



Chester Northgate Redevelopment Archaeological Evaluation Report

April 2018

Client: Cheshire West and Chester Council

Issue No: 2017-18/1878

OA Reference No: L11100

NGR: SJ 4039 6638

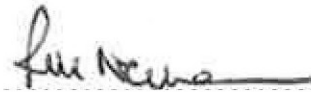


Client Name: Cheshire West and Chester Council
Document Title: Chester Northgate Redevelopment
Document Type: Archaeological Evaluation Report
Grid Reference: SJ 4039 6638
Site Code: CNG 17
Invoice Code: L11100
Receiving Body: Grosvenor Museum, Chester
Accession No.: n/a

OA Document File Location: X:/Karl/Projects/L11100/Chester Northgate
2017/Report/Current/Eval_Rep_V1.docx
OA Graphics File Location: X:/Karl/Projects/L11100/Chester Northgate 2017/OAN CAD

Issue No: 1
Date: April 2018
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Chester Northgate Redevelopment

Archaeological Evaluation Report

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Summary

Oxford Archaeology (OA) North was commissioned by Cheshire West and Chester Council (CWaC), to carry out a programme of evaluation trenching and borehole monitoring across an area within the north-western quadrant of Chester's historic city centre, as part of the Chester Northgate redevelopment scheme. These works, which were undertaken during November and December 2017, comprised the excavation of six archaeological test pits (TPs 1-6) and the monitoring of ten geotechnical boreholes (BHs 5, 6, 8, 11, 12, 13, 16, 20, 101, 103); the borehole logs, compiled by Betts Geo, were also consulted. A seventh trench, representing an extension to the start hole for BH 101, was also investigated. The work followed on from two earlier phases of evaluation undertaken by OA North in respect of the Northgate project, in April/May 2015 and March/April 2016, and also the compilation of a comprehensive archaeological desk-based assessment (DBA) for the site. It was undertaken to inform the design process of the proposed redevelopment, by identifying the presence/absence and representative depth (according to Ordnance Datum) of significant archaeological deposits at key locales within the development site.

The test-pitting demonstrated the existence of *in-situ* stratigraphy, including deposits of probable Roman date, at the south end of Trinity Street, adjacent to 68 Watergate Street (TP 4), where the top of significant archaeology seemingly lay only 0.5m or so below the modern surface. No archaeological deposits were recorded in the other five test pits, or in the borehole extension trench, though this may have been because these could not be excavated to a significant depth. Consequently, the possibility that intact archaeology survived beneath the excavated levels at some or all of these locations could not be ruled out.

Of the ten boreholes investigated, what was probably the top of significant archaeological deposits was recorded in all three of those on Northgate Street (BHs 12, 13, 20), and in two of the three located within the former bus exchange north of Princess Street (BHs 5, 6). The presence of a seemingly undisturbed, post-medieval soil layer in BH 103, on Hamilton Place, also hinted at the likely survival of archaeological deposits beneath, though this remains uncertain. In BHs 8, 11, 16 and 101, only modern deposits were encountered in the start holes, though it is conceivable that intact archaeological remains survived at these locales at greater depths. Indeed, the possible existence of archaeological strata extending to a considerable depth was suggested by the borehole logs compiled for all but two of the boreholes (the exceptions being BHs 16 and 103, which were not drilled), which recorded zones of 'made ground' at depths of c 2-4m below the surface. Whilst the precise significance of this could not be determined, the recovery, from most of the boreholes, of small brick/tile fragments from these deep levels suggested that the 'made ground' may represent intact archaeological strata of considerable thickness.

Although no archaeological remains were found in BH 16, the investigation was of value in suggesting the possible existence of a sand-filled overcut outside the south-west corner of the Crowne Plaza Hotel complex, though the exposure was too restricted for this interpretation to be entirely secure. Deposits of earth and rubble recorded in BHs 8 and 11 may also have been associated with the construction of the Forum shopping centre, but there too the work was too limited for there to be any certainty.

Acknowledgements

Oxford Archaeology North would like to thank Richard Andrews and Magnus Theobald of Cheshire West and Chester Council, for commissioning the project, and Mark Leah of the Cheshire Archaeological Planning Advisory Service (CAPAS), for help and advice.

The test pits were surveyed by Maptec Surveys and were broken out by Dunkils Ltd, which was also responsible for the excavation of the borehole start holes, the boreholes themselves being drilled by Betts Geo. For OA North, archaeological excavation, recording and monitoring of the test pits and boreholes was undertaken by Ian Smith and Aidan Parker. Ian also examined the animal bones recovered, whilst the other finds were reported on by Chris Howard-Davis. The report was written by Ian Smith and John Zant, with a contribution by Chris Howard-Davis, and the illustrations were produced by Mark Tidmarsh. The project was managed by Karl Taylor, with input from Rachel Newman, who also edited the report.

1 INTRODUCTION

1.1 Scope of work

- 1.1.1 In November 2017, Oxford Archaeology (OA) North was commissioned by Cheshire West and Chester Council, to be in attendance at a programme of geological site investigation (SI) works across the proposed Chester Northgate development site, in the north-west quadrant of the historic city centre (Fig 1). The work comprised the excavation and recording of six small evaluation trenches, or test pits (TPs 1-6; Fig 2), and the monitoring of the results of ten geotechnical boreholes (BHs 5, 6, 8, 11, 12, 13, 16, 20, 101, 103; Fig 2). In addition, a seventh trench, representing an extension to the start hole for BH 101, was also investigated. A written scheme of investigation (OA North 2016a), prepared for an earlier phase of SI works undertaken by OA North in respect of the Northgate scheme (OA North 2016b), established the methodological parameters for the archaeological works completed in 2017, since the methodologies were identical in both phases of investigation. The main aim of the archaeological attendance was to provide additional information on the presence or absence of significant archaeological deposits at key locales within the site (*Section 2.1*).
- 1.1.2 The present document provides a summary of the results of this scheme of archaeological evaluation. The work undertaken conformed to all relevant industry standards, as set out by Historic England (English Heritage 1991; Historic England 2015) and the Chartered Institute for Archaeologists (CIfA 2014a; 2014b; 2014c).

1.2 Location, topography and geology

- 1.2.1 The proposed development area forms part of the north-west corner of the historic core of the city of Chester, roughly centred at SJ 4039 6638 (Fig 1). It takes in an area bracketed by Hunter Street to the north, St Martin's Way to the west, Northgate Street to the east, and Watergate Street to the south. For programming purposes, the proposed development scheme was divided into two phases, with Phase 1 encompassing the northern part of the site, between Princess Street and Hunter Street, and Phase 2 covering the area south of Princess Street to Watergate Street. The programme of works undertaken in November/December 2017 was located largely within the Phase 2 area, though three of the boreholes were situated further north, in the area of the former bus exchange north of Princess Street, and three boreholes and a test pit were placed along the eastern curtilage of the scheme, on the west side of Northgate Street.
- 1.2.2 The Northgate site lies wholly within Chester's Area of Archaeological Importance (AAI), as designated under the terms of the Ancient Monuments and Archaeological Areas Act (1979), and is also within the city's zone of Primary Archaeological Character (considered to have the highest potential for significant heritage assets and the highest sensitivity to change), as defined in the Chester Archaeological Plan (Beckley and Campbell 2014). The latter, produced in 2013, was endorsed by the Cheshire West and Chester Local Development Framework Panel as a key Evidence Base Document supporting the preparation of the Local Plan (M Leah *pers comm*).

1.2.3 The solid geology of the immediate area is characterised as Triassic sandstone and conglomerate sedimentary bedrock. The overlying drift geology is alluvium, comprising a mix of clay, silt and sand (BGS 2015), which form soils that are classified as slightly acidic loamy clayey soils (Cranfield University 2015).

1.3 Archaeological and historical background

1.3.1 The archaeological and historical background of the site is discussed in detail in the desk-based assessment (OA North 2016c). The area formed the north-western quadrant of the Roman legionary fortress, the largest in Britain, and also has provided evidence of early medieval activity, around Princess Street. Whilst the northern part of the site was largely open until the nineteenth century, forming gardens, the southern area was quite densely occupied, with medieval burgage plots running back from both Northgate Street and Watergate Street (*ibid*).

2 EVALUATION AIMS AND METHODOLOGY

2.1 Aims

2.1.1 The main aim of the archaeological element of the investigation was to provide an assessment of the survival (or otherwise) of significant archaeological deposits at key locales within the development site, in order to inform the design of foundations, basements, service runs and other below-ground infrastructure associated with the proposed new development. Of particular importance was the need to determine the extent to which archaeological remains had been destroyed by earlier groundworks, particularly those associated with the construction of the Forum shopping centre and the associated basement car park in the 1960s, and the depth of the uppermost significant archaeological levels below the present-day ground surface. The resulting data would, it was envisaged, be used to assist in the formulation of an appropriate scheme of archaeological mitigation in advance of, and in association with, the proposed development. The broad character and date of any surviving archaeological remains was also sought, where possible.

2.2 Methodology

2.2.1 **Test pits:** six test pits were excavated archaeologically by OA North personnel, and a seventh trench, representing an extension to the start hole for one of the boreholes (BH 101), was also opened and investigated. Prior to excavation, the positions of all the pits were marked out by staff from Maptec Surveys, who also surveyed each locale for the presence of buried services, using a cable avoidance tool and signal generator. Prior to any hand-excavation, modern surfaces were removed by personnel from Dunkils Ltd, using a jackhammer. All such works were conducted under supervision by a suitably qualified and experienced archaeologist. All deposits were removed in controlled spits of no more than 0.2m, and spoil was stored immediately adjacent to, but at a suitable distance from, the excavation area, to allow rapid and efficient reinstatement upon completion of the works. Upon completion of the excavation of each pit, and during all relevant recording of deposits and features, the area was adequately fenced off using Heras fencing panels, to prevent unsupervised access, until such a time as the trench was backfilled.

2.3.3 All deposits were removed in a reverse stratigraphic sequence, down to the uppermost horizon of significant archaeology, or the maximum recommended safe depth of 1.2m, without recourse to stepping the excavation or use of shoring. Upon completion of the excavation and recording, the test pits were backfilled and the surface reinstated.

2.3.4 All test pits were excavated in a stratigraphical manner. They were located by use of a combination of a Real Time Kinematic (RTK) Global Positioning System, and a Leica 1200 Total Station Survey System, with altitude information established with respect to Ordnance Survey Datum.

2.3.5 All information identified in the course of the site works was recorded stratigraphically, using a system adapted from that used by the former Centre for Archaeology of English Heritage, with an accompanying pictorial record. Primary

records were available for inspection at all times. Results of all field investigations were recorded on pro-forma trench record sheets. The site archive also includes a photographic record.

- 2.3.6 **Boreholes:** for each of the ten boreholes excavated, a start hole was hand-dug by staff from Dunkils Ltd to a depth of c 1m under constant archaeological supervision. Drilling was then undertaken by personnel from Betts Geo until bedrock was hit, and coring began at the level of bedrock. Drilling did not take place below the level of the start holes in BHs 16 and 103, which had to be abandoned for operational reasons (*Sections 3.4.7, 3.4.11*). Although opportunities for observing archaeological deposits below the level of the start hole were extremely limited, examination of the borehole logs usually permitted the identification of a zone of 'made ground', representing potential archaeological strata, between the base of the start hole and the top of the bedrock.
- 2.3.7 **Finds:** the recovery of finds was carried out in strict adherence to the WSI (OA North 2016a), and in accordance with current best practice (ClfA 2014d). All artefacts recovered were retained in suitable packaging, adequately marked to allow identification by trench, context and material.
- 2.2.8 **Archive:** a full professional archive was compiled, in accordance with the WSI (OA North 2016a), and with current ClfA and Historic England guidelines (ClfA 2014b; Historic England 2015). The paper and digital archive, together with finds suitable for retention, will be deposited with the Grosvenor Museum, Chester.

3 RESULTS

3.1 Presentation of the results

3.1.1 The results of the evaluation are presented below, and include a stratigraphic description of the trenches that contained archaeological remains. The full details of all trenches, with dimensions and depths of all deposits, can be found in *Appendix A*. Finds data and spot dates are tabulated in *Appendix B*.

3.2 General distribution of archaeological deposits

3.2.1 Significant archaeological deposits were recorded in only one of six test pits excavated (TP 4; *Section 3.3.5*), and archaeological remains were also absent from the extension trench excavated adjacent to borehole BH 101 (*Section 3.4.10*). Of the ten boreholes observed, possible or probable significant archaeological deposits were recorded in five of the hand-dug start holes (BHs 5, 6, 12, 13, 20), and 'made ground', possibly representing *in-situ* archaeological strata, was recorded in the logs for seven of the boreholes (BHs 5, 6, 8, 12, 13, 20, 101). Three boreholes (BHs 11, 16, 103) contained no clear indication of archaeological remains, though, in view of the limited nature of the work, the possible existence of significant archaeology at these locales cannot be discounted. Roman pottery, together with fragments of certain or possible Roman ceramic building material (CBM), were recovered from BHs 5, 6, 13 and 20, and a few brick/tile fragments of probable Roman date came from the extension trench to BH 101, though much of this material was residual in post-medieval/modern contexts, or was unstratified (*Appendix B*).

3.3 Test Pits

3.3.1 **Test pit 1 (TP 1)**: this was excavated on Northgate Street, in the access ramp immediately outside the visitor centre (Fig 2). Although excavated to a depth of 1.2m (c 28.10m aOD), no significant archaeological remains were found. All recorded deposits were clearly of recent date (PI 1), probably of the 1960s or later, largely comprising deposits of sandstone rubble (tipping steeply from east to west, towards the building), containing a few factory-made bricks and cut by modern services.



Plate 1: TP 1, looking west

3.3.2 **Test pit 2 (TP 2):** TP 2 was placed in the pavement on the south side of Princess Street, adjacent to the base of the ramp giving access to the Market Hall (Fig 2). Removal of the modern flagstone surface and underlying sand bedding layer revealed a reinforced concrete slab, 0.15m thick, above 0.6m of brown sandy soil containing brick and concrete rubble (PI 2); a ceramic drainpipe was recorded towards the base of this. Excavation was halted at a depth of 0.9m (28.10m aOD) due to discovery of a tile-capped electricity cable. No significant archaeological remains were recorded above this.



Plate 2: TP 2, looking east

- 3.3.3 **Test pit 3 (TP 3):** TP 3 was excavated on the north side of Hamilton Place, in the north-west corner of the access yard for the current B&M Bargains store (Fig 2). This area is one of particular archaeological sensitivity, since it is adjacent to the position of the Elliptical Building, a structure, unique in the Roman world, which stood within the central range of the Roman legionary fortress (Mason 2000). Although what remained of the Elliptical Building itself was destroyed in the 1960s, during construction of the Forum shopping centre, the south-west corner of the associated precinct, representing all that now remains of its complex, extends into the B&M Bargains site.
- 3.3.4 Investigation of TP 3 revealed no surviving archaeology (PI 3). Instead, a series of disturbed modern deposits was recorded to 1.15m (c 26.38m aOD) below the present yard surface (at which depth excavation was terminated), presumably backfill of the overcut for the Forum shopping centre. A north to south gas pipe crossed the west side of the pit at a depth of 0.66m. In the northern half of the pit, a concrete slab was found at a depth of 0.17-0.78m, extending 0.6m south from the modern brick wall delineating the north side of the access yard. Parts of a brick retaining wall associated with the construction of the concrete slab were also recorded.



Plate 3: TP 3, looking south-west

3.3.5 **Test pit 4 (TP 4):** the fourth test pit, excavated to a depth of 1.05m (base at c 21.93m aOD), was situated towards the south-west corner of the development site, between the Guildhall, on the west, and No 68 Watergate Street, to the east (Fig 2). Significant archaeological remains were revealed at a depth of 0.95-1m beneath the modern surface (c 21.98-22.03m aOD), comprising a compacted layer of sandstone, Roman brick/tile fragments and a few waterworn cobbles (421; Fig 3; Pl 4). This was recorded in a narrow strip, c 0.4m wide and 1.1m in length, adjacent to the upstanding brick wall of 68 Watergate Street, which formed the east boundary of the test pit. These stones may have been part of a Roman road surface, another part of which was seen nearby in 2007 (Earthworks Archaeology 2007; *Section 4.1.1*). In TP 4, it was overlain by c 0.45-0.5m of dark earth (Fig 3), comprising a brownish-grey silty clay loam (420), overlain by a dark grey silty loam (419). The top of this (at c 22.48-22.53m aOD), which can, perhaps, be regarded as the uppermost significant archaeological horizon, was cut by the construction trench for the west wall of 68 Watergate Street (418), the edge of which was only 50-70mm beyond the outer face of the wall itself. This was overlain by a narrow strip of crushed red sandstone (416), which was in turn overlain by deposits associated with the surfacing of the modern lane. On the west side of the pit, most earlier deposits had been removed by a modern pipe trench, located immediately beneath the surface of the lane, though the putative Roman road surface appeared to extend at least partly beneath this.



Plate 4: TP 4: Probable Roman metalled surface 421, looking north

3.3.6 **Test pit 5 (TP 5):** the fifth test pit was the easternmost of two trenches (the other being TP 6; *Section 3.3.7*) situated in the narrow lane extending between Trinity Street and St Martin's Way, immediately south of the Crowne Plaza Hotel (Fig 2), adjacent to the Guildhall (or Trinity Church) on Watergate Street. Removal of the modern paving slabs and a series of modern deposits associated with the formation of a ramp from St Martin's Way to Trinity Street revealed several cable runs extending broadly east to west beneath the lane (PI 5), c 1.05-1.1m beneath the modern surface (c 22.25-22.30m aOD). and between 0.7-1m to the north of the brick wall on the Guildhall side. These post-dated a layer of loose, medium grey, sand and mortar, containing brick and slate fragments, which extended down to a depth of at least 1.25m below the surface (22.05m aOD), at which point the excavation was terminated. This was certainly a post-medieval deposit, though its precise date is unclear. No significant archaeological remains were recorded in this test pit.



Plate 5: TP 5, looking north-east

3.3.7 **Test pit 6 (TP 6):** TP 6 was located a short distance west of TP 5 (Section 3.3.6), in the narrow lane on the south side of the Crowne Plaza Hotel complex, extending west from Trinity Street to St Martin's Way (Fig 2). Removal of the modern flagged surface and the underlying sand bedding layer revealed a service trench (PI 6), 0.45m wide and over 0.6m deep (it was not bottomed), which had been cut through a modern layer of grey-brown soil and brick rubble, in excess of 0.95m thick, which extended beyond the base of the excavation (at 20.90m aOD). Consequently, no significant archaeological remains were recorded in this test pit.



Plate 6: TP 6, looking east

3.4 Boreholes

3.4.1 **Borehole 5 (BH 5):** this was situated towards the centre of the former bus exchange on the north side of Princess Street (Fig 2; PI 7). Breaking out and removal of the bus exchange surface and other modern deposits (including a concrete slab), to a depth of 0.82m, revealed a layer of dark sandy loam, at least 0.18m thick (507), the top of which lay at 27.50m aOD. This extended below the base of the hand-dug start hole, which was 1m deep (27.32m aOD), and yielded 15 small fragments of ceramic building material, of possible Roman date, with no later material present. Consequently, it was

judged to represent the uppermost significant archaeological horizon. It can probably be equated with a Roman soil layer that was recorded in a test-pit, excavated in 2016, little more than 2m to the east (OA North 2016b, 19-20), the top of which lay at 27.87m aOD. The borehole log for BH 5 records that ‘made ground’, potentially including stratified archaeological deposits, extended to c 3-3.5m below the modern surface (c 24.82-25.32m aOD).



Plate 7: Location of BH 5, looking south

3.4.2 Borehole 6 (BH 6): BH 6 was situated towards the north-east corner of the former bus exchange (Fig 2), and the sequence recorded was very similar to that seen in BH 5, to the south-west (Section 3.4.1). Removal of the surface and underlying modern deposits (including a concrete slab; PI 8) revealed a layer of dark grey sandy loam (605), at least 0.16m thick (hand-excavation of the start hole terminated at 28.46m aOD, 1m below the surface), at a depth of 0.84m, the top of which (at 28.64m aOD) represents the uppermost significant archaeological horizon. This deposit yielded a single sherd from a Roman-period flagon (Appendix B) and, as with the similar soil in BH 5 (507; Section 3.4.1), can probably be equated with a Roman soil horizon recorded nearby in 2016 (OA North 2016b, 19-20), the top of which lay at 27.87m aOD. The borehole log records a ‘zone of assumed core loss’ from 1-3.2m below the surface, but indicates the existence of ‘made ground’, possibly representing intact archaeological strata, from 3.2-3.5m (26.44m aOD to 26.14m aOD), overlying the bedrock.



Plate 8: BH 6, looking north

3.4.3 **Borehole 8 (BH 8):** BH 8 was situated on the west side of Trinity Street, close to the junction with Princess Street and 4.3m east of the east wall of the Crowne Plaza Hotel (Fig 2). On the west side of the start hole, removal of the modern tarmac surface revealed a layer of concrete overlying hardcore and brick rubble to a depth of c 1m beneath the surface (23.40m aOD; PI 9). On the east, similar modern deposits were recorded to a depth of 0.73m (23.67m aOD), below which was a layer of sandy loam containing some large sandstone fragments. This is undated, but is, perhaps, most likely to represent debris associated with the construction of either the hotel, on the west, or the Forum shopping centre, to the east (a similar deposit containing some relatively modern, machine-made bricks, was observed in the extension trench to BH 101, to the north-east (*Section 3.4.10*)). From 1m to 3.46m (20.94 aOD), the borehole log records a zone of ‘assumed core loss’, with ‘made ground’ containing ‘limestone, sandstone and brick’, possibly representing *in-situ* archaeological remains, from 3.46m to 3.76m (20.64 aOD), directly above the bedrock.



Plate 9: BH 8, looking north

3.4.4 **Borehole 11 (BH 11):** this borehole was drilled on the south-east side of the former bus exchange to the north of Princess Street (Fig 2). Within the start hole, all recorded deposits, to a depth of 1m below the surface (27.78m a OD) were modern, comprising

layers of reinforced concrete and hardcore (PI 10). However, it should be noted that Roman archaeological remains were recorded in 2016 in a test pit excavated elsewhere in the bus exchange, the top of which lay at 27.98m aOD (OA North 2016b, 20). From 1m to 3.02m (25.76m aOD), the borehole log records a zone of 'assumed core loss', beneath which was 0.48m of 'made ground' from which fragments of limestone, sandstone and 'brick' were seemingly recovered. As in BH 8, it is possible that this horizon, which was directly above bedrock, at 25.28m aOD, 3.5m below the surface, represents intact archaeological strata, though this cannot be proven from the existing evidence.



Plate 10: BH 11, looking north-west

3.4.5 **Borehole 12 (BH 12)**: this was situated in Northgate Street, in the pavement directly in front of the Town Hall (Fig 2). Removal of the modern surface and make-up deposits revealed the top of possible significant archaeological horizons at 0.45-0.5m below the surface (28.55-28.60m aOD), represented by a large sandstone block in the east side of the pit (PI 11) seemingly within a dark grey silty-clay loam (1205). Although the drilling operatives thought that sandstone bedrock was reached c 1m below the surface (27.37m aOD), the recovery, from the drilling spoil, of small fragments of ceramic building material (presumably of Roman date), at depths of c 2.5-2.75m below the surface (c 26.30-26.55m aOD), suggested that *in-situ* archaeological remains extend to at least this depth. It is possible, therefore, that the supposed 'bedrock' was, in fact, *in-situ* sandstone masonry (or a large stone block), though this is uncertain.



Plate 11: Start hole for BH 12, looking east, showing sandstone block in deposit 1205

3.4.6 **Borehole 13 (BH 13):** BH 13 was situated on Northgate Street, on the south side of the market square, north of the Dublin Packet public house (Fig 2). Modern deposits, extending to 0.5m below the present surface (PI 12), were found to overlie the loose earth fill of a modern service trench, which extended to a depth of c 1m below the surface (c 27.37m aOD). At this level, a layer of paler soil (1308) containing Roman ceramic building material (*Appendix B*) was recorded, which may represent the uppermost significant archaeological level. As in BH 12 (*Section 3.4.5*), it was initially thought that the natural bedrock lay at a depth of approximately 1m, but in this borehole too, this is more likely to have been a stone block or the remains of sandstone masonry, since fragments of ceramic building material, presumably of Roman date, were recovered from 1.97-2.87m below the surface (c 25.50-26.40m aOD), suggesting the survival of archaeological strata to at least this depth.



Plate 12: BH 13, looking east

3.4.7 **Borehole 16 (BH 16):** this was situated in the pavement between St Martin's Way and the electricity substation at the south end of the Crowne Plaza Hotel car park (Fig 2). Removal of the modern concrete flags revealed a homogeneous deposit of pale red-brown sand (PI 13), to a depth of at least 1m (20.56m aOD). This is thought to represent the fill for the overcut associated with the construction of the hotel complex,

though the edge of the cut was not observed, the start hole presumably lying entirely within it. If this is correct, the overcut must have been at least 3m wide at this locale (as measured from the western edge of the borehole start hole to the outer face of the retaining wall of the hotel complex), though it is conceivable that the sand filled some other, unrelated, feature, such as a service run. At a depth of 1.1m (20.46m aOD), a layer of concrete and a membrane were encountered, at which point the borehole was abandoned, since these indicated the possible presence of live electricity cables associated with the nearby substation.



Plate 13: BH 16, looking east

- 3.4.8 **Borehole 20 (BH 20)**: BH 20 was situated on Northgate Street, towards the junction with Hunter Street (Fig 2). Removal of modern deposits to a depth of 0.57m beneath the surface (c 29.12m aOD) revealed a layer of reddish-grey-brown sandy loam (2006), up to 0.43m thick (Fig 4; Pl 14), containing Roman pottery, ceramic building material and butchered animal bones. This very probably represents the uppermost significant archaeological horizon encountered in BH 20. At 0.9m beneath the surface (c 28.58m aOD), this overlay a pale red sand deposit (2007), c 0.1m thick, lying above what was initially interpreted as sandstone bedrock, c 1m down (c 28.68m aOD). However, the recovery, from the borehole, of ceramic building material and limestone fragments, at a depth of up to 2.8m (26.89m aOD), as recorded in the borehole log, suggests that *in-situ* archaeological remains may extend down to at least this level, the supposed 'bedrock' possibly being sandstone masonry (see also BHs 12 and 13; Sections 3.4.5-3.4.6).



Plate 14: BH 20, looking north

3.4.9 **Borehole 101 (BH 101) and extension trench:** BH 101 was situated on the south side of Princess Street, east of the junction with Trinity Street (Fig 2). The extension trench was excavated, on a south-east to north-west alignment, for c 3.7m, extending south-east from the start hole for the borehole up to the retaining wall for the car park of the Forum shopping centre (PI 15). Within the start hole itself, modern layers of tarmac, bedding deposits and brick rubble (PI 16) were removed to a depth of 0.56m (24.09m aOD). Beneath this was a layer of dark grey/black, mortar-rich sandy soil, at least 0.44m thick (base at 23.65m aOD), which extended below the base of the 1m-deep, hand-excavated start hole. This was clearly a post-medieval deposit, and was possibly quite recent, though it could not be closely dated. From 1-3.69m, the borehole log records an 'assumed zone of core loss', with 'made ground', possibly representing intact archaeological deposits, from 3.69-4m. Another zone of core loss was recorded from 4-4.28m (base at 20.37 aOD).



Plate 15: Extension trench for BH 101, looking south-west, showing utilities



Plate 16: BH 101, looking north

3.4.10 The extension trench contained a similar depth of modern surfacing and bedding layers, beneath which was a deposit of coarse sandstone rubble and sandy soil containing some modern, factory-made bricks (PI 17). This was at least 0.75m deep (top at c 24.21m aOD), but continued down beneath the base of the trench, which was dug to a depth of 1.2m (c 23.76m aOD). It was cut through by several modern service runs, all located close to the modern surface (PI 15). Tip lines were clearly visible within this material (PI 18), tipping from north to south, towards the retaining wall for the Forum basement car park, suggesting that it may have filled a wide construction overcut, at least 3.7m wide, though, if this was the case, the edge of the cut was not seen.



Plate 17: Extension trench to BH 101, looking north-east, showing sandstone rubble adjacent to the outer face of the basement retaining wall of the Forum shopping centre



Plate 18: Extension trench for BH 101, looking south-west, showing tip lines in sandstone rubble adjacent to the basement retaining wall of the Forum shopping centre

3.4.11 **Borehole 103 (BH 103)**: BH 103 was situated on the south side of Hamilton Place, near to its junction with Trinity Street, in the roadway just north of the entrance to Hamilton House (Fig 2). The modern road surface overlay brick rubble to a depth of 0.65m (24.51m aOD), beneath which was a layer of dark grey silty loam, at least 0.42m thick; this extended below the base of the hand-dug start hole (24.09m aOD), which was excavated to a depth of 1.07m (PI 19). This was judged to be a possible post-medieval deposit, though it yielded no artefacts and remains undated. The borehole itself was not drilled below the level of the start hole, since this would have had a severe impact on traffic flow.



Plate 19: BH 103, looking north

3.5 Summary of Finds

3.5.1 In all, 288 artefacts and ecofacts (principally animal-bone fragments) were recovered from the investigations; a catalogue is presented in *Appendix B*. Most of the test pits and boreholes yielded some evidence for Roman activity (Table 1), though in many cases this was sparse, often being limited to a few fragments of ceramic building material, much of which was residual in demonstrably post-Roman deposits, or was unstratified. The larger, more diagnostic fragments include several unabraded pieces

of tegulae (Pl 20) and imbrices (roof tiles), and box tiles. There is, in addition, a small assemblage of Roman pottery, including Black-burnished Ware Fabric 1 (BB1), a Wilderspool mortarium, and possibly fragments from an imported Gauloise 1 wine amphora (Tyers 1996), much of which came from BH 20 (*Section 3.4.8*). The bulk of this material appears to be broadly datable to the second century AD, though, in view of the small size of most of the fragments, this cannot be confirmed.

Test pit/borehole	Context No	Roman/possibly Roman ceramic building material	Roman pottery	Later finds	Ecofacts
TP 1	unstratified	*?		*	
TP 2	202			*	
TP 4	408			*	
TP 4	409	*		*	*
TP 4	409/411	*			*
TP 4	411	*?	*	*	*
TP 4	420	*			*
TP 5	505			*	*
TP 5	506			*	*
BH 5	507	*?			
BH 6	605		*		
BH 13	1308	*			
BH 13	unstratified	*?	*	*	
BH 20	2005	*?			*
BH 20	2006	*?	*		*
BH 101 (extension trench)	10103	*?		*	
BH 101 (extension trench)	10104	*			
BH 101 (extension trench)	10105	*		*	*

Table 1: Presence/absence of Roman and post-Roman artefacts and ecofacts from test pits and boreholes



Plate 20: Roman tegula (roof tile) fragment from deposit 420 in TP 4

3.5.2 The small assemblage of animal bones recovered was generally poorly preserved, being dominated by small fragments, many of which came from demonstrably modern levels. A total of 30 bone fragments came from deposit 2006 in BH 20, a soil that yielded exclusively Roman finds, the top of which was 0.57m below the surface (*Section 3.4.8*). The collection is dominated by the remains of cattle, including a fragment of femur exhibiting chop marks indicative of butchery. Part of a sheep/goat mandible, and mandible and skull fragments of pig were also present. The only other notable find was a hare/rabbit (*Leporidae*) tooth, from deposit 420, which lay directly above Roman metalled surface 421, in TP4 (*Section 3.3.5*). The rest of the assemblage from this test pit, entirely comprising certain or probable cattle bones, came from the fill of a late post-medieval/modern service trench.

4 DISCUSSION

4.1 Test-pitting

- 4.1.1 **Trinity Street:** of the six test pits investigated (TPs 1-6), *in-situ* deposits of archaeological significance were recorded only in TP 4, towards the south end of Trinity Street (Fig 2), adjacent to the west side of No 68 Watergate Street, a townhouse with brick-vaulted cellars, built in 1729 for Alderman Henry Bennett (National Heritage List for England, No 1376448). Within this pit, a layer of compacted sandstone, Roman brick/tile fragments (retained *in situ*) and cobbles (421; Section 3.3.5), 0.95-1m below the modern surface (Fig 3; Pl 4), can be equated with a seemingly identical deposit recorded in 2007, c 21m to the north (Earthworks Archaeology 2007, 3), where it was at a depth of c 0.6m. This was exposed in a very limited area at both locales, but its character suggests a Roman date, whilst its position within the legionary fortress, a few metres inside (*ie* east of) the projected line of the west rampart, would be consistent with its identification as part of the intervallum road (*via sagularis*), which extended around the entire defensive perimeter, facilitating rapid access to the ramparts (Mason 2012; Johnson 1983, 30).
- 4.1.2 Directly overlying the putative road surface was a build-up of dark soils (420 beneath 419; Section 3.3.5), up to 0.5m thick. This was cut by the construction trench for the west wall of 68 Watergate Street, above which were deposits of later post-medieval and modern date. The dating of these soils, and their significance, is uncertain, but the lack of post-Roman artefacts (the only datable item is a large Roman roof tile (tegula) fragment, from 420 (Appendix B)), and in particular the absence of post-medieval material, is suggestive of a potentially early date for its accumulation, possibly during the later medieval period and/or earlier. Indeed, in 2007, two medieval potsherds were recovered from a soil, c 0.1m above the metallised surface (*op cit*, 4).
- 4.1.3 Elsewhere, although the other test pits were excavated to a similar (or, in some cases, greater) depth to TP 4, archaeological deposits were not recorded, presumably because they had been destroyed by modern groundworks, or because excavation was not taken to a sufficient depth (or both). With the possible exception of TP 1, on Northgate Street (Section 4.1.4), which yielded two unstratified fragments of possible Roman ceramic building material (Appendix B), no Roman artefacts were recovered from any of the test pits other than TP 4.
- 4.1.4 **Northgate Street:** at 1.2m, TP 1, on Northgate Street (Fig 2), was the deepest of all the test pits investigated, but despite this, only layers of modern sandstone and brick rubble were revealed beneath the present surfacing and make-up deposits (Section 3.3.1). Perhaps significantly, the rubble exhibited tip lines extending from east to west, suggesting that it had been thrown back into a large cut. The edges of this putative feature were not seen within the test pit itself, so its character and significance remain unclear.
- 4.1.5 **Princess Street:** TP 2, on the south side of Princess Street (Fig 2), may have been sited within a construction overcut outside the north wall of the Market Hall. There, immediately adjacent to the base of the wall, modern surfaces and a concrete slab were found to overlie a mixed deposit of earth, brick and concrete rubble to at least

0.9m (*Section 3.3.2*), though deeper excavation was impossible due to the presence of a live electricity cable. As in TP 1, the edge of the putative overcut itself was not seen, since the test pit, which was only c 0.8m wide, north to south, probably lay wholly within its fill. However, a test pit excavated nearby in 2002 revealed the well-defined outer (northern) edge of a trench that was interpreted as the construction overcut for the Market Hall (Earthworks Archaeology 2002, 4). The top of this lay 0.65m below the surface, and its lip was c 3m from the modern retaining wall, though it had a battered profile, sloping from north to south (*op cit*, 12, fig 3). Since this feature was excavated to only 0.5m, its depth is unknown. Significantly, however, it was dug through the remains of a post-medieval cellar that in turn cut a sequence of earlier archaeological strata, north of (*ie* outside) the modern cut (*op cit*, 5), the base of which (as represented by the natural boulder clay) lay 1.75m below the surface (26.21m aOD).

- 4.1.6 **The Crowne Plaza Hotel:** TPs 5 and 6, in the modern passageway on the south side of the Crowne Plaza Hotel complex adjacent to the Guildhall (Fig 2; *Sections 3.3.6-7*), also revealed only modern remains, to depths of 1.25m and 1.1m respectively. Much of the disturbance was clearly due to the insertion of service runs beneath the lane, but the nature of the earliest deposit revealed, a layer of grey-brown soil containing brick rubble, mortar and slate fragments, is unclear. However, it was certainly of relatively recent date and was only loosely compacted, suggesting either that it was associated with the construction of the hotel itself, or with the construction/demolition of late post-medieval/modern buildings that the hotel had replaced.
- 4.1.7 **B&M Bargains, Hamilton Place:** TP 3, located up against the modern wall delineating the north side of the service yard on the west side of the B&M Bargains store (Fig 2; *Sections 3.3.3-4*), was opened to investigate further levels of archaeological preservation in what has long been highlighted as the most archaeologically sensitive part of the development site (OA North 2016c, 12, 39), due to the fact that it encompasses the only surviving part of the complex associated with the Roman Elliptical Building (*Section 3.3.3*), though Roman barrack blocks also extend into the area, separated from the Elliptical Building complex by an east/west road (Mason 2000). Although the pit was excavated to a depth of 1.15m, only disturbed modern deposits were encountered, with no *in situ* archaeological remains present. If this was the overcut for the wall, it was at least 1m wide (as measured from the wall face to the back (south) face of the test pit, though no cut was observed. Possibly, therefore, the pit lay wholly within the fill, although broadly similar levels of disturbance were recorded elsewhere within the service yard during the excavation of two earlier test pits (Earthworks Archaeology 2007, 6-7). Whilst the evidence might, therefore, point to fairly extensive modern disturbance over much of this area, it cannot be assumed that all significant archaeological remains have been destroyed, since a possible Roman layer was observed at the base of one of the earlier pits, c 1.3m below the surface (*ie* below the level to which TP 3 was excavated) and intact stratigraphy was recorded, at or about 1.15m, in a third test pit further to the east, on the north side of Hamilton Place (*ibid*).

4.2 Borehole monitoring

- 4.2.1 **Trinity Street/Princess Street:** excavation of the start hole for BH 8, on the west side of Trinity Street, close to the junction with Princess Street and c 4.3m east of the east wall of the Crowne Plaza Hotel (Fig 2), revealed a mixed deposit of earth and sandstone rubble, 0.73m below the surface (*Section 3.4.3*). A similar deposit, comprising a seemingly extensive spread of modern sandstone/brick rubble, sand and earth, was also found directly beneath modern surfaces and service runs a short distance to the north-east, in the extension trench associated with BH 101, at the west end of Princess Street (Fig 2; *Section 3.4.10*). Whilst the precise significance of these deposits is unclear, it seems likely that those in the extension trench relate to the construction of the Forum shopping centre, and/or to the demolition and levelling of earlier buildings immediately prior to the Forum's construction, whilst the deposit observed in BH 8 could be associated with the construction of the Crowne Plaza Hotel. At neither locale was there any conclusive evidence that the rubble filled a construction overcut associated with either the Forum or the hotel, though the existence of an overcut outside the Forum retaining walls has been demonstrated elsewhere, for example, further to the east on Princess Street (Earthworks Archaeology 2002) and on Trinity Street, to the west (OA North 2015), where the lip of the cut was found to lie c 2-3m outside the walls (no such overcut has, as yet, been proven to exist for the walls of the hotel). However, it is likely that the debris recorded in the BH 101 extension trench masked the top of such a cut, and this might also have been the case in BH 8. Taken together, the evidence from these interventions suggests that an extensive area at the junction of Trinity Street and Princess Street may have been 'dug out', or otherwise disturbed, during construction of the Forum and/or the hotel. This disturbance clearly extends to at least 1-1.2m below the present surface, but exactly how deep it is remains unclear.
- 4.2.2 Beneath the rubble in BH 8, there is no record of the strata until a zone of 'made ground' was reached by drilling at 3.46-3.76m below the surface, directly above the bedrock. From this level, fragments of limestone and 'brick' were seemingly recovered, suggesting that these deep deposits may have been of anthropogenic origin, perhaps representing early Roman remains. In BH 101 too, the existence of potentially *in-situ* archaeological strata at a considerable depth below the modern surface was suggested by the recording of another zone of 'made ground', c 3.7-4m down (*Section 3.4.9*).
- 4.2.3 Although the precise significance of these deposits is impossible to determine from the limited data available, the potential existence of archaeological strata at these depths should occasion no surprise, since archaeological investigation has clearly demonstrated the survival of deeply stratified remains, extending to depths in excess of 3-3.5m below the modern surface, at numerous locations across the historic city centre, for example on Bridge Street (Garner 2009) and on the south side of Hunter Street (Emery 1995, 5-6, tables 1, 2). Zones of 'made ground', potentially representing deep archaeological strata, were also recorded in several other boreholes during the current SI works, including those on Northgate Street (*Sections 4.2.4-5*) and in the former bus exchange north of Princess Street (*Section 4.2.7*).

- 4.2.4 **Northgate Street:** from an archaeological perspective, BH 20, drilled on Northgate Street, towards the north-east corner of the development site (Fig 2; *Section 3.4.8*), was by far the most informative of the ten boreholes investigated. There, a soil (2006) revealed in the start hole, at a depth of only 0.57m below the surface, yielded exclusively Roman finds, including 16 potsherds and 42 small brick/tile fragments, the latter undiagnostic but, given the dating of the associated pottery, almost certainly Roman. Drilling beneath this level seemingly brought up fragments of ceramic building material from a depth of up to 2.8m, which, if correct, would indicate the existence of Roman strata at least 2.23m thick at this locale.
- 4.2.5 Also on Northgate Street, the possible existence of significant archaeology at a relatively shallow depth, c 0.5-1m below the surface, was indicated by the results of the start hole excavations for BHs 12 and 13 (Fig 2; *Sections 3.4.5-6*). Whilst the remains at these locales could not be characterised, they may incorporate large sandstone blocks, either in the form of *in-situ* masonry (?walls), spreads of rubble or large, 'stray' fragments. In terms of the topography of the Roman legionary fortress, both boreholes were located within the interior of an extremely large, rectangular building located within the central range, in *Insula XVI* (Mason 2012, 56, fig 20b). The function of this structure is unclear, though its size and position, immediately north of the headquarters building (*principia*) and east of the Elliptical Building, a structure unique in the Roman world (Mason 2000), suggests that it was of considerable importance. As in BH 20, the possible existence of deep archaeological strata at these locales was suggested by the recovery of small brick/tile fragments from zones of 'made ground' at depths of c 2-3m below the surface.
- 4.2.6 **The Crowne Plaza Hotel:** the single borehole in the vicinity of the hotel (BH 16) was sited in the pavement towards the south-west corner of the hotel complex (Fig 2). Although no archaeological remains were recorded, excavation of the borehole being abandoned at a depth of only 1.1m (*Section 3.4.7*), the discovery of a homogeneous deposit of pure sand, at least 0.95m thick, suggested that it may have been sited within an overcut associated with the construction of the hotel. If this is correct, this is the first occasion, during the various phases of archaeological investigation and other SI works undertaken in respect of the Northgate scheme, where the existence of a potentially large construction overcut for the hotel has been recorded. It would also provide an indication that the overcut is at least 3m wide at this locale (as measured from the start hole for BH 16 to the outer face of the hotel wall), though, on a cautionary note, it is possible that the sand represents the fill of an entirely unrelated feature, for example a service run. If the modern deposits recorded in BH 8, towards the northern end of Trinity Street, also relate to the construction of the hotel (*Sections 4.2.1-3*), then below-ground disturbance may extend for a distance of at least 4.3m east of the hotel, though this remains uncertain.
- 4.2.7 **Hamilton Place:** the single borehole in Hamilton Place (BH 103; Fig 2) was not drilled below the base of the hand-dug start hole, which was 1.07m deep (*Section 3.4.11*). Consequently, no significant archaeological remains were observed, the stratigraphically earliest material recorded being a probable post-medieval soil. However, the fact that this deposit remained *in situ* suggests that intact archaeological

strata may well survive at a greater depth, protected, as it were, by the post-medieval soil build-up.

- 4.2.8 **Former bus exchange:** in the former bus exchange north of Princess Street, BHs 5 and 6 (Fig 2) yielded similar results to BH 20 on Northgate Street (*Section 3.4.8*), with a probably significant archaeological horizon, represented by a dark soil (respectively 507, 605), revealed in the start holes, 0.82-0.84m below the surface (*Sections 3.4.1-2*). Drilling below this revealed 'made ground', perhaps representing *in-situ* archaeological strata, to a depth of up to 3.5m in both boreholes, and also in BH 11, nearby (Fig 2; *Section 3.4.4*), suggesting the possible existence of intact stratigraphy, up to 2.68m thick, in this part of the development site. This is broadly consistent with the results of an earlier phase of test-pitting on the Northgate site, which revealed archaeological deposits to a depth of at least 1.87m (the base of these strata was not reached) in a pit located elsewhere within the bus exchange (OA North 2016b, 21).

4.3 Conclusions

- 4.3.1 The archaeological SI works undertaken in November/December 2017 were, for the most part, successful in determining the presence or absence of significant archaeological remains at several key locales within the Northgate development site. The test-pitting demonstrated the existence of *in-situ* stratigraphy, including deposits of probable Roman date, at the south end of Trinity Street, adjacent to 68 Watergate Street (TP4), where the top of significant archaeology may lie only *c* 0.5m below the modern surface (*Section 3.3.5*). No archaeological deposits were recorded in the other five test pits, or in the extension trench associated with borehole BH 101, though this may be because these pits/trenches could not be excavated to a sufficient depth to reach the top of significant archaeology, due either to the presence of live services and/or the unstable nature of the modern strata (*eg* loose sandstone rubble).
- 4.3.2 Of the ten boreholes investigated, what was probably or possibly the top of significant archaeological deposits was recorded in all three of those on Northgate Street (BHs 12, 13, 20), and in two of the three within the former bus exchange north of Princess Street (BHs 5, 6). The presence of a seemingly undisturbed, post-medieval soil in BH 103, on Hamilton Place, also hinted at the likely survival of archaeological deposits beneath, though as this borehole was not drilled below the level of the start hole, this remains uncertain. In BHs 8, 11, 16 and 101, only modern deposits were encountered in the start holes, though it is conceivable that intact archaeological remains survived at these locales at greater depths. Indeed, the possible existence of archaeological strata extending to a considerable depth beneath the modern surface is suggested by the data contained in the logs compiled for all but two of the boreholes (the exceptions being BHs 16 and 103, which were not drilled), which record zones of 'made ground' seemingly yielding (in most cases) small fragments of ceramic building material, at depths of *c* 2-4m below the surface, depending on where the borehole was drilled. Whilst the precise significance of this cannot be determined from the limited data available, the presence of brick/tile fragments suggests (assuming these did not somehow become 'accidentally' incorporated into these deep levels during the drilling process) that the 'made ground' may represent intact archaeological strata of considerable thickness.

4.3.3 In terms of advancing an understanding of the extent to which significant archaeological deposits within the development site may have been disturbed or destroyed by post-medieval and modern groundworks, the test-pitting established that, in five of the six locales selected, no archaeology was present to depths ranging from 0.9m beneath the surface, in the case of TP 2, to a maximum of 1.25m, in TP 5. However, the possibility that intact archaeology survives beneath the excavated levels at some or all of these locations cannot be ruled out without recourse to deeper excavation. In the case of the borehole investigations, the principal purpose of which was to provide geotechnical, rather than archaeological, information, BH 16 was of value in suggesting the existence of a sand-filled overcut outside the south-west corner of the Crowne Plaza Hotel complex, though the exposure was too restricted for this interpretation to be entirely secure. Elsewhere, the mixed earth and rubble deposits recorded in BHs 8 and 101 may well be associated with the construction of the Forum shopping centre, but the work was too limited for certainty.

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APPENDIX A TEST PIT/BOREHOLE DESCRIPTIONS

TP 1						
General description					Orientation	N-S
Test pit devoid of archaeology to the depth investigated. Consists of modern surfaces and make-up deposits over modern soil and the foundation for the east wall of the town hall.					Length (m)	1
					Width (m)	1
					Avg. depth (m)	0.95
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
100	Layer	-	0.06	Flagstones	-	Modern
101	Layer	-	0.35	Reinforced concrete	-	Modern
102	Layer	-	0.15	Sharp sand	-	Modern
103	Layer	-	0.40+	Dark brown soil and rubble	-	Modern
104	Foundation	-	-	Sandstone footing	-	Modern

TP 2						
General description					Orientation	N-S
Test pit devoid of archaeology to the depth investigated. Consists of modern surfaces, make-up deposits and a concrete slab over modern soil and rubble.					Length (m)	1.15
					Width (m)	0.90
					Avg. depth (m)	0.90
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
200	Layer	-	0.06	Flagstones	-	Modern
201	Layer	-	0.05	Sand bedding	-	Modern
202	Layer	-	0.15	Reinforced concrete	-	Modern
203	Layer	-	0.65+	Brown sandy clay and rubble	-	Modern

TP 3						
General description					Orientation	E-W
Test pit devoid of archaeology to the depth investigated. Consists of modern surfaces, make-up deposits, a concrete slab and a modern retaining wall.					Length (m)	1.37 (max)
					Width (m)	1.15 (max)
					Avg. depth (m)	1.15
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
301	Layer	-	0.07	Brick surface	-	Modern
302	Layer	-	0.10	Sand bedding	-	Modern
303	Layer	-	0.39	Stone hardcore	-	Modern
304	Layer	-	0.61	Concrete	-	Modern
305	Layer	-	0.55+	Mid-red/brown sand	-	Modern
306	Wall	-	0.55+	Brick retaining wall	-	Modern

TP 4						
General description					Orientation	E-W
<p><i>In-situ</i> archaeology, almost certainly of Roman date, found at 0.95m below the surface. This comprised a probable external surface (possibly part of the intervallum road inside the west rampart of the legionary fortress), represented by a compacted layer of sandstone fragments and cobbles (421). This was overlain by 0.45-0.5m of dark soils (420 below 419), perhaps of late Roman/medieval date, the top of which, at 0.5m below the surface, probably represents the top of significant archaeological strata. This was cut by the construction trench for the west wall of 68 Watergate Street, an early eighteenth-century building, above which was a sequence of later post-medieval and modern deposits.</p>					Length (m)	1.25
					Width (m)	1
					Avg. depth (m)	1.05
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
401	Layer	-	0.03	Grey-brown loam	-	Modern
402	Layer	-	0.03	Tarmac road surface	-	Modern
403	Layer	-	0.09	Granite setts (road surface) and kerb	-	Modern
404	Layer	-	0.08	Bitumen bedding	-	Modern
405	Fill	-	0.30	Backfill of cut 406 for kerb 403	-	Modern
406	Cut	-	0.30	Cut for kerb 403	-	Modern
407	Layer	-	0.06	Mortar deposit	-	Modern
408	Layer	-	0.04	Grey silty loam	Post-medieval pottery; clay tobacco pipe	Modern
409	Fill	-	0.65	Fill of service trench 410	Roman CBM; post-medieval pottery; clay tobacco pipe	Modern
410	Cut	-	0.65	Cut of service trench		Modern
411	Layer	-	0.30	Sandy-loam soil	Roman pottery; post-medieval pottery; clay tobacco pipe	Modern
412	Cut	-	0.30	Cut of hollow	-	Modern
413	Fill	-	0.30	Fill of hollow 412	-	Modern
414	Layer	-	0.04	Yellow sand deposit	-	Modern
415	Layer	-	0.05	Grey-brown loam	-	Modern
416	Layer	-	0.16	Crushed red sandstone deposit	-	Post-medieval
417	Fill	-	0.55+	Fill of construction trench 418	-	Post-medieval

418	Cut	-	0.55	Cut of construction trench for wall of 68 Watergate Street	-	Post-medieval
419	Layer	-	0.3	Dark grey silty loam	-	Medieval/early post-medieval?
420	Layer	-	0.2	Mid-grey/brown silty-clay loam	Roman CBM	Late Roman/medieval?
421	Layer	-	0.06	External surface (compacted sandstone fragments and cobbles)		Roman

TP 5						
General description					Orientation	E-W
Test pit devoid of archaeology to the depth investigated. Consists of modern surfaces, make-up deposits and modern soil and rubble.					Length (m)	1.9 (max)
					Width (m)	1.05 (max)
					Avg. depth (m)	1.25
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
501	Layer	-	0.06	Concrete paving slabs	-	Modern
502	Layer	-	0.01	Dark grey silty loam	-	Modern
503	Layer	-	0.02	Sand bedding	-	Modern
504	Layer	-	0.06	Sand bedding	-	Modern
505	Layer	-	0.15	Mid-brown sand	Post-medieval pottery	Modern
506	Layer	-	0.06	Mid-dark grey loam	Post-medieval pottery and glass	Modern
507	Layer	-	0.42	Red-brown sand		
508	Layer	-	0.07	Dark grey loam		Modern
509	Layer	-	0.23	Red-brown sand		Modern
510	Layer	-	0.15+	Loose gravel and mortar-rich sandy soil		Modern

TP 6						
General description					Orientation	E-W
Trench devoid of archaeology to the depth investigated. Consists of modern surfaces/bedding layers and a modern service trench above/cutting a modern layer of soil and rubble.					Length (m)	1.65
					Width (m)	1
					Avg. depth (m)	1.10
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
600	Layer	-	0.07	Flagstones	-	Modern
601	Layer	-	0.08	Sand bedding	-	Modern
602	Cut	0.45+	0.6+	Service trench, east-west alignment	-	Modern
603	Fill	-	-	Grey-brown sandy clay fill of service trench 602	-	Modern
604	Layer	-	0.5+	Grey-brown sandy clay and rubble	-	Modern

Extension Trench to BH 101						
General description					Orientation	N-S
Trench devoid of archaeology to the depth investigated. Consists of modern surfaces, make-up deposits and hardcore over stone and brick rubble.					Length (m)	3.7
					Width (m)	0.90
					Avg. depth (m)	1.25
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
10100	Layer	-	0.07	Flagstones	-	Modern
10101	Layer	-	0.13	Sand bedding	-	Modern
10102	Layer	-	0.25	Gravel and brick hardcore	-	Modern
10103	Layer	-	0.35	Sandstone rubble with some brick	-	Modern
10104	Layer	-	0.40	Dark grey sandy loam, sand, mortar	Roman roof tile (imbrex) fragment	Post-medieval/modern
10105	Layer	-	0.05+	Dark grey sandy loam, brick fragments	Roman roof tile; post-medieval pottery	Post-medieval/modern

BH 5						
General description					Orientation	n/a
Start hole largely devoid of archaeology. Consists of modern surfaces, make-up layers and concrete slabs. However, dark soil 507, the top of which was 0.82m below the surface and extended down below the base of the start hole, may have been an archaeological deposit. Borehole log indicated that 'made ground' (?archaeology) extended to 3-3.5m below the surface.					Length (m)	n/a
					Width (m)	n/a
					Avg. depth (m)	1 (start hole)
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
501	Layer	-	0.08	Brick surface	-	Modern
502	Layer	-	0.02	Sand bedding	-	Modern
503	Layer	-	0.30	Reinforced concrete slab	-	Modern
504	Layer	-	0.17	Hardcore (concrete/brick)		Modern
505	Layer	-	0.22	Concrete		Modern
506	Layer	-	0.05	Tarmac		Modern
507	Layer	-	0.18+	Dark grey sandy clay loam	Undiagnostic CBM	Late Roman/medieval?

BH 6						
General description					Orientation	n/a
Start hole largely devoid of archaeology. Consists of modern surfaces, make-up layers and concrete slabs. However, dark soil 605, the top of which was 0.84m below the surface and extended down below the base of the start hole, may have been an archaeological deposit. Borehole log indicated that 'made ground' (?archaeology) extended to 3.2-3.5m below the surface.					Length (m)	n/a
					Width (m)	n/a
					Avg. depth (m)	1 (start hole)
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
601	Layer	-	0.08	Brick surface	-	Modern
602	Layer	-	0.02	Sand bedding	-	Modern
603	Layer	-	0.30	Reinforced concrete slab	-	Modern
604	Layer	-	0.17	Hardcore (concrete/brick)	-	Modern
605	Layer	-	0.16+	Dark grey sandy loam	Roman pottery	Late Roman/medieval?

BH 8						
General description					Orientation	n/a
Start hole devoid of archaeology. Consists of modern surfaces, make-up layers and concrete to the base of the start hole. Borehole log indicated that 'made ground' (?archaeology) extended to 3.45-3.75m below the surface.					Length (m)	n/a
					Width (m)	n/a
					Avg. depth (m)	1 (start hole)
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
801	Layer	-	0.12	Tarmac road surface	-	Modern
802	Layer	-	0.06	Sand bedding	-	Modern
803	Layer	-	0.10	Hardcore (gravel)	-	Modern
804	Layer	-	0.15	Hardcore (gravel/cobbles)	-	Modern
805	Layer	-	0.17	Sand make-up level	-	Modern
806	Layer	-	0.14	Mid-grey-brown sandy loam	-	Modern
807	Layer	-	0.26	Concrete	-	Modern

BH 11						
General description					Orientation	n/a
Start hole devoid of archaeology. Consists of modern surfaces, make-up layers and concrete. Borehole log indicated that 'made ground' (?archaeology) extended to 3-3.5m below the surface.					Length (m)	n/a
					Width (m)	n/a
					Avg. depth (m)	1 (start hole)
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
1101	Layer	-	0.08	Brick surface	-	Modern
1102	Layer	-	0.04	Sand bedding	-	Modern
1103	Layer	-	0.35	Reinforced concrete slab	-	Modern
1104	Layer	-	0.18	Concrete	-	Modern
1105	Layer	-	0.22	Hardcore (stone)	-	Modern

BH 12						
General description					Orientation	n/a
Start hole largely devoid of archaeology. Consists of modern surfaces, make-up layers and concrete slabs. However, dark soil 1205, the top of which lay 0.45m below the surface and extended down below the base of the start hole, may have been an archaeological deposit. It was seemingly associated with a large sandstone block, but the significance of this is unknown. Borehole log indicated that 'made ground' (?archaeology) extended to 2.53-2.7.5m below the surface.					Length (m)	n/a
					Width (m)	n/a
					Avg. depth (m)	1 (start hole)
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
1201	Layer	-	0.07	Paving slabs	-	Modern
1202	Layer	-	0.03	Sand bedding	-	Modern
1203	Layer	-	0.05	Tarmac	-	Modern
1204	Layer	-	0.30	Reinforced concrete slab	-	Modern
1205	Layer	-	0.55+	Dark grey silty-clay loam	-	Roman/medieval?

BH 13						
General description					Orientation	n/a
Start hole largely devoid of archaeology. Consists of modern surfaces, make-up layers and concrete slabs. However, pale sandy layer 1308, the top of which lay 1m below the surface, yielded only Roman finds and might, therefore, represent the top of significant archaeology. Borehole log indicated that 'made ground' (?archaeology) extended to c 2-2.85m below the surface.					Length (m)	n/a
					Width (m)	n/a
					Avg. depth (m)	1 (start hole)
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
1301	Layer	-	0.06	Brick surface	-	Modern
1302	Layer	-	0.03	Sand bedding	-	Modern
1303	Layer	-	0.03	Sand bedding	-	Modern

1304	Layer	-	0.08	Hardcore (gravel/concrete)	-	Modern
1305	Layer	-	0.10	Tarmac	--	Modern
1306	Layer	-	0.22	Reinforced concrete slab	-	Modern
1307	Layer	-	0.49	Loose, brown sand and brick fragments	-	Modern/late post-medieval
1308	Layer	-	0.01+	Pale grey sand	Roman CBM	Roman?

BH 16						
General description					Orientation	n/a
Start hole devoid of archaeology. Directly beneath the modern paving was a homogeneous deposit of pure sand, that extended to a depth of 1.1m, at which level a membrane above a service run was encountered, and the borehole was abandoned. The precise significance of the sand is unclear, but it may represent the fill of a construction overcut associated with the construction of the basement car park for the Crowne Plaza Hotel.					Length (m)	n/a
					Width (m)	n/a
					Avg. depth (m)	1.1 (start hole)
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
1601	Layer	-	0.05	Paving slabs	-	Modern
1602	Layer/fill?	-	1.05+	Builders' sand	-	Modern

BH 20						
General description					Orientation	n/a
Start hole largely devoid of archaeology. Consists of modern surfaces, make-up layers and concrete slab. However, soils 2006 and 2007, the top of which was 0.57m below the surface, and which extended down below the base of the start hole, may have been archaeological deposits, as they yielded only Roman artefacts. Borehole log indicated that 'made ground' (?archaeology) extended to 2.8m below the surface.					Length (m)	n/a
					Width (m)	n/a
					Avg. depth (m)	1 (start hole)
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
2001	Layer	-	0.06	Brick surface	-	Modern
2002	Layer	-	0.04	Sand bedding	-	Modern
2003	Layer	-	0.08	Tarmac	-	Modern
2004	Layer	-	0.25	Reinforced concrete slab	-	Modern
2005	Layer	-	0.12	Dark grey silty loam	Undiagnostic CBM	Modern
2006	Layer	-	0.33	Reddish grey-brown sandy loam	Roman pottery; undiagnostic CBM	Roman?
2007	Layer	-	0.1+	Pale red sand	-	Roman?

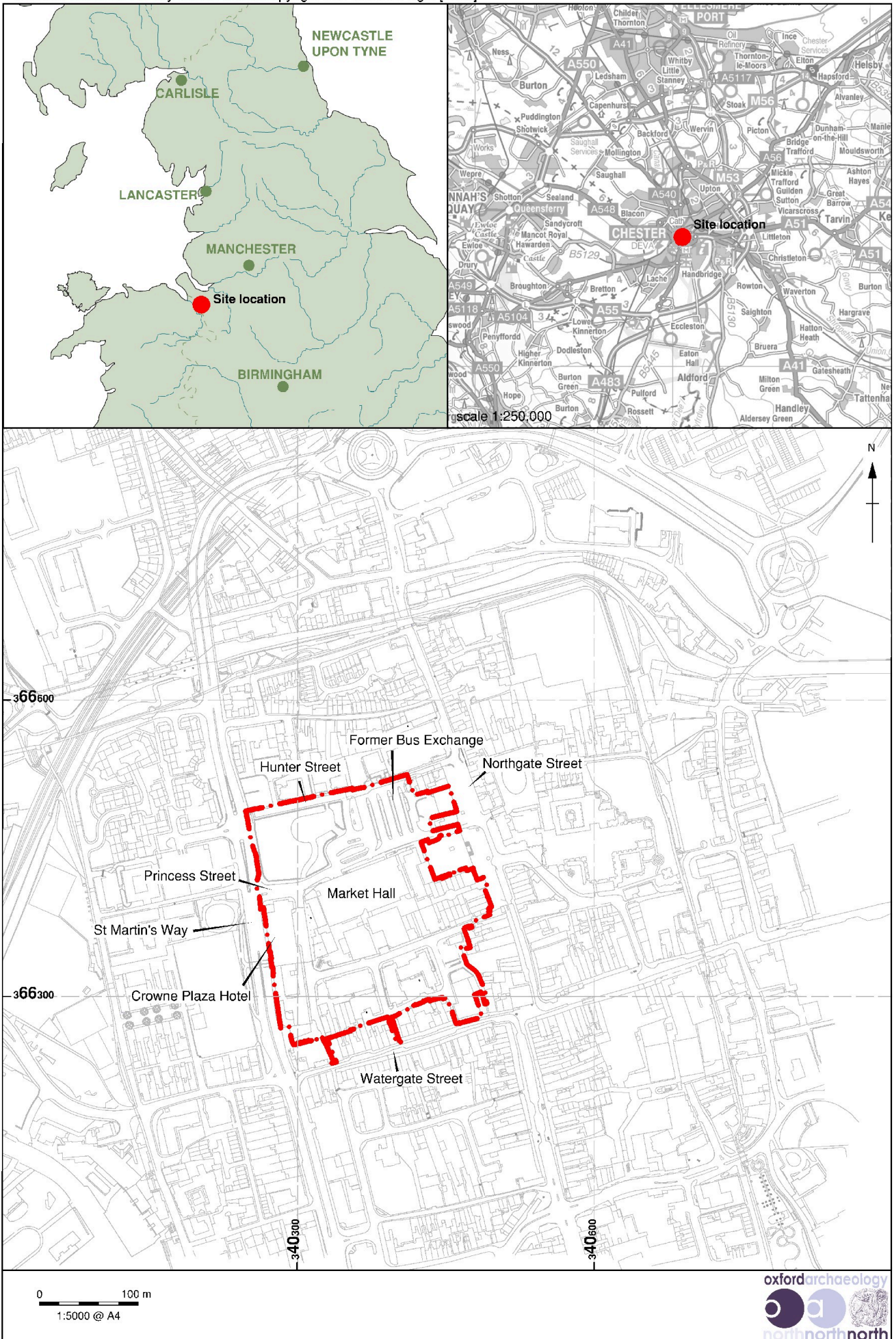
BH 101						
General description					Orientation	n/a
Start hole devoid of archaeology. Consists of modern surfaces, make-up layers and brick rubble, overlying a mixed soil layer (10104) that was certainly of post-medieval date, possibly modern. Borehole log indicated that 'made ground' (?archaeology) extended to c 3.7-4m below the surface.					Length (m)	n/a
					Width (m)	n/a
					Avg. depth (m)	1.1 (start hole)
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
10101	Layer	-	0.09	Tarmac road surface	-	Modern
10102	Layer	-	0.13	Earlier tarmac surface	-	Modern
10103	Layer	-	0.34	Brick rubble	-	Modern
10104	Layer	-	0.44+	Dark grey sandy loam, mortar	-	Post-medieval/modern

BH 103						
General description					Orientation	n/a
Start hole seemingly devoid of archaeology. Consists of modern surfaces, make-up layers and brick rubble. Dark soil 10304, the top of which was 0.55m below the surface, was thought to be of probable post-medieval date, though in fact it remains undated. The borehole was not drilled, being abandoned below the level of the base of the start hole.					Length (m)	n/a
					Width (m)	n/a
					Avg. depth (m)	1.07 (start hole)
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
10301	Layer	-	0.10	Tarmac surface	-	Modern
10302	Layer	-	0.30	Hardcore	-	Modern
10303	Layer	-	0.25	Brick rubble	-	Modern
10304	Layer	-	0.36+	Dark grey-brown silty loam	-	Post-medieval?

APPENDIX B SUMMARY ARTEFACT AND ECOFACT CATALOGUE

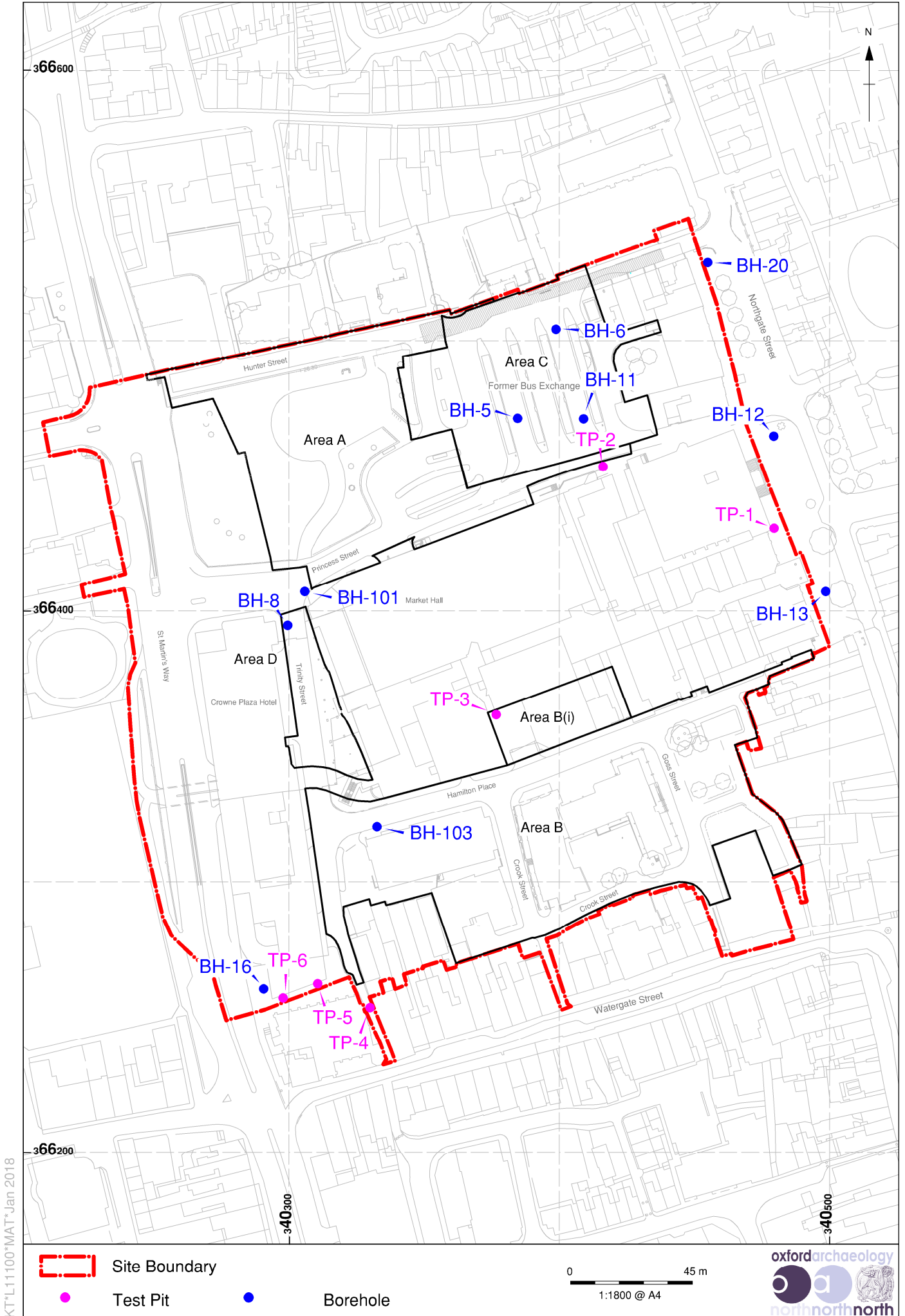
Test pit/borehole	Context No	Count	Description
TP 1	Unstratified	7	<i>Possible Roman CBM</i> : sand-cast tile (2) <i>Post-medieval pottery and tile</i> : fully-reduced green-glazed ware, possibly early post-medieval (1); cream ware (1); orange lusterware-type (1); white earthenware chamber-pot fragment (1); twentieth-century transfer-printed wall tile (1)
TP 2	202	1	<i>Undiagnostic CBM</i> (1)
TP 4	408	3	<i>Post-medieval artefacts</i> : ?Chinese porcelain bowl (1); clay tobacco-pipe stem (2)
TP 4	409	44	<i>Roman and probable Roman CBM</i> (23): includes thick, sand-cast tile fragments, possible box tile, and tegula and imbrex fragments. One probable tegula fragment has a cursive signature, another has a cut-away flange <i>Post-medieval artefacts</i> : nineteenth-century black-glazed redware (1); clay tobacco-pipe stem (1) <i>Ecofacts</i> : small animal-bone fragments (18), including a longitudinally chopped cattle radius/ulna, and a cattle horn core and partial skull; oyster shell fragment (1)
TP 4	409/411	27	<i>Roman and probable Roman CBM</i> (26): mostly small and undiagnostic, but includes tegula fragments <i>Ecofacts</i> : small animal-bone fragment (1)
TP 4	411	8	<i>Roman and probable Roman artefacts</i> : pottery rim fragment in a fine, oxidised fabric. Possibly late first century AD (1); small fragments of CBM (3) <i>Post-medieval artefacts</i> : late redware, probably with white internal slip (1); teacup handle, probably early nineteenth-century pearlware (1); clay tobacco-pipe bowl (spurred), possibly late seventeenth century (1) <i>Ecofacts</i> : small animal-bone fragment (1)
TP 4	420	2	<i>Roman CBM</i> : large tegula fragment with cut-away flange (1) <i>Ecofacts</i> : hare/rabbit tooth (1)
TP 5	505	8	<i>Post-medieval pottery</i> : nineteenth-century refined white earthenware, one fragment with blue-sprigged decoration (2); late stoneware fragment, possibly from a late nineteenth/early twentieth-century hot-water bottle (1) <i>Undiagnostic CBM</i> (4) <i>Ecofacts</i> : animal bone (1)
TP 5	506	15	<i>Post-medieval pottery</i> : hard-fired, black-glazed redware base, possibly late seventeenth century (1); black-glazed redware, probably nineteenth century (1); joining fragments of hard-fired, black-glazed redware, from the base of a jar or jug (3); joining fragment from a (?locally produced) press-moulded slipware dish (2); creamware (1); 'garden ware' (1) <i>Post-medieval glass</i> : dark olive-green bottle base, early nineteenth-century form (1); colourless glass-bottle fragment, twentieth-century milk bottle (1) <i>Undiagnostic CBM</i> (2) <i>Ecofacts</i> : fragments of oyster shells (2)
BH 5	507	15	<i>Undiagnostic CBM</i> : small scraps (15)
BH 6	605	1	<i>Roman pottery</i> : small fragment of flagon in a fine, oxidised fabric with a white slip, approximately late first/second-century AD (1)

BH 13	1308	5	<i>Roman and possible Roman CBM</i> : includes one tegula flange and one fragment with a cursive signature (4) <i>Undiagnostic building material</i> : mortar fragment (1)
BH 13	Unstratified	29	<i>Roman pottery</i> : small, sandy greyware fragment (1) <i>Post-medieval artefacts</i> : nineteenth-century (or later) transfer-printed white earthenware with blue and white underglaze (1); cast-iron fragment (1) <i>Undiagnostic CBM</i> (26)
BH 20	2005	16	<i>Undiagnostic CBM</i> : small fragments of sand-cast tile (15) <i>Ecofacts</i> : animal bone (1)
BH 20	2006	84	<i>Roman pottery</i> : thin-walled amphora with hard-fired, pale pink fabric and a collar at the rim. Possibly a Gauloise 1 wine amphora, first- to third century AD (2); probable Spanish Dressel 20 amphora fragment (1); joining fragments of a rolled and beaded mortarium rim, probably a Wilderspool product, second century AD (2); abraded fragment of oxidised pottery, possibly Severn Valley ware (1); rim fragment from a small jar in a hard-fired, slightly sandy fabric with the suggestion of a cream slip. Form suggests a late first- to early second-century AD date (1); BB1 lid, possibly second century AD (1); reeded-rim bowl in pale greyware, possibly late first- to early second century AD (1); burnished body fragment, possibly fourth-century Crambeck greyware (1); greyware body fragments (2); small oxidised fragments (4) <i>Undiagnostic CBM</i> : small brick/tile fragments, possibly Roman (42) <i>Ecofacts</i> : small animal-bone fragments (26), including a cattle femur with evidence for chopping and filleting, a pig mandible and skull fragment, and a sheep/goat mandible
BH 101 (extension trench)	10103	8	<i>Possible Roman CBM</i> : includes one possible imbrex fragment (3) <i>Post-medieval artefacts</i> : black-glazed redware, including the rim of a straight-sided bowl (4); clay tobacco pipe, spur and stem (1)
BH 101 (extension trench)	10104	1	<i>Roman CBM</i> : imbrex (large fragment) with one surviving original edge (1)
BH 101 (extension trench)	10105	14	<i>Roman CBM</i> : curving, sand-cast tile fragments, probably imbrices (2); fragment of box tile with combed keying pattern (1) <i>Undiagnostic CBM</i> (2) <i>Post-medieval pottery</i> : black-glazed redware (2) <i>Ecofacts</i> : small animal-bone fragments (7)



KT*L1100*MAT*Jan2018

Figure 1: Chester Northgate development location



KTL11100*MAT* Jan 2018

Figure 2: Location of test pits and boreholes

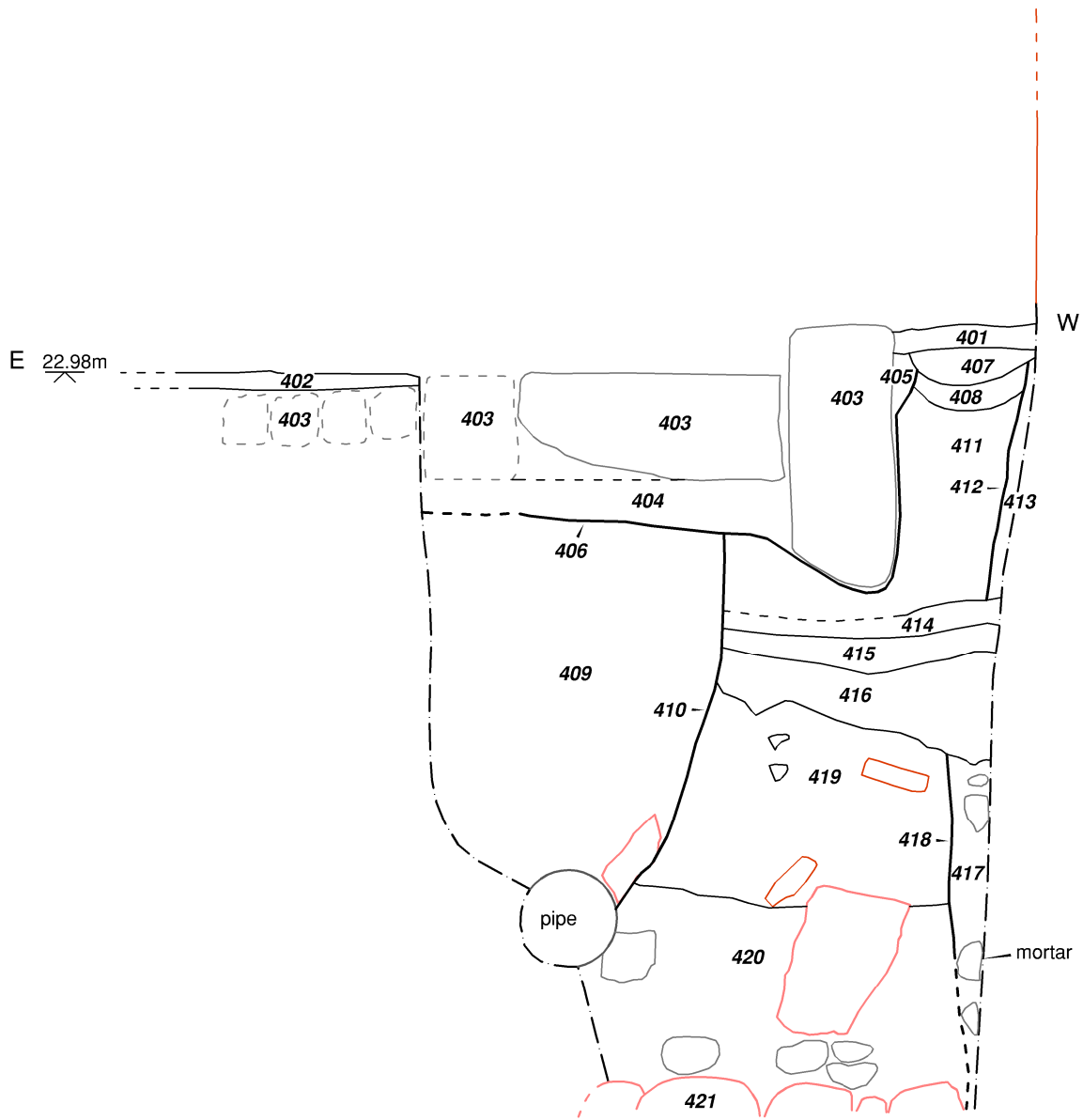
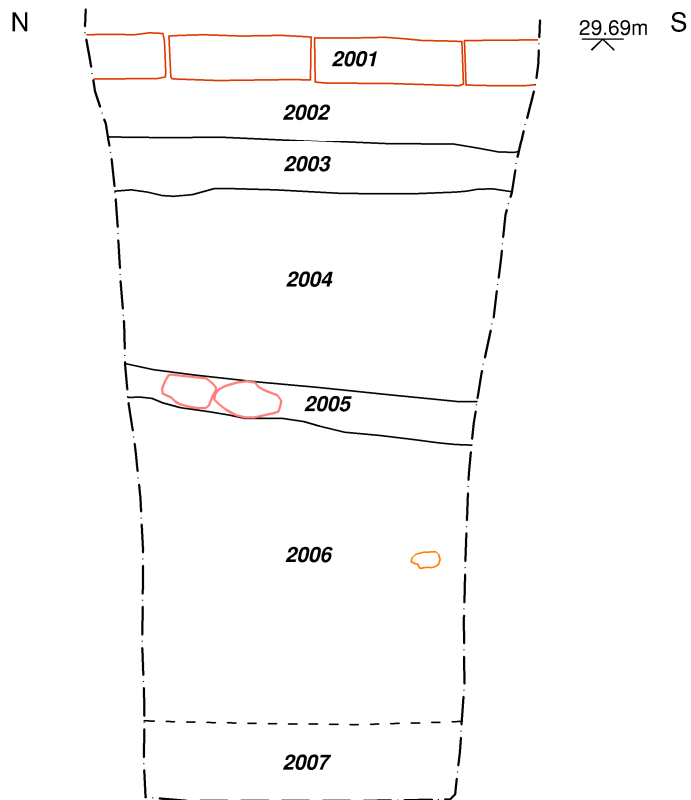


Figure 3: North-facing section, test pit TP-4



0 0.25 m
1:10@ A4

- Limit of Excavation
- Sandstone
- Brick
- Ceramic
- Cut
- Layer/Deposit

Figure 4: West-facing section, start hole for borehole BH-20



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