchester Archaeological Advisory Service (GMAAS)'s Senior Planning Archaeologist (Roberts 2018). It describes the objectives

and methods to be employed and has been approved, in final issue form, by GMAAS's Senior Planning Archaeologist.

1.1.4 The archaeological works will be carried out in accordance with *National Planning Policy Framework (NPPF)* paragraph 199 (Ministry of Housing, Communities and Local Government 2018, 56) to record and enhance understanding of the significance of any heritage assets to be lost during the proposed development in a manner proportionate to their importance, and to make this evidence (and any archive generated) publically accessible.

2 BACKGROUND

2.1 Site Location and Geology

2.1.1 Manchester Museum is located to the south of Manchester City Centre in Chorlton-on-Medlock. The museum site is bound to the north-east by Oxford Road, to the north-west by Bridgeford Street, to the south-east by Burlington Street and to the south-west by Manchester University buildings.

2.1.2 The proposed development area (hereafter PDA) is currently an open courtyard adjacent to Manchester Museum, bound on its south-eastern side by Coupland Street. The remaining three sides are formed of a light-well/moat (*c.*4m in depth) that serves the basement levels of the existing museum buildings, though an entrance causeway is preserved on the north-western side providing entrance to the museum. The original 1885 museum building is located further to the south. To the north-east is the 1911 Haworth building and its 1913 extension, and to the north-west is the 1927 building that houses the museum entrance. The site is centred at NGR SJ 84500 96640 (Figure 1).

2.1.3 The underlying solid geology comprises the Chester Formation – Sandstone. Sedimentary bedrock formed approximately 247 to 250 million years ago in the Triassic Period when the local environment was dominated by rivers. This is overlain by superficial deposits of Devensian Till – Diamicton, formed up to 2 million years ago in the Quaternary Period when the local environment was dominated by ice age conditions (BGS 2018).

2.2 Archaeological and Historical Background

2.2.1 A detailed archaeological and historical background is provided in a Desk Based Assessment provided by the client (Kerr 2017, 19-29). A brief overview, including date ranges quoted in the DBA, is given below with particular focus on the PDA

2.2.2 The potential for prehistoric (up to AD 43), Roman (AD 43-410) and Early Medieval (AD 410-1066) remains to survive within the PDA is considered very low due to the likelihood that later developments would have removed the majority of traces of earlier activity and given the fact that early settlement activity was concentrated in other parts of the city.

2.2.3 There are no records within the Greater Manchester Historic Environment Record (GMHER) for the medieval period (AD 1066-1499) that relate to the PDA,

though it is in this period that 'Cherelton' is first mentioned, developing into the settlement of Chorlton Row by the 16th century, centred on Chorlton Hall. Maps from the post-medieval period (AD 1500-1799) show that the main settlement area was concentrated to the east of Chorlton rather than within the study area of the DBA whilst the PDA was within agricultural land. Hearth Tax Return records for Chorlton from 1666 show that the township of Chorlton-upon-Medlock had a limited size of 49 hearths.

2.2.4 Oxford Road (originally Oxford Street) was laid out in 1790 and the PDA is depicted within agricultural fields adjacent to the road on Charles Laurent's map of Manchester and Salford, 1793 (Kerr 2017, 21). As the population trebled in the first 40 years of the 19th century the new middle-classes began to populate the area of Chorlton-upon-Medlock, moving out of the industrial centre of the city to the suburbs. James Piggot's Map of Manchester and Salford, 1836 (Kerr 2017, 22), depicts the site occupied by a building with front and rear gardens, whilst OS maps dating between 1848 and 1893 (Kerr 2017, 23-25) show a terrace of 5 properties set back from Oxford Road by individual front gardens. The 1851 OS map provides a further level of detail, naming the buildings as Exmouth Terrace on the north side of Exmouth Street (later renamed Coupland Street). A photograph from 1885 shows that Exmouth Terrace existed as five 3-bayed townhouses with front steps that might suggest that they had basements.

2.2.5 On the south side of Exmouth (Coupland) Street, buildings labelled as Exmouth Place on the 1851 OS map are no longer present on maps from 1893 due to the establishment of Owen's College in 1873 and an extension to the college in 1882-3 with the construction of the first of the Manchester Museum's galleries. Further development of the area into the early 20th century saw the piecemeal replacement of Exmouth Terrace by the construction of the Museum's Haworth building and its subsequent extensions that framed the north and north-eastern sides of the courtyard of the PDA by 1927.

2.3 Regional Research Aims and Objectives

2.3.1 Research topics identified in the *Research and Archaeology of North West England. An Archaeological Research Framework for North West England* (Brennand 2007) for the industrial and modern period urban landscape include the need to excavate urban cellars to examine life 'below stairs' in the middle class house and cellar dwellings and workshops in working class houses (Newman and McNeil 2007, 146-147).

2.4 Evaluation Trenching Aims and Objectives

2.4.1 The aim of the archaeological evaluation is to identify and record the presence/absence, location, nature, extent, survival, quality, significance and date of post-medieval archaeological deposits that might exist within the PDA.

2.4.2 The objective of the archaeological evaluation is to gather sufficient evidence to establish, supplement, improve and make available information about the archaeological resource existing within the PDA, and to provide an appropriate post-excavation assessment, analysis, reporting, archiving and dissemination.

3 EVALUATION TRENCHING METHODOLOGY

3.1 Coverage

3.1.1 Following results of geotechnical site investigation work undertaken on site (Sirius 2017) it is understood that concrete in the base of the light-well that surrounds the courtyard overlies undisturbed natural ground and that the 4m depth of the light-well will have removed any archaeological remains located there. It is on the main 'island' of the courtyard therefore that the excavation of two trenches has been proposed (Trench 1 measuring 10m by 2m; Trench 2 measuring 6m x 4m), in order to test the nature of the 'made-ground' identified by the site investigations.

3.1.2 Figure 2 shows the trenches located in relation to a modern plan of the site whilst Figure 3 shows the trenches overlain onto historic mapping. Trench 1 is located over the area of the rear gardens of Exmouth Terrace which are depicted on the 1851 OS map as having curving pathways within them. Trench 2 is located across the rear portion of the south-easternmost house of Exmouth Terrace, located so as to identify any surviving wall lines and floor surfaces.

3.1.3 Following a meeting on site (12th November 2018) it is understood that a *c.*5m deep test pit is to be excavated on the south-western side of the courtyard in the vicinity of Trench 1 in order to test the foundation depth of the light-well retaining wall. After consultation with the Senior Planning Archaeologist at GMAAS it has been agreed that monitoring of this test-pit might serve as a suitable replacement for Trench 1 if observation below ground level proves that the island is constituted of non-archaeological deposits brought in to make up the island after construction of the museum buildings. The necessity of Trench 2 might also be negated at this point, but if archaeological features or deposits are revealed during the excavation of the test-pit, or results are inconclusive, excavation of the remainder of Trench 1 and Trench 2 will need to proceed.

3.1.4 Depending on the results of the trenching, targeted open area excavation may also be requested by the GMAAS Senior Planning Archaeologist, which would be the subject of an Addendum to this WSI. The proposed methodology of this scheme of works is as follows.

3.2 Staffing and timetabling

3.2.1 The Project Manager for the watching brief will be Tony Brennan, Operations Manager at ARS Ltd. The Fieldwork Project Officer will be Ben Dyson ACIfA, Senior Project Officer at ARS Ltd, or Rebecca Trow ACIfA, Project Officer at ARS Ltd.

3.2.2 Specialist analyses will be carried out by appropriately qualified specialists as detailed subject to availability.

- Flint and prehistoric pottery: Dr Robin Holgate MCIfA
- Romano-British pottery: Dr Phil Mills MCIfA
- Samian Ware: Dr Gwladys Monteil

- Romano-British small finds: Alex Croom
- Medieval and post-medieval pottery: Dr Chris Cumberpatch or Dr Robin Holgate MCIfA
- Medieval and post-medieval clay pipes, glass and metalwork: Mike Wood MCIfA
- Plant macrofossils and charcoals: Luke Parker
- Human and animal bone: Milena Grzybowska
- Radiocarbon dating: Prof Gordon Cook (SUERC)
- Finds conservation: Vicky Garlick (Durham University)

3.2.3 The proposed timetable for the work is as follows:

Task	**Proposed commencement date**
Evaluation trenching	Late November 2018
Reporting	December 2018

3.3 Methodology

3.3.1 The evaluation trenching will be carried out in accordance to the guidance laid out in CIfA's *Code of Conduct* (2014a) and *Standards and Guidance for Archaeological Field Evaluation* (2014b). The site will be recorded in accordance with ARS Ltd's field recording manual and single context recording system, and will include as a minimum context record sheets, an accurate site plan and record photography where no archaeological features are present.

3.3.2 Hardstanding, unstratified modern material and topsoil will be removed mechanically by a machine using a wide toothless ditching bucket, under continuous archaeological supervision. The topsoil or recent overburden will be removed down to the first significant archaeological horizon in successive level spits. No machinery will track over areas that have previously been stripped until the area has been signed off by ARS Ltd.

3.3.3 The areas will be appropriately cleaned using hand tools in order to expose the full nature and extent of archaeological features and deposits

3.3.4 All spoil removed during groundworks will be scanned visually to recover small finds. Any finds so recovered will be recorded and their location noted on a site plan at a relevant scale. The finds will be retained and recorded.

3.3.5 All archaeological features will be planned and sectioned as a minimum objective.

3.3.6 Isolated, discrete features such as pits and postholes not belonging to structures or industrial activities will be 50% sampled, although if they produce artefacts then provision is made for full excavation.

3.3.7 Sampling of linear features such as ditches or gullies will be sufficient to determine the character, stratigraphy and relationship to other features and attempts made to obtain dating evidence.

3.3.8 Any deposits relating to funerary/ritual activities, such as burials and cremation deposits will be 100% excavated. Domestic/industrial activity (such as walls, postholes, floors, hearths) will be sufficiently excavated to understand their form and function and to recover potential dating evidence and artefact and ecofact assemblages.

3.3.9 Area deposits, such as buried soils, or middens, will be hand excavated at a minimum 10%. Subsequent excavation by machine will be considered. Large intrusions, such as reservoirs, will be sufficiently excavated by machine, within safe limits, to provide information on their character.

3.3.10 Limited representative samples of bricks from brick-built structures, and selective products of the brick working process will be retained for specialist analysis where appropriate.

3.3.11 Any human remains discovered will initially be left *in-situ* and, if removal is deemed necessary, this will be undertaken in accordance with the relevant Ministry of Justice regulations and in discussion with GMAAS.

3.3.12 Finds of "treasure" will be reported to the Coroner in accordance with the Treasure Act procedures.

3.3.13 For deposits that have potential for providing environmental or dating evidence, a minimum of 40 litres of sample will be taken, or 100% if the sample is smaller. This material will be floated and passed through graduated sieves, the smallest being a 500µ mesh. Should other types of environmental deposits be encountered, appropriate specialist advice will be sought and an appropriate sampling strategy devised. Samples will be assessed by a suitable specialist with provision for further analysis as required and in accordance with *Environmental Archaeology: A Guide to the Theory and Practice Methods, from sampling and recovery to post excavation* (Campbell *et al*. 2011). Advice from the Historic England Regional Science Adviser will be taken as appropriate.

3.3.14 All staff employed on the project will be suitably qualified and experienced for their respective project roles and have practical experience of archaeological excavation and recording. All staff will be made aware of the archaeological importance of the area surrounding the site and will be fully briefed on the work required by this specification. Each member of staff will be fully conversant with the aims and methodologies of the evaluation and will be given a copy of this WSI to read.

3.3.15 All site operations will be carried out in a safe manner in accordance with ARS Ltd's health and safety policy. Deep sections, such as those across ditches or pits, will be shored as necessary. A risk assessment will be prepared before commencement on site.

3.4 Recording

3.4.1 The site will be accurately tied into the National Grid and located on a 1:2500 or 1:1250 map of the area. The site will be recorded in accordance with the ARS Ltd's field recording manual and single context recording system, and will include as a minimum context record sheets, an accurate site plan and record photography where no archaeological features are present.

3.4.2 A full and proper record (written, graphic and photographic as appropriate) will be made for all work, using pro-forma record sheets and text descriptions appropriate to the work. Accurate scale plans and section drawings will be drawn where required at 1:50, 1:20 and 1:10 scales, as appropriate. In addition to relevant illustrations, provision for rectified photographic recording shall be made, if deemed necessary.

3.4.3 The stratigraphy of the site will be recorded even where no archaeological deposits have been identified.

3.4.4 All archaeological deposits and features will be recorded with above ordnance datum (AOD) levels.

3.4.5 A photographic record of all contexts will be taken using a digital camera, and will include a clearly visible, graduated metric scale. A register of all photographs will be kept. A selection of working shots will be taken to demonstrate how the site was investigated and what the prevailing conditions were like during excavation.

3.5 Finds Processing and Storage

3.5.1 All finds processing, conservation work and storage of finds will be carried out in accordance with the CIfA (2014c) *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* and the UKIC (1990) *Guidelines for the Preparation of Archives for Long-Term Storage.*

3.5.2 Artefact collection and discard policies will be appropriate for the defined purpose.

3.5.3 Bulk finds which are not discarded will be washed and, with the exception of animal bone, marked. Marking and labelling will be indelible and irremovable by abrasion. Bulk finds will be appropriately bagged, boxed and recorded. This process will be carried out no later than two months after the end of the excavation.

3.5.4 All small finds will be recorded as individual items and appropriately packaged (e.g. lithics in self-sealing plastic bags and ceramic in acid-free tissue paper). Vulnerable objects will be specially packaged and textile, painted glass and coins stored in appropriate specialist systems. This process will be carried out within two days of the small find being excavated.

3.5.5 During and after the excavation all objects will be stored in appropriate materials and storage conditions to ensure minimal deterioration and loss of information (including controlled storage, correct packaging, and regular monitoring, immediate selection for conservation of vulnerable material). All storage will have appropriate security provision.

3.5.6 The deposition and disposal of artefacts will be agreed with the legal owner and the recipient museum prior to the work taking place. All finds except treasure trove are the property of the landowner.

3.5.7 All retained artefacts and ecofacts will be cleaned and packaged in accordance with the requirements of the recipient museum, in this case the Museum of Science and Industry, Manchester.

3.6 Report

3.6.1 A report shall be produced to include background information, a summary of the works carried out and a description and interpretation of the findings. The report will also include the following.

- A non-technical summary
- Introduction
- Geological and topographical setting
- Methodology
- Discussion of archaeological and historical background
- Discussion on the results of the evaluation
- Specialist descriptions of artefacts or ecofacts
- An indication of potential archaeological deposits not disturbed by the present development
- Conclusions and recommendations
- Sources
- Copy of brief
- A location plan showing all excavated areas with respect to nearby fixed structures and roads
- Illustrations of all archaeological features with appropriately scaled hachured plans and sections.

3.6.2 One bound copy of the final report with a digital copy of the report in PDF/A format on disk will be deposited with the Greater Manchester Historic Environment Record (HER). A copy of the report will be uploaded as part of the OASIS record (see below) for online access via the Archaeological Data Service.

4 Monitoring Arrangements

4.1 At least two weeks prior notice of the commencement of the archaeological works will be given to GMAAS:

Dr Andrew Myers
Senior Planning Archaeologist
Greater Manchester Archaeological Advisory Service
School of Environment & Life Sciences

Room LG20
University of Salford
The Crescent
Salford, M5 4WX
Tel: 0161 295 6917

4.2 The client will afford reasonable access to GMAAS's Senior Planning Archaeologist, or their representative, for the purpose of monitoring the archaeological works. ARS Ltd will liaise with GMAAS at regular intervals throughout the course of the work.

5 ARCHIVE DEPOSITION

5.1 Deposition Guidelines

5.1.1 The archive will, if possible, be prepared and deposited with a suitable repository museum, i.e. the Museum of Science and Industry, Manchester. The archive will be deposited in line with the CIfA (2014d) *Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives* and Society of Museum Archaeologists (SMA) (1993) *Selection, Retention, and Dispersal of Archaeological collections: Guidelines for use in England, Wales and Northern Ireland.*

5.1.2 A digital and paper archive will be prepared by ARS Ltd, consisting of all primary written documents, plans, sections, photographs and electronic data. The archive will be deposited within two months of the completion of the report. GMAAS will be notified and the Museum Curator will be notified in writing on completion of the fieldwork with projected dates for the completion of the report and deposition of the archive. The date of the deposition of the archive will be confirmed in the report and GMAAS informed in writing on final deposition of the archive.

5.1.3 All artefacts and associated material will be cleaned, recorded, properly stored and deposited in the archive (see above).

5.1.4 A full set of annotated, illustrative pictures of the site will be supplied to the Greater Manchester HER and deposited with the archive as digital images on a CD ROM.

5.2 OASIS

5.2.1 At the start of work an OASIS online record http://ads.ahds.ac.uk/project/oasis/ will be initiated and key fields completed on Details, Location and Creators forms. All parts of the OASIS online form will be completed for submission to the Greater Manchester HER. This will include an uploaded .pdf version of the entire report (a paper copy will also be included in the archive).

6 GENERAL ITEMS

6.1 Health and Safety

6.1.1 All work will be carried out in accordance with The Health and Safety at Work Act 1974. Specific health and safety policies exist for all our workplaces and all staff employed will be made aware of the policy and any relevant issues. The particular risks involved with this project will be assessed, recorded and relevant mitigation measures put in place as part of a full risk assessment, which will be compiled in advance of fieldwork and will be read and signed by all on-site operatives. ARS Ltd retains Citation as its expert health and safety consultants and the appointed Health and Safety Officer for the company is Tony Brennan.

6.2 Insurance Cover

6.2.1 ARS Ltd has full insurance cover for employee liability (£10 million) public liability (£5 million), professional indemnity (£5 million) and all-risks cover.

6.3 Community Engagement and Outreach

6.3.1 Any opportunities will be sought for engaging the local community in any archaeological findings, for example a guided site tour and/or dissemination of information via ARS Ltd's website and local media.

6.4 Publication

6.4.1 If significant architectural, historical and/or archaeological findings are made during the course of the building recording exercise, a summary of the project with, if appropriate, selected drawings, illustrations and photographs will be prepared for publication. The requirement for, and the final form of, any publication arising from the project will be agreed with the GMAAS Senior Planning Archaeologist and the client dependent on the results of the fieldwork.

6.5 Changes to the Written Scheme of Investigation

6.5.1 Changes to the approved Written Scheme of Investigation or programme of works will only be made with prior written approval of GMAAS.

7 REFERENCES

Brennand, M. (Ed). 2007. *Research and Archaeology of North West England. An Archaeological Research Framework for North West England: Volume 2. Research Agenda and Strategy.* Council for British Archaeology North West, Manchester Vol 9.

British Geological Survey. 2018. Geology of Britain viewer. Available online at: http://mapapps.bgs.ac.uk/geologyofbritain/home.html? [Accessed 11th September 2018].

Campbell, G, Moffett, L and Straker, V. 2011 *Environmental Archaeology. A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (2nd edn). Portsmouth: Historic England.

Chartered Institute for Archaeologists. 2014a. *Code of Conduct.* Reading: Chartered Institute for Archaeologists.

Chartered Institute for Archaeologists. 2014b. *Standards and Guidance for Archaeological Field Evaluation.* Reading: Chartered Institute for Archaeologists.

Chartered Institute for Archaeologists. 2014c. *Standards and Guidance for the collection, documentation, conservation and research of archaeological materials.* Reading: Chartered Institute for Archaeologists.

Chartered Institute for Archaeologists. Revised 2014d. *Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives.* Reading: Chartered Institute for Archaeologists.

Kerr, B. 2017. *Manchester Museum Courtyard Archaeology Desk Based Assessment.* Issue 1. Purcell, April 2017.

Ministry of Housing, Communities and Local Government. 2018. *The National Planning Policy Framework.* London, The Stationery Office.

Newman, R. and McNeil, R. 2007. The Industrial and Modern Period Research Agenda. In Brennand, M. (Ed.) *Research and Archaeology in North West England. An Archaeological Research Framework for North West England: Volume 2 research Agenda and Strategy.* Archaeology North West Vol. 9, 133-58.

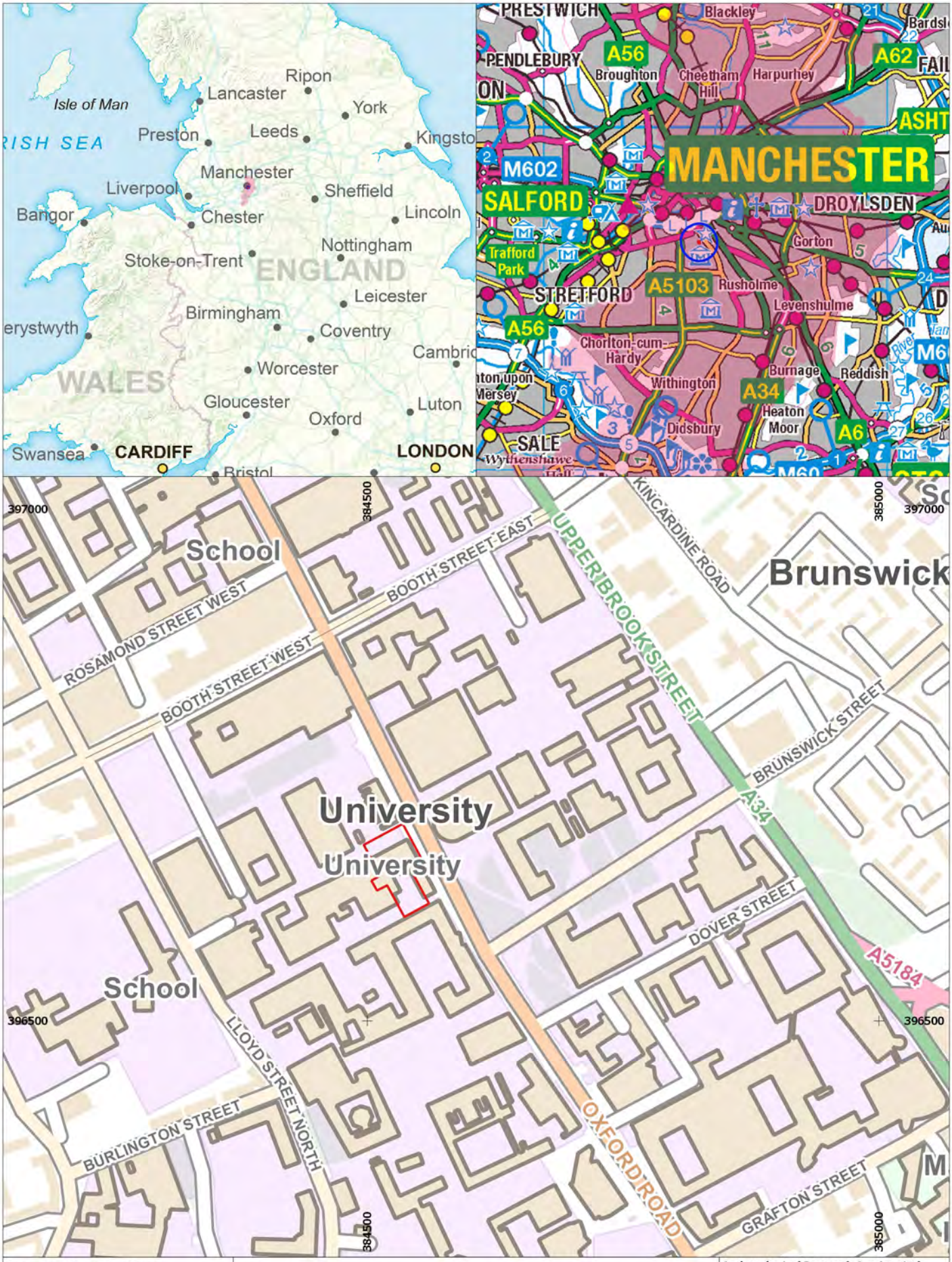
Roberts, J. 2018. 'Archaeological Consultation 118410/FO/2017.' Letter sent to Emily Booth, Manchester City Council Planning, 16/6/18.

Sirius Geotechnical Ltd. 2017. *Factual Report on Ground Investigation of land at Manchester Museum Courtyard (Phase 2).* Report C7444.

Society of Museum Archaeologists. 1993. *Selection, Retention, and Dispersal of Archaeological Collections. Guidelines for use in England, Wales and Northern Ireland.* Society of Museum Archaeologists, London.

United Kingdom Institute for Conservation (UKIC). 1990. *Guidelines for the Preparation of Archives for Long-Term Storage.*

FIGURES



Site name: Manchester Museum
Date: September 2018
Drawn by: BD
Scale: Varies

Figure 1:
Site location

N

Site Boundary

Manchester City Council

Archaeological Research Services Ltd

Suite 1
First Floor
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Figure 2.

Courtyard trench locations overlain onto modern location plan.

Scale: As shown.

Site boundary with position of courtyard indicated in yellow

Areas of the courtyard available for trenching

Trench 1: 10m x 2m

Trench 2: 6m x 4m

Approximate location of 5m deep test pit (somewhere within hatched box)

Figure 3

Trench location plan overlain onto the 1851 OS map.

Scale: As shown

Site boundary with position of courtyard indicated in yellow

Areas of the courtyard available for trenching

Trench 1: 10m x 2m

Trench 2: 6m x 4m

Approximate location of 5m deep test pit (somewhere within hatched box)

N

Appendix V. OASIS Form.

OASIS DATA COLLECTION FORM: England

Printable version

OASIS ID: archaeol5-343437

Project details

Project name	Archaeological Works at Manchester Museum, Oxford Road, Manchester
Short description of the project	Two trenches were located to target potential features and deposits associated with the buildings and gardens of 19th century townhouses known as Exmouth Terrace that might have survived beneath the modern courtyard. Monitoring of a test-pit served as an alternative Trench 1 when it quickly became clear that the upper 1.5-2m of the courtyard, at least on the south-western side, was formed of levelling deposits for the modern courtyard surface and concrete foundations for the courtyard parapet wall. The clean natural clay beneath was likely truncated during construction of the museum buildings before the 'island' was built back up again to serve as an entrance courtyard. Trench 2 was excavated on the gently-sloped north-eastern side of the courtyard over the rear portion of one of the town houses as depicted on OS mapping from the 1850s. At a depth of 0.9m the upper surface of the concrete foundation for the parapet wall was encountered. This was at the same depth as was recorded in the engineering test-pit. Based on the sequence and depth of concrete deposits previously identified beneath the upper slab, Trench 2 was not excavated any deeper.
Project dates	Start: 06-12-2018 End: 20-02-2019
Previous/future work	Not known / Not known
Type of project	Field evaluation
Monument type	WALL FOOTINGS Modern
Monument type	WALLS Modern
Significant Finds	N/A None
Methods & techniques	"Targeted Trenches"
Development type	Large/ medium scale extensions to existing structures (e.g. church, school, hospitals, law courts, etc.)
Prompt	Planning condition
Position in the planning process	After full determination (eg. As a condition)

Project location

Country	England
Site location	GREATER MANCHESTER MANCHESTER MANCHESTER Manchester Museum Courtyard
Study area	30 Square metres
Site coordinates	SJ 84500 96640 53.466019142248 -2.233507286979 53 27 57 N 002 14 00 W Point

Project creators

Name of Organisation	Archaeological Research Services Ltd
Project brief originator	Archaeological Research Services Ltd
Project design originator	Archaeological Research Services Ltd
Project director/manager	Reuben Thorpe
Project supervisor	Ben Dyson

Project archives

Physical Archive Exists?	No
Digital Archive recipient	Greater Manchester Archaeology Advisary Service
Digital Contents	"none"
Digital Media available	"Images raster / digital photography"
Paper Archive recipient	Greater Manchester Archaeology Advisary Service
Paper Contents	"none"
Paper Media available	"Context sheet","Report"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Archaeological Works at Manchester Museum, Oxford Road, Manchester
Author(s)/Editor(s)	Dyson, B.
Date	2019
Issuer or publisher	Archaeological Research Services Ltd
Place of issue or publication	SALE

Entered by	Ben Dyson (ben.dyson@archaeologicalresearchservices.com)
Entered on	22 February 2019

OASIS:

Please e-mail Historic England for OASIS help and advice

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