



Northgate Redevelopment Phase 1, 'Grassy Knoll' and Bus Station, Chester Archaeological Evaluation and Watching Brief Report

March 2020

Client: Vinci Construction UK Ltd

Issue No: 2019-20/2054

OA Reference No: L11279

NGR: SJ 40312 66457



Client Name: Vinci Construction UK Ltd
Document Title: Northgate Redevelopment Phase 1, 'Grassy Knoll' and Bus Station, Chester
Document Type: Evaluation and Watching Brief Report
Report No.: 2019-20/2054
Grid Reference: SJ 40312 66457
Site Code: P1CNG19
Invoice Code: L11279
Receiving Body: Grosvenor Museum, Chester

OA Document File Location: X:\Paul\Projects\L11279_Chester_Northgate_Phase_1_Evaluation\Report

OA Graphics File Location: X:\Paul\Projects\L11279_Chester_Northgate_Phase_1_Evaluation\OAN_CAD

Issue No: V. 1
Date: March 2020
Prepared by: Stephen Morgan (Supervisor)
Checked by: Paul Dunn (Senior Project Manager)
Edited by: Rachel Newman (Senior Executive Officer, Research and Publications)
Approved for Issue by: Rachel Newman (Senior Executive Officer, Research and Publications)
Signature:



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OA South
Janus House
Osney Mead
Oxford
OX2 0ES

t. +44 (0)1865 263 800

OA East
15 Trafalgar Way
Bar Hill
Cambridge
CB23 8SQ

t. +44 (0)1223 850 500

OA North
Mill 3
Moor Lane Mills
Moor Lane
Lancaster
LA1 1QD
t. +44 (0)1524 541 000

e. info@oxfordarchaeology.com

w. oxfordarchaeology.com

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Director and Chief Executive
Gill Hey, BA PhD FSA MCITA

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Registered Office: Oxford Archaeology Ltd
Janus House, Osney Mead, Oxford OX2 0ES

Northgate Redevelopment Phase 1, 'Grassy Knoll' and Bus Station, Chester

Archaeological Evaluation and Watching Brief Report

Written by Stephen Morgan

*With contributions from Chris Howard-Davis and Ian Smith,
and illustrations by Mark Tidmarsh*

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Summary

Oxford Archaeology (OA) North was commissioned by Vinci Construction UK Ltd to undertake an archaeological evaluation and watching brief on the 'Grassy Knoll' (also known as the 'pocket park'), the former bus station, and Hunter's Walk, on the south side of Hunter Street, Chester (NGR: SJ 40312 66457), in respect of Phase 1 of the proposed Chester Northgate redevelopment. The area lies within Chester's legally protected Area of Archaeological Importance (AAI), at the heart of the Roman legionary fortress and within the medieval walls. A Written Scheme of Investigation (WSI) was produced by OA North, which detailed the requirements for the archaeological work. In total, eight evaluation trenches (Trenches E-H and J-L) were to be excavated, to determine the depth, below the modern surface, of the uppermost significant archaeological deposits (the 'archaeological plane'), and to identify any areas where significant archaeology may have been damaged or destroyed. The purpose of this was to determine the potential impact, on significant archaeological remains, of proposed structural features in this area, such as pile caps and lift pits, the trenches being positioned to encompass the proposed locations of as many of these features as was practicable. Eight small test-pits (Trenches i-viii), excavated to assess the condition of wall foundations at the rear of existing buildings fronting Northgate Street, were also monitored by archaeological personnel. The fieldwork was undertaken between 3rd and 16th December 2019.

The archaeological plane was identified in four of the evaluation trenches on the 'Grassy Knoll' (Trenches D, E, F and H). This largely comprised the upper surface of a dark soil containing varying quantities of stone rubble. In places, principally where exposed in the sides of modern intrusions, this was seen to overlie deposits of sandstone rubble, which almost certainly derived from the demolition/decay of buildings in the Roman legionary fortress. Stratigraphically, therefore, the overlying soil appears to date to the late Roman and/or the earlier post-Roman period, though the few finds recovered are Roman, except for seven post-medieval potsherds from the soil in Trench F. It is not clear if the latter should be regarded as intrusive, or if they point to a relatively deep area of post-medieval disturbance at this locale.

In Trench H, both the dark soil and the rubble were recorded in section only, having been removed over the area investigated by extensive disturbance associated with the construction, during the nineteenth century, of buildings on the north side of Princess Street. There, the stratigraphically earliest deposit recorded was a buried soil, lying directly above the natural bedrock, which is thought to represent the ground surface in the early Roman period. This deposit was also recorded further to the east, in Trench G, where late post-medieval disturbance adjacent to Princess Street had also removed all later archaeological remains. Following discussions with the Development Management Archaeologist at the Cheshire Archaeological Planning Advisory Service (CAPAS), it was agreed that this buried soil should not be regarded as

'significant' for the purposes of calculating the archaeological impact of Northgate Phase 1, but should be hand-excavated by archaeological personnel prior to the commencement of construction works in this area.

Further east, in the former bus station, where most of the latest archaeological remains had been excavated and removed in the late 1970s/early 1980s, only the modern surfacing material was removed in Trenches J and K, and nothing of archaeological significance was exposed at this shallow depth. In Trench L, a fragment of sandstone walling, seemingly representing two construction phases, was recorded. Evidence obtained from the earlier archaeological work in this area, and from more recent investigations at the Story House, north of Hunter Street, suggests that it may form part of a large courtyard building of uncertain function, situated in the central range of the legionary fortress. Overlying this was a dark soil deposit, reminiscent of that overlying the late Roman demolition rubble on the 'Grassy Knoll'.

In the eastern part of the Phase 1 site, excavation, by the principal contractor, of the test-pits placed to the rear of the buildings fronting Northgate Street was subject to archaeological monitoring. However, none was excavated to a depth sufficient to expose archaeologically significant remains, if these had survived.

Over most of the areas investigated, the archaeological plane (where recorded) was overlain by a thick build-up of dark soils that, from the associated finds, appear to have accumulated during the medieval and post-medieval periods. These were in turn overlain by modern topsoils and other recent deposits. On the 'Grassy Knoll', a considerable depth of material was deposited in modern times, in relation to landscaping during the establishment of the 'pocket park'. In the former bus station, the archaeological plane was sealed by a soil that yielded a few sherds of medieval pottery. This was itself overlain by a layer of crushed limestone forming the sub-base for the modern reinforced concrete surface.

Acknowledgements

Oxford Archaeology (OA) North would like to thank Vinci Construction UK Ltd for commissioning this project, and Mark Leah, Development Management Archaeologist with the Cheshire Archaeological Planning Advisory Service (CAPAS), for his help and guidance. Thanks are also extended to Robert Symons, Mathew Legg and Jade Pearson of Vinci Construction UK Ltd, for their assistance on site.

The project was managed for OA North by Paul Dunn, with the fieldwork being directed by Bryan Antoni, supported by Emma Fishwick, Selina Dean and Paul Simpkins. Survey and digitising was carried out by Paul Simpkins and Mark Tidmarsh. The report was written by Stephen Morgan, with contributions from Chris Howard-Davis and Ian Smith, and was edited by John Zant and Rachel Newman.

1 INTRODUCTION

1.1 Scope of work

1.1.1 Oxford Archaeology (OA) North was commissioned by Vinci Construction UK Ltd to undertake an archaeological evaluation and watching brief on the 'Grassy Knoll', the former bus station, and on Hunter's Walk, south of Hunter Street, Chester (NGR: SJ 40312 66457; Fig 1), in respect of Phase 1 of the proposed Chester Northgate redevelopment. A Written Scheme of Investigation (WSI) was produced by OA North (*Appendix A*), which detailed the requirements for the archaeological work. In total, eight evaluation trenches (Trenches D-H and J-L; Fig 2) were excavated and eight test-pits (Trenches i-viii) were subject to a watching brief. The purpose of the evaluation, which followed on from an earlier phase of work in August 2019, when three evaluation trenches (Trenches A-C) were excavated on the 'Grassy Knoll' (OA North 2019), was to establish the depth, below the modern surface, of the uppermost significant archaeological deposits (the 'archaeological plane'), and to identify any areas where significant archaeology may have been damaged or destroyed, in order to determine the potential impact, on significant archaeological remains, of proposed structural features in these areas, the trenches being positioned to encompass the proposed locations of as many of these features as was practicable. The test-pits were placed at the rear of standing buildings fronting Northgate Street, and were excavated to assess the condition of their foundations. The fieldwork was undertaken between 3rd and 16th December 2019.

1.2 Location, topography and geology

1.2.1 The proposed development area is within the north-west corner of Chester's historic city centre, roughly centred at SJ 4039 6638 (Fig 1), being bounded 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 scheme has been divided into two phases, with Phase 1 being the northern part of the development, between Princess Street and Hunter Street, and Phase 2 covering the area to the south, from Princess Street to Watergate Street. The archaeological works forming the subject of this report were undertaken in respect of Phase 1.

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 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 2019), which form soils that are classified as slightly acidic, loamy clays (Cranfield Soil and Agrifood Institute 2020).

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 for the whole development (OA North 2016a). The area lies within the north-western quadrant of the Roman legionary fortress, the largest in Britain (Mason 2012), and has also provided evidence for early medieval activity, particularly adjacent to Princess Street (Mason 2007). Whilst the northern part of the site was largely open until the nineteenth century, forming gardens, the southern area was quite densely occupied, and medieval burgage plots extended back from both Northgate Street and Watergate Street (Ward 2009).

2 AIMS AND METHODOLOGY

2.1 Aims

2.1.1 The aims and objectives of the evaluation and watching brief were:

- i. to adhere to and fulfil the agreed programme of works associated with establishing the archaeological potential of the site;
- ii. to determine or confirm the general nature of any remains present;
- iii. to determine or confirm the approximate date or date range of any remains, by means of artefactual or other evidence;
- iv. to quantify the amount of disturbance which has been caused by modern services;
- v. to identify the level at which the top of significant archaeology (the 'archaeological plane' survives across the area of investigation;
- vi. to provide sufficient information to permit the development of a robust strategy of archaeological mitigation;
- vii. to compile a professional archival record of any archaeological remains within the site.

2.2 Methodology

2.2.1 The project methodology, set out in the WSI (*Appendix A*), was adhered to in full, and was fully compliant with current guidelines and industry best practice (CIfA 2014a; 2014b; 2014c; Historic England 2015). The positions of the trenches were surveyed by Vinci Construction UK Ltd, the principal contractor, and all service checks were also undertaken by its staff prior to the commencement of the excavations. In the case of the evaluation works, overburden was removed mechanically, under constant archaeological supervision, down to the archaeological plane, which was then hand-cleaned, the sides of the trenches being stepped, where required. In the small test-pits subjected to a watching brief, overburden was removed by hand, under constant archaeological supervision, down to the depth required by the principal contractor.

2.2.2 All information identified during the site works was recorded stratigraphically, using a system adapted from that used by the former English Heritage Centre for Archaeology, with an accompanying pictorial record (plans, sections, and digital photographs). Primary records were available for inspection at all times.

2.2.3 Results of all field investigations were recorded on *pro forma* context sheets. The site archive includes a photographic record, and accurate large-scale plans and sections at appropriate scales (1:50, 1:20, 1:10).

2.2.4 A full professional archive was compiled in accordance with the WSI, and with current professional guidelines (CIfA 2014c; Historic England 2015). The archive will be deposited with the Grosvenor Museum, Chester.

3 RESULTS

3.1 Introduction and presentation of results

3.1.1 The results of the evaluation and watching brief are presented below, and include a stratigraphic description of the trenches. Full details of each trench, with dimensions and depths of all deposits, can be found in *Appendix B*. Summaries of the finds and palaeoenvironmental data are presented in *Appendices C* and *D*, and an OASIS report form is reproduced as *Appendix E*.

3.2 Trench D

3.2.1 Trench D was excavated in the western part of the 'Grassy Knoll', and was aligned approximately east to west (Fig 2; Fig 3). It measured 3.6 x 2.5m and was excavated to a maximum depth of 2.02m below the modern surface. The sequence of deposits recorded was fairly consistent throughout the length of the trench.

3.2.2 A deposit of sandstone rubble (**569**; Pl 1; Fig 4) was observed in a narrow sondage at the base of the trench (top at 25.43m above Ordnance Datum (aOD)), probably demolition debris from buildings within the Roman legionary fortress. This was overlain by a mid-grey-brown soil (**568**; top at c 25.88m aOD), containing small amounts of sandstone rubble but no artefacts, the surface of which represents, approximately, the archaeological plane. This was sealed by a darker, largely stone-free soil, c 0.4m thick, which was directly overlain by a series of late post-medieval brick and mortar demolition layers lying beneath the modern topsoil.



Plate 1: Trench D, looking north, with Roman demolition **569** at base of trench (scale: 1m)

3.3 Trench E

3.3.1 Trench E was excavated in the north-western part of the 'Grassy Knoll', and was divided into three separate interventions (Fig 3). The westernmost (Pl 2) was 7.5 x 7m and was excavated to a maximum depth of 1.88m. The archaeological plane, comprising a mid-grey-brown sandy-clayey silt containing some sandstone rubble (**581**; Pl 2; Fig 5),

interpreted as a Roman demolition deposit, was recorded at 23.86m aOD. In a small area of deeper disturbance, this was seen to overlie a pale grey-brown clay (**580**), perhaps a buried soil similar to those recorded directly above the sandstone bedrock in Trenches G (*Section 3.5*) and H (*Section 3.6*). Deposit **581** was overlain by a dark soil, c 0.50m thick (**582**), which was in turn cut by the construction trench for a modern brick wall, itself sealed by modern deposits.



Plate 2: Trench E (westernmost intervention), looking north (scale: 1m)

3.3.2 The central part of Trench E (Fig 3; PI 3) was aligned east/west, 3.4 x 1.8m, and was excavated to a maximum depth of 1.8m. As in the western part of this area (*Section 3.3.1*), the archaeological plane was represented by a deposit (**581**; PI 3; Fig 5), containing sandstone rubble, at a depth of 24.08m aOD. This too was overlain by dark soil **582**, there up to 0.6m thick, which was in turn sealed by 1.2m of modern material.



Plate 3: Trench E (central intervention), looking south (scale: 1m)

3.3.3 The easternmost part of Trench E (Fig 3; PI 4), also aligned east/west, was 2.9 x 2.1m, and was excavated to a maximum depth of 2.8m. There too, the archaeological plane

was marked by deposit **581** (Fig 5), which was encountered at 24.40m aOD. As further west, this was overlain by dark soil **582**, in turn cut by a modern construction trench.



Plate 4: Trench E (eastern intervention), looking north (scale: 1m)

3.4 Trench F

3.4.1 Trench F was placed in the central part of the 'Grassy Knoll' (Fig 3) and was aligned east/west. It measured 4.7 x 4.2m and was excavated to a depth of 1.85m. The deposits encountered were largely consistent throughout the trench.

3.4.2 A probable Roman demolition deposit containing sandstone rubble (**613**; Pl 5; Fig 4), recorded at the base of the trench, was overlain by a grey-brown clay loam (**612**), the top of which (c 25.47m aOD) may have marked, approximately, the archaeological plane. However, this deposit was thought to have yielded seven sherds of post-medieval pottery (*Appendix C*), which, if not intrusive, might suggest a deeper area of post-medieval disturbance at this locale. The soil was cut by two features of uncertain form or date (**608**, **610**), recorded in section only. These were in turn sealed by a sequence of post-medieval layers lying directly beneath the modern topsoil.



Plate 5: Trench F, looking north, with Roman demolition **613** at base of trench (scale: 1m)

3.5 Trench G

3.5.1 Trench G was situated in the southern part of the 'Grassy Knoll' (Fig 3) and was 14m square, being excavated to a depth of 1.74m. The area had been extensively truncated by a cellar, the remains of a nineteenth-century building that had once stood on the north side of Princess Street (Fig 6), which exposed the natural sandstone bedrock (**626**) at 24.23m aOD (PI 6; Fig 4). This was overlain by a thin layer of pale brownish-yellow silty sand (**620**), the top of which lay at 24.43m aOD. Although largely removed by the cellar, what remained of this deposit yielded fragments of Roman tile and a single sherd from a ceramic Roman oil lamp, and probably represents a relict soil that formed the ground surface in the early Roman period. It was, however, directly overlain by a sequence of late post-medieval deposits, lying directly beneath the modern topsoil, representing infilling of the nineteenth-century cellar.



Plate 6: Trench G, looking south-east (scale: 1m)

3.6 Trench H

3.6.1 Trench H (PI 7) was excavated in the south-western part of the area investigated (Fig 3) and was aligned north-north-east/south-south-west. It measured 16 x 4m and was excavated to a depth of 2.16m. Upon removal of a post-medieval cellar wall, significant archaeology was identified, at a height of 24.05m aOD, as a 0.5m-thick layer of sandstone rubble (**641**, **642**; Fig 4)), from which two sherds of samian ware were recovered. Below this, at 23.55m aOD (visible in the cut for the cellar wall), was a layer of orange-brown silty sand (**640**). This yielded three fragments of Roman pottery and, like layer **620** in Trench G (Section 3.5), is interpreted as an early Roman relict soil. Above the archaeological plane was a sequence of dark soils (**644**, **645**), in turn overlain by modern topsoil.



Plate 7: Trench H, looking north-north-west, showing demolition deposits **641** and **642** cut by a modern cellar (scale: 1m)

3.7 Trench J

3.7.1 Trench J was situated in the southern part of the former bus station (Fig 2), being excavated merely to establish the depth of the modern surface. Consequently, nothing of archaeological significance was revealed. but significant archaeological remains could potentially survive in this area at a greater depth.

3.8 Trench K

3.8.1 Trench K was situated in the northern part of the former bus station (Fig 2). Like Trench J, to the south, nothing of archaeological significance was revealed. However, as only the modern surface was removed, significant archaeology could survive at a greater depth in this area.

3.9 Trench L

3.9.1 Trench L (Pl 8) was excavated in the north-eastern part of the former bus station (Fig 3) and was aligned north/south. It measured 2.7 x 1.3m and was excavated to a maximum depth of 1.46m. Significant archaeology, in the form of an east/west-aligned sandstone wall (**706/707**; Fig 4) was encountered at 28.16m aOD. This wall, in which there was a gap, 0.6m wide, perhaps a narrow doorway, overlay a layer of yellow-brown sandy soil (**709**) that had accumulated against the south face of an earlier east/west wall (**708**). These clearly represented elements of a stone building (or buildings) and associated deposits within the Roman legionary fortress. These structures had then been sealed by a layer of dark soil (**704**; top at 28.29m aOD)), which appears to have accumulated against and subsequently overlay them, this being the archaeological plane. Deposit **704** yielded no datable artefacts, but its stratigraphic position, directly above Roman structural remains, suggests that it may be analogous with the archaeological plane as recorded on the 'Grassy Knoll'. It was sealed by a further accumulation of soil (**703**) that yielded two sherds of medieval pottery (Appendix C), and which was itself cut by the construction cut, **705**, for a late post-medieval brick wall **710** lying below modern deposits.



Plate 8: Trench L, looking east (scale: 1m)

3.10 Watching brief

3.10.1 The eight small test-pits (i-viii; Fig 2) excavated in the eastern part of the site revealed information pertaining to the character of the wall foundations at the rear of standing buildings fronting Northgate Street. However, whilst an archaeological watching brief was maintained during this work, nothing of significance was observed, since the pits were not excavated to any great depth, and only post-medieval and modern deposits were exposed.

3.11 Finds and palaeoenvironmental summary

3.11.1 A small assemblage of 63 artefacts was assessed (*Appendix C*). The material includes 33 potsherds, weighing 1784g, and 26 fragments of building material (8312g). There are, in addition, a fragment of copper-alloy wire and a very small (3g) fragment of clay tobacco-pipe stem, both from dark soil **644** in Trench H (*Section 3.6.1*).

3.11.2 The pottery comprises relatively large fragments and is generally unabraded, suggesting that it came from undisturbed contexts. The identifiable Roman ceramic building material also survives as large, unabraded fragments, the average fragment weight being 388g.

3.11.3 The palaeoenvironmental assemblage (*Appendix D*) comprises a small collection of animal-bone fragments, mostly from post-medieval deposits, and a few fragments of oyster (*Ostrea edulis*) shell.

4 DISCUSSION

4.1 Reliability of field investigation

4.1.1 In general, the reliability of the archaeological evaluation was good, with the differing deposits being clearly visible. The weather was variable throughout, with low sunlight sometimes affecting visibility. The amount of disturbance, particularly close to Princess Street, meant that Roman demolition deposits were sometimes exposed in section, confirming the validity of the archaeological plane elsewhere on the site.

4.2 Interpretation

4.2.1 The programme of archaeological works succeeded in identifying the level of significant archaeological remains in the areas investigated, and also identified areas of potential disturbance to the archaeology. The deposits throughout the trenches were fairly consistent, and the archaeological plane could be traced, with little variation in height, throughout the site.

4.2.2 On the 'Grassy Knoll', the archaeological plane was principally represented by a grey-brown soil, containing varying amounts of rubble, that directly overlay Roman demolition debris in those places where the latter was exposed by later disturbance (Trenches D, E and F). This soil (Trench D, **568**; top at c 25.88m aOD: Trench E, **581**; top at c 24.40m aOD: Trench F, **612**; top at c 25.47m aOD) yielded only a few Roman artefacts (except for seven post-medieval potsherds from **612**, which may or may not have been intrusive (*Section 3.4.2*)) but, stratigraphically, it seems likely that it was accumulating during the late Roman/early post-Roman period. However, being exposed in such limited areas, it is unsurprising that no indication of occupation activity was recorded, since evidence for early post-Roman settlement within the legionary fortress at Chester is sparse and extremely ephemeral (Mason 2007).

4.2.3 Similar material was not present in Trench G, and only a small 'island' of demolition debris (top at c 24.05m aOD) was identified in Trench H, these remains having been largely destroyed, within the areas investigated, during the construction of nineteenth-century buildings on the north side of Princess Street, as depicted on the Ordnance Survey 1:500-scale plan of Chester, published in 1874 (Fig 6). However, in both trenches, a buried soil was identified, directly overlying the sandstone bedrock (Trench G, **620**; top at 24.43m aOD: Trench H, **640**; top at 23.55m aOD). This yielded only Roman artefacts, and probably represents the old ground surface in the early Roman period.

4.2.4 Above the archaeological plane in Trenches D, E and F were layers of darker soil containing little or no rubble, which, on artefactual and stratigraphic evidence, appear to have accumulated during the medieval and post-medieval periods. These had also been removed by nineteenth-century building works adjacent to Princess Street and were not, therefore, recorded in Trenches G and H.

4.2.5 In the former bus station, an east/west wall of two structural phases was recorded (**708** below **706/707**), the top of which lay at 28.16m aOD. These appear to represent part of a large courtyard building of uncertain purpose, in the central range of the legionary fortress, parts of which were investigated before the bus station was built in

the early 1980s (Strickland 1982), and, to the north of Hunter Street, on the site of the Story House (Dodd 2018). The latest phase of walling was overlain by a dark soil (**704**), the top of which (c 28.29m aOD) is thought to represent, approximately, the archaeological plane. Above this was a further soil accumulation (**703**) that yielded two sherds of later medieval pottery, itself directly overlain by the limestone sub-base for the modern concrete surface. If not intrusive, the pottery suggests that **703** may have been broadly analogous to the medieval/post-medieval darks soils lying above the archaeological plane on the 'Grassy Knoll'. However, during an earlier phase of archaeological evaluation in the bus station (OA North 2016b), similar soils, also lying directly beneath the sub-base, were recorded in two small trenches excavated to the west and south of Trench L, and were interpreted as being of Roman date, since they yielded only Roman artefacts. Because the two earlier trenches were situated some distance from Trench L, concordance between these soils and **703** is not possible, and comparisons of the recorded absolute heights are not particularly useful. However, it may be worthy of note that the top of the 'Roman' soils in both of the earlier trenches (c 27.87m aOD, to the south; c 26.88m aOD, to the west), was at a markedly lower level than the top of **703** (c 28.51m aOD). It is possible, therefore, that **703** represents a remnant of a medieval soil that was not fully removed during the earlier investigations.

- 4.2.6 The construction cut (**705**) for post-medieval brick wall **710**, appeared to cut through the deposits overlying walls **706/707**, suggesting that some later truncation had occurred. Wall **710** appears to correspond well to the northern wall of the Consolidated School depicted on the Ordnance Survey 1:500 map of 1874 (Fig 6), suggesting that partial truncation of the archaeological plane may have occurred in the building's footprint.

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APPENDIX A WRITTEN SCHEME OF INVESTIGATION



Northgate Redevelopment Phase 1, Grassy Knoll and Bus Station, Chester

Written Scheme of Investigation Archaeological Evaluation and Watching Brief

November 2019

Client: Vinci Construction UK Ltd

Issue No: V. 2

OA Reference No: SJ 40312 66457



Client Name: Vinci Construction UK Ltd
Document Title: Northgate Redevelopment Phase 1, Grassy Knoll and Bus Station, Chester
Document Type: Written Scheme of Investigation
Grid Reference: SJ 40312 66457
Site Code: P1CHG19
Invoice Code: L11279

OA Document File Location: X:\Paul\Projects\L11279_Chester_Northgate_Phase_1_Evaluation\WSI
OA Graphics File Location: X:\Paul\Projects\L11279_Chester_Northgate_Phase_1_Evaluation\WSI_Figs

Issue No: V. 2
Date: November 2019
Prepared by: Paul Dunn (Project Manager)
Checked by: Paul Dunn (Project Manager)

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OA South

Janus House
Osney Mead
Oxford
OX2 0ES

t. +44 (0)1865 263 800

OA East

15 Trafalgar Way
Bar Hill
Cambridge
CB23 8SQ

t. +44 (0)1223 850 500

OA North

Mill 3
Moor Lane Mills
Moor Lane
Lancaster
LA1 1QD

t. +44 (0)1524 880 250

e. info@oxfordarch.co.uk

w. oxfordarchaeology.com

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Director and Chief Executive
Gill Hey, BA PhD FSA MCIFA
Private Limited Company, No: 1618597
Registered Charity, No: 285627
Registered Office: Oxford Archaeology Ltd
Janus House, Osney Mead, Oxford OX2 0ES

Northgate Redevelopment Phase 1, Grassy Knoll and Bus Station, Chester

Written Scheme of Investigation for an Archaeological Evaluation and Watching Brief

Centred on SJ 40312 66457

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1 INTRODUCTION

1.1 Project details

- 1.1.1 Oxford Archaeology (OA) North has been commissioned by Vinci Construction UK Ltd to undertake an archaeological evaluation and watching brief in the Grassy Knoll and former bus station on the south side of Hunter Street, Chester (NGR: SJ 40312 66457 (Fig 1)), in respect of Phase 1 of the proposed Chester Northgate redevelopment.
- 1.1.2 The city of Chester is renowned as a place of immense historical significance, in recognition of which the buried archaeological remains across much of the historic city centre are afforded statutory protection as an Area of Archaeological Importance (AAI) under the terms of the Ancient Monuments and Archaeological Areas Act (1979). Within the AAI, where all archaeological remains are considered in the same way as scheduled monuments, a planning application has been submitted for the redevelopment of the Northgate area, which lies in the heart of the historic city centre, west of Northgate Street and north of Watergate Street (SJ 4039 6638; Fig 1). The Chester Northgate Project comprises a mix of retail, residential and leisure development extending over an area in excess of 5ha. It is proposed that construction will be undertaken in three phases (Phases 0, 1, 2), with work commencing on the northern part of the site (Phases 0 and 1), between Hunter Street and Princess Street. A detailed planning application in respect of Phases 0 and 1 was submitted to CWaC in June 2016.
- 1.1.3 In addition to being located within Chester's AAI (*Section 1.1.1*), the Northgate site encompasses all or part of seven of the city's primary Archaeological Character Areas, as defined in the Chester Archaeological Plan (Beckley and Campbell 2014). The Plan, funded by English Heritage (now Historic England) as part of the Chester Urban Archaeological Database (UAD) Project, was endorsed by the Cheshire West and Chester Local Development Framework Panel as a key Evidence Base Document supporting the preparation of the Chester District Local Plan (M Leah *pers comm*).
- 1.1.4 Within the Northgate site, the character, significance and preservation of buried archaeological remains is generally well understood, since the area has, over the past 25 years, been subject to a range of archaeological investigations, including evaluation trenching, borehole observations and archaeological audits, in respect of earlier proposals (not subsequently progressed) for the redevelopment of the area. At the request of the Development Management Archaeologist for the Cheshire Archaeological Planning Advisory Service (CAPAS), two phases of evaluation trenching were also carried out by Oxford Archaeology North (OA North) in respect of the present scheme (OA North 2015; 2016a), and OA North has also prepared three desk-based assessments (DBAs) for differing aspects of the project. The first of these (OA North 2016b), which collated the results of earlier archaeological interventions in the area, assessed the potential of the surviving archaeology within the site, and presented estimates for the predicted impact of the Northgate scheme on significant archaeological remains, was presented as a technical appendix to the planning application for Phases 0 and 1 (*Section 1.1.1*). The other two DBAs were prepared to inform proposals for the construction of a new surface-water drain linking the

development site with the River Dee (OA North 2016c) and for the construction of an electricity substation to serve the new development (OA North 2016d).

- 1.1.5 In 1997, a Brief and Specification for archaeological mitigation works within the Northgate site was prepared by the former Chester City Archaeologist in respect of an earlier development proposal (Morris 1997). A substantially revised version of this document, presented as an annex to the development brief for the present Northgate project, identified four zones of differing archaeological potential (Zones 1-4), in terms of the likelihood (or otherwise) for the survival of significant below-ground archaeological remains. Within the zones of greatest archaeological significance (Zones 1 and 2), the brief stipulates that there should be a presumption in favour of *in situ* preservation of archaeological deposits, with an intrusive impact of no more than 3% where damage or destruction of archaeological remains is unavoidable. No such constraints apply to Zone 3 (archaeological potential uncertain) or Zone 4 (archaeological remains believed to be wholly or largely destroyed), but an appropriate level of archaeological mitigation is required where archaeological deposits requiring 'preservation by record', but not of sufficient significance to be preserved *in situ*, are found to exist.
- 1.1.6 Consequently, the Development Management Archaeologist at CAPAS requested that Written Schemes of Investigation (WSIs) should be prepared, detailing the proposed methodologies for each of the archaeological mitigation strategies (namely *in situ* preservation, excavation, strip-and-record and watching brief) that are to be adopted in respect of Phases 0 and 1 of the Chester Northgate scheme. The present document represents the WSI for archaeological evaluation and watching brief.
- 1.1.7 All work will be undertaken in accordance with local and national planning policies referenced within this document.

1.2 Oxford Archaeology

- 1.2.1 OA North, based in Lancaster, is the northern office of Oxford Archaeology (Chartered Institute for Archaeologists' (CIfA) registered organisation no 17), the leading archaeological and heritage practice in the country, employing in excess of 250 professionals across three regional offices. OA North is itself the largest archaeological contractor in north-west England. As a registered educational charity, OA is dedicated to maintaining and promoting the highest professional, academic, commercial and ethical standards and to the provision of access to archaeology for all. It has both an established reputation and a philosophical imperative in the pursuit of efficient and cost-effective fieldwork, post-excavation excellence, and high-quality publication and outreach. We pride ourselves on our delivery of accessible outreach, including open days, lectures, information panels, leaflets, etc.
- 1.2.2 With over 40 years of experience in commercial archaeology, OA has undertaken tens of thousands of archaeological investigations of all types, scales and periods, from desk-based assessments to major open-area excavations. OA has particular experience of working closely with principal contractors, consultants, and curators to undertake high-quality archaeological works within the tight timetables and high-pressure environments of major projects.

2 AIMS AND OBJECTIVES

2.1 Academic Aims

2.1.1 The aim of this archaeological evaluation of Phase 1 of the Northgate scheme, is to, excavate eight trenches (Trenches D, E, F, G, H, J, K and L; Fig 2). For the most part, these trenches correspond with Zones 1, 2 and 3 (*Section 1.1.4*). Trenches D, E, F, G and H will be excavated in the locations of pile caps, ground beams and lift shafts on the Grassy Knoll. Whilst, Trenches J, K and L will be excavated within the former bus station, however, Trenches J and K will only be excavated to the top of the concrete underlying the bus station, only Trench L will be excavated to any depth. The main objective of the archaeological watching brief will be to provide a permanent archaeological presence during the excavation of 8 test-pits to the rear of the library (Fig 2). For the most part, the area corresponds with Zones 3 and 4 (*Section 1.1.4*).

2.1.2 The main objective of the evaluation and watching brief should be to identify, expose, excavate and record any archaeological remains that may survive within the targeted areas, furthering understanding of the level of preservation of archaeological remains in these locations and assisting with providing further information so that a subsequent mitigation strategy can be developed.

2.1.3 All archaeological work will be carried out in accordance with best practice guidelines, including the following:

- Historic England's Management of research projects in the historic environment, or MoRPHE (2015), with specific reference to the tenets of MoRPHE's Project Planning Note 3: archaeological excavation;
- the second edition of English Heritage's (now Historic England's) Management of archaeological projects, or MAP 2 (English Heritage 1991);
- the European Association of Archaeologist's (EAA's) Principles of conduct for archaeologists involved in contract archaeological works (EAA 1998);
- the ClfA's Code of conduct (2014a); Code of approved practice for the regulation of contractual arrangements in field archaeology (2014b); and Standard and guidance for an archaeological watching brief (2014c);
- the National Planning Policy Framework (NPPF; DCLG 2012).

2.2 Specific aims and objectives

2.2.1 The specific aims and objectives of the evaluation and watching brief are:

- i. to adhere to and fulfil the agreed programme of works associated with the archaeological potential of the site;
- ii. to determine or confirm the general nature of any remains present;
- iii. to determine or confirm the approximate date or date range of any remains, by means of artefactual or other evidence;
- iv. to quantify the amount of disturbance which has been caused by modern services;

- v. to identify the level at which the Roman archaeological plane survives across the Grassy Knoll and bus station;
- vi. provide sufficient information that a fully and accurately costed subsequent mitigation scheme can be developed, should such remains be identified;
- vii. to compile a professional archival record of any archaeological remains within the site.

3 PROJECT SPECIFIC EXCAVATION AND RECORDING METHODOLOGY

3.1 Scope of works

- 3.1.1 The evaluation works will involve the excavation of, eight trenches (Trenches D, E, F, G, H, J, K and L; Fig 2). Trenches D, E, F, G and H will be excavated in the locations of pile caps, ground beams and lift shafts on the Grassy Knoll. Whilst, Trenches J, K and L will be excavated within the former bus station, however, Trenches J and K will only be excavated to the top of the concrete underlying the bus station, only Trench L will be excavated to any depth. The trenches will be excavated using a suitably sized mechanical excavator fitted with a toothless ditching bucket and supervised by a suitably experienced archaeologist. The trenches will be excavated to the top of significant archaeology, or natural geology, whichever is encountered first. The main aim of the evaluation being to quantify the amount of disturbance which has been caused to the archaeological remains in the area and to identify the level at which significant archaeology survives. Once the trenches have been excavated, they will be hand cleaned and recorded by the archaeologists. Once fully recorded the trenches will be lined with terram and then backfilled by the Principal Contractor.
- 3.1.2 The watching brief works will involve the continuous monitoring of eight test-pits to the rear of the library (Test-pits i-viii; Fig 2). The test-pits will be excavated to the Principal Contractor's required depth (maximum of 1.2m below ground level) or to the top of significant archaeology, if encountered first. If there is any requirement to excavate beyond the required depth and natural geology has not been identified, the watching brief would be required to continue. The main aim of the watching brief being to monitor the works being undertaken by the Principal Contractor and to identify and record any archaeological remains encountered. Once the trenches have been excavated, they will be hand cleaned and recorded by the archaeologist. Once they have been fully recorded, they will be backfilled by the Principal Contractor.

3.2 Programme

- 3.2.1 It is anticipated that the fieldwork will take up to eight days to complete, commencing 2nd December 2019, led by a project officer, supported by two archaeologists, under the management of Paul Dunn, Project Manager.
- 3.2.2 All fieldwork undertaken by OA North is overseen by the Operations Manager, Alan Lupton MCifA.

3.3 Site specific methodology

- 3.3.1 **Evaluation:** the trenches will be excavated by a mechanical excavator, fitted with a toothless ditching bucket, provided by Principal Contractor, under constant supervision of the OA North archaeologist. The mechanical excavation will proceed in even spits, of no more than 0.1m, to 1m below ground level, the first significant archaeological horizon, or the Roman archaeological plane, whichever is encountered first. If the Roman archaeological plane is not identified in the first 1m below ground level, hand dug sondages will be excavated in the locations of the pile caps, to the Roman archaeological plane.

- 3.3.2 **Watching Brief:** the eight test-pits will be excavated, either by hand or by a suitably sized mechanical excavator, fitted with a toothless ditching bucket, supplied by the Principal Contractor, under constant monitoring of the OA North archaeologist. The excavation will proceed to the first significant archaeological horizon or the Principal Contractor's required depth (1.2m below ground level), whichever is encountered first. If there is any requirement to excavate or drill beyond the required depth and natural geology has not been identified, the watching brief would be required to continue. If archaeology is identified first, the Development Management Archaeologist at CAPAS, will be contacted and works will only proceed with their approval, an additional WSI may be required.
- 3.3.3 Recording: once the trenches and test-pits have been fully excavated, they will be cleaned by hand sufficiently to enhance any features or stratigraphy. All information identified in the course of the site works will be recorded stratigraphically, using a system adapted from that used by the Centre for Archaeology Service of English Heritage. Results of the evaluation will be recorded on *pro-forma* context sheets and will be accompanied with sufficient pictorial records (plans, sections and digital photographs) to identify and illustrate individual features. The site archive will include plans and sections at appropriate scales (plans 1:20 and sections 1:10).
- 3.3.4 A full and detailed photographic record of individual contexts will be maintained and similarly general views from standard viewpoints of the overall site at all stages of the evaluation will be generated. Photography will be undertaken using 16 or 18 mega-pixel digital SLR or hybrid compact digital cameras, and all frames will include a graduated metric scale (Historic England 2015b). The images will be taken in JPEG and RAW formats. Photograph records will be maintained on special photographic *pro-forma* sheets.
- 3.3.5 **Human remains:** are not expected to be present, but if they are found relevant Home Office permission will be sought, and the removal of such remains will be carried out with due care and sensitivity as required by the Burials Act 1857 and industry best practice.
- 3.3.6 **Treasure:** any gold and silver artefacts recovered during the course of the works will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act 1996.
- 3.3.7 **Finds Policy:** finds recovery and sampling programmes will be in accordance with best practice (following current Chartered Institute for Archaeologists guidelines) and subject to expert advice in order to minimise deterioration. Finds will be recorded and reported on by appropriately qualified staff.
- 3.3.8 **Environmental Policy:** the strategy for palaeo-environmental and other specialist sampling will be developed on site, in consultation with appropriate specialists, as necessary. The environmental sampling strategy will therefore evolve from discussion between those specialists and the field team and will be in accordance with current best practice. In broad terms, however, the sampling strategy will be aimed at recovering palaeobotanical, palaeo-zoological and pedological evidence, from appropriately stratified contexts, should any such features be identified during the course of the excavation.

3.3.9 **Backfilling:** once the trenches have been fully recorded and the Development Management Archaeologist at CAPAS has been afforded the opportunity to view the trenches, they will be fully lined with terram, to ease their future location and to also demarcate significant archaeological remains, they will then be backfilled by the Principal Contractor. The test-pits will be backfilled by the Principal Contractor once they have been fully recorded by the OA North archaeologist.

4 PROJECT SPECIFIC REPORTING AND ARCHIVE METHODOLOGY

4.1 Programme

4.1.1 A copy of the report in Adobe Acrobat (.pdf) format will be provided to the client and the CAPAS archaeologist for review and approval. A digital copy of the report will also be made available through OASIS.

4.2 Report Content

4.2.1 A draft copy of a written synthetic post-excavation assessment report will be submitted to the client for comment within six weeks of completion of the fieldwork, although the time frame for production of the report can be tailored to the client's requirements upon prior agreement. The report will include a copy of this WSI, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above and present an assessment of the history of the site. The report will include the following:

- A title page detailing site address, NGR, author/originating body, client's name and address;
- Full content's listing;
- A non-technical summary of the findings of the fieldwork;
- A description of the archaeological background;
- A detailed account of the historical development of the site, as appropriate;
- A description of the topography and geology of the site;
- A description of the methodologies used during the fieldwork;
- A description of the findings of the fieldwork;
- Detailed plans of the watching brief and evaluation trenches, showing the archaeological features exposed. The site location will be plotted with at least 4 12-figure national grid references on the site plan at a scale of 1:2500;
- Interpretation of the archaeological features exposed and their context within the surrounding landscape;
- Specialist analysis reports on the artefactual/ecofactual/industrial remains from the site;
- Appropriate photographs of specific archaeological features. Appropriate photographs of specific finds of interest will also be included, if needed;
- A consideration of the importance of the archaeological remains present on the site in local, regional and national terms;
- A complete bibliography of sources consulted;
- Illustrative material will include a location map, site map, site plans and pertinent photographs.

4.3 Specialist input

- 4.3.1 OA has a large pool of internal specialists, as well as a network of external specialists with whom OA have well established working relationships. A general list of these specialists is presented in *Section 8*; in the event that additional input should be required, an updated list of specialists can be supplied.

4.4 Archive

- 4.4.1 The results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current Historic England guidelines (2015a), and in accordance with the Guidelines for the Preparation of Excavation Archives for Long-Term Storage (UKIC 1990). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. This archive will be provided in the English Heritage Centre for Archaeology format.
- 4.4.2 The site archive will be deposited with the Grosvenor Museum, Chester following the completion of the project. This will follow appropriate industry guidelines (CifA 2014c). The Arts and Humanities Data Service (AHDS) online database project Online Access to index of Archaeological Investigations (OASIS) will be completed as part of the archiving phase of the project.

5 HEALTH AND SAFETY

5.1 General

- 5.1.1 The Project Manager, Paul Dunn, has responsibility for ensuring that safe systems of work are adhered to on site. Elements of this responsibility will be delegated to the Project Officer, who implements these on a day to day basis. Paul Dunn and Ian Smith are supported by OA North's Health and Safety Advisor, Fraser Brown.
- 5.1.2 The Director with responsibility for Health and Safety at OA is Dan Poore Tech IOSH (Chief Business Officer).

5.2 Method Statement and risk assessment

- 5.2.1 All work will be undertaken in accordance with the current OA Health and Safety Policy, the OA Site Safety Procedures Manual, a site-specific Risk Assessment and, if required, Safety Plan or Method Statement. Copies of the site-specific documents will be submitted to the client or their representative for approvals prior to mobilisation, and all relevant H and S documentation will be available on site at all times. The Health and Safety documentation will be read in conjunction with the project WSI.
- 5.2.2 Where a project falls under the Construction (Design and Management) Regulations (2015), all work will be carried out in accordance with the Principal Contractor's Construction Phase Plan (CPP).
- 5.2.3 The OA are fully familiar and comply with all current and relevant legislation, including, but not limited to:
- The Health and Safety at Work Act (1974);
 - Management of Health and Safety at Work Regulations (1999);
 - Manual Handling Operations Regulations 1992 (as amended in 2002);
 - The Construction (Design and Management) Regulations (2015);
 - The Control of Asbestos Regulations (Revised 2012);
 - Confined Spaces Regulations (1997);
 - The Workplace (Health, Safety and Welfare) Regulations (1992);
 - Construction (Health, Safety and Welfare) Regulations (1996);
 - The Work at Height Regulations (2005);
 - The Control of Substances Hazardous to Health Regulations (2002);
 - The Health and Safety (First Aid) Regulations (1981);
 - The Regulatory Reform (Fire Safety) Order (2005);
 - The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (1995);
 - The Provision and Use of Work Equipment Regulations (1998);
 - Lifting Operations and Lifting Equipment Regulations (1998).

5.3 Services and Other Constraints

- 5.3.1 Service plans will be provided by the client or Principal Contractor and will be available on site. However, the identification and marking of any services will be the responsibility of the principal contractor. The OA North archaeologist will be made aware of any services encountered.

5.4 Contamination

- 5.4.1 Any known contamination issues or specific health and safety requirements on site will be made known by the Principal Contractor to ensure all procedures can be met, and that the risk is dealt with appropriately. Should any presently unknown contamination be discovered during the works, it may be necessary to halt the works and reassess the risk assessment.

5.5 Ground Conditions

- 5.5.1 Areas of unstable and infilled ground may be encountered during the evaluation, for example within, or in the vicinity of, infilled cellars/basements or large, deep service runs. This may limit access to some areas, and/or require the use of shoring or similar, particularly if limited archaeological remains are exposed at the base of deep cellars or basements (eg the truncated remains of deep pits, wells or ditches). The stability of the ground should be constantly monitored during the works and should it be deemed that work be halted for health and safety reasons, the Client, CAPAS and Historic England should be informed immediately.
- 5.5.2 Archaeological personnel should not enter individual features that are more than 1.2m deep (or shallower features that are narrow and/or potentially unstable), but if access to such a feature proves necessary, the sides should first be appropriately shored, and a safe means of access and egress (eg a properly secured ladder) should be provided.

5.6 Staff Issues

- 5.6.1 All staff will be provided with appropriate Personal Protective Equipment (PPE), including steel toe and mid-soled boots, high-visibility vest, and a hard hat. All staff will be CSCS qualified, proof of which will be provided in the form of their CSCS card.
- 5.6.2 Welfare facilities, including a toilet and hand-washing facilities, will be provided by the Principal Contractor.
- 5.6.3 The Northgate area is located in the centre of Chester, and it is assumed that the site will be appropriately secured by the Principal Contractor.

5.7 Monitoring of works

- 5.7.1 Notice has been provided for the commencement of the archaeological evaluation and watching brief to Mark Leah, Planning Archaeologist for Cheshire Archaeology Planning Advisory Service (CAPAS).
- 5.7.2 CAPAS will have free access to the site (subject to Health and Safety considerations) and all records to ensure the works are being carried out in accordance with this WSI and all other relevant standards.

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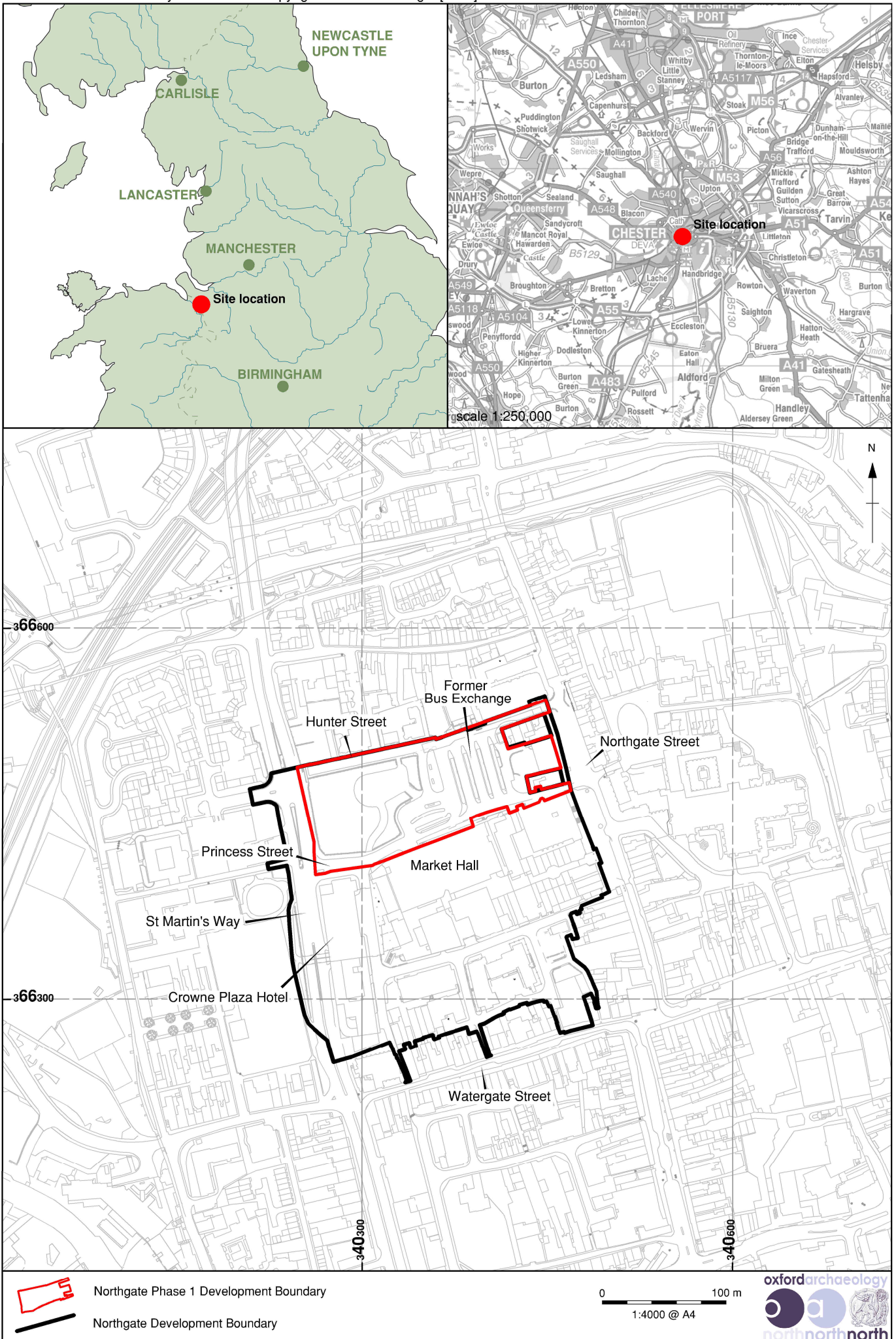
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7 FIGURES



RN*T24147*MAT*August 2019



Northgate Phase 1 Development Boundary
Northgate Development Boundary

0 100 m
1:4000 @ A4



Figure 1: Chester Northgate development location

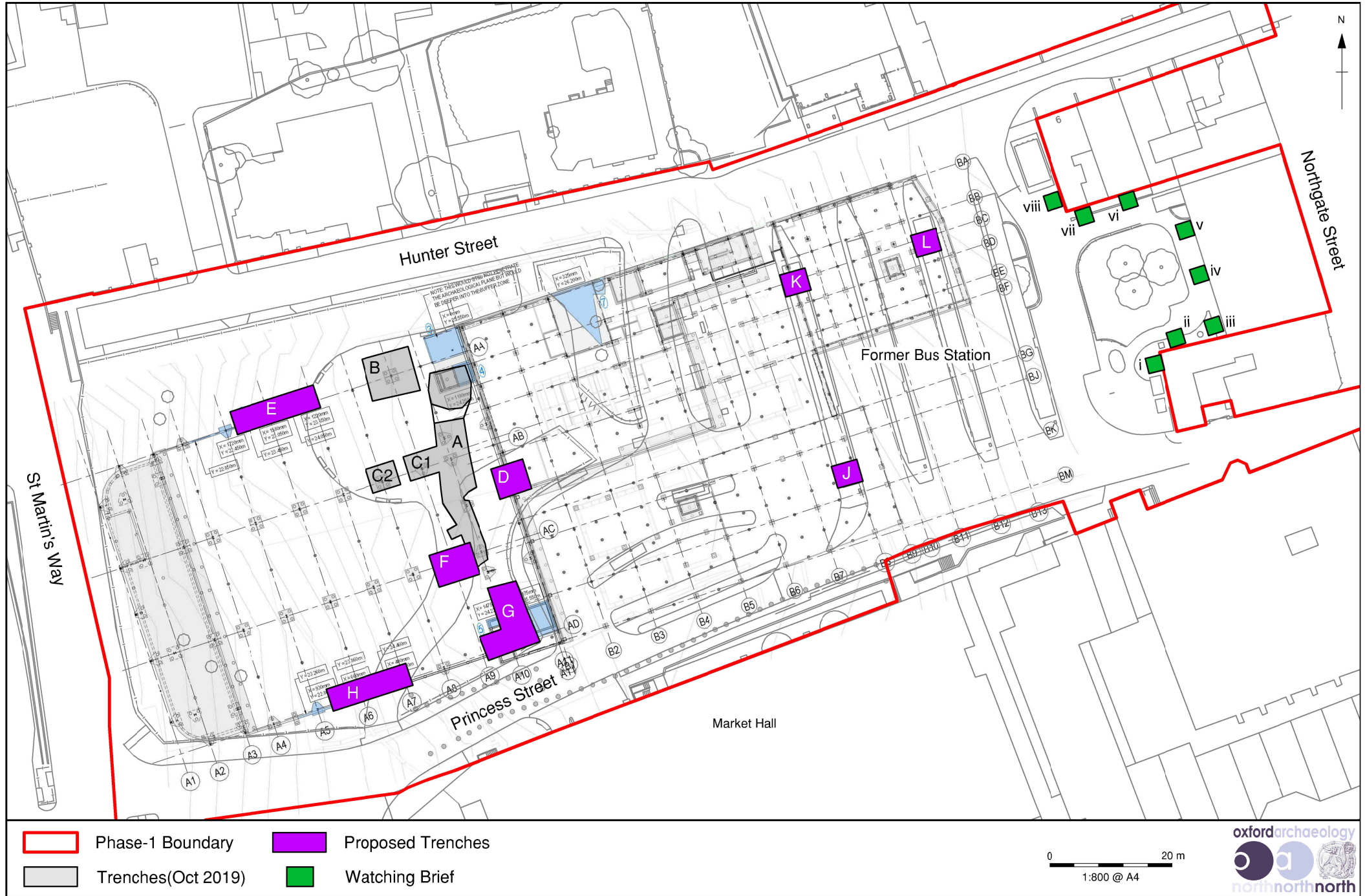


Figure 2: Proposed further investigation works

8 LIST OF SPECIALISTS REGULARLY USED BY OA

A.1.1 Below are two tables, one containing 'in-house' OA specialists, and the other containing a list of external specialists who are regularly used by OA.

Internal archaeological specialists used by OA

Specialist	Specialism	Qualifications
John Cotter	Medieval and Post Medieval pottery, Clay Pipe and CBM	BA (Hons), MCIfA
Dr Alex Davies	Prehistoric Pottery	BA (Hons), MA, PhD, ACIfA
Edward Biddulph	Roman Pottery	BA (Hons), MA, MCIfA
Kate Brady	Roman Pottery	BA, ACIfA
Cynthia Poole	CBM and Fired Clay	BA (Hons), MSc
Ian Scott	Metalwork and Glass	BA (Hons)
Leigh Allen	Metalwork and worked bone	BA (Hons), PGDip
Dr Ruth Shaffrey	Worked stone artefacts	BA, PhD, MCIfA
Julian Munby	Architectural Stone	BA, FSA
Dr Rebecca Nicholson	Fish and Bird Bone	BA (Hons), MA, D.Phil, MCIfA, FSA Scot
Dr Lee Broderick	Animal bone	BA (Hons), MA, MSc, FZG, SAC Dip (ecology), PhD
Dr Mairead Rutherford	Pollen	BSc, MSc
Ian Smith	Animal Bone	BA (Hons), MSc, PCIfA
Dr Martyn Allen	Animal Bone	BA (Hons), MA, PhD
Dr Denise Druce	Charred plant remains, charcoal and pollen	BA (Hons), PhD, MCIfA
Sharon Cook	Charred plant remains	BSc, MSc, ACIfA
Elizabeth Stafford	Geoarchaeology and land snails	BA (Hons), MSc
Carl Champness	Geoarchaeology	BA (Hons), MSc, ACIfA
Nicola Scott	Archaeological archive deposition	BA (Hons Dunelm)
Mike Donnelly	Flint	BSc, MCIfA
Dr Louise Loe	Human Bone	D.Phil, BA, MCIfA
Helen Webb	Human Bone	MSc, BSc
Mark Gibson	Human Bone	MSc, BA
Dr Lauren McIntyre	Human Bone	D.Phil, MSc, BSc

External archaeological specialists regularly used by OA

Specialist	Specialism	Qualifications
Lynne Keys	Slag	BA (Hons)
Quita Mould	Leather	BA, MA
Penelope Walton Rogers, The Anglo Saxon Laboratory	Identification of Medieval Textiles	FSA, Dip.Acc
Dana Goodburn-Brown	Conservation	BSc (Hons), BA, MSc
Steve Allen, York Archaeological Trust	Conservation	BA, MA, MAAIS
Dr Richard Macphail	Soils, especially Micromorphology	BA (Hons), MSc, PhD
Dana Challinor	Charcoal	MA, MSc
Dr Nigel Cameron	Diatoms	BSc, MSc, PhD
Dr David Smith	Insects	BA (Hons), MA, PhD
Professor Adrian Parker	Phytoliths and pollen	BSc (Hons), D.Phil
Dr David Starley	Metalworking Slag	BSc (Hons), PhD
Wendy Carruthers	Charred and waterlogged plant remains	BA (Hons)
Dr John Whittaker	Ostracods and Foraminifera	BA (Hons), PhD
Dr John Crowther	Soil Chemistry	MA, PhD
Dr Martin Bates	Geoarchaeology	BSc, PhD
Dr Dan Miles	Dendrochronology	D.Phil, FSA
Dr Jean-Luc Schwenninger	Optically Stimulated Luminescence Dating	PhD
Dr David Higgins	Clay Pipe	BA, PhD, MCIfA
Dr Hugo Anderson- Wymark	Flint	BSc, PhD, FSA Scot, MCIfA
Dr Damian Goodburn- Brown	Ancient Woodwork	BA, PhD



**Head Office/Registered Office/
OA South**

Janus House
Osney Mead
Oxford OX20ES

t: +44 (0) 1865 263 800
f: +44 (0) 1865 793 496
e: info@oxfordarchaeology.com
w: <http://oxfordarchaeology.com>

OA North

Mill 3
Moor Lane
Lancaster LA1 1QD

t: +44 (0) 1524 541 000
f: +44 (0) 1524 848 606
e: [oanorth@oxfordarchaeology.com](mailto: oanorth@oxfordarchaeology.com)
w: <http://oxfordarchaeology.com>

OA East

15 Trafalgar Way
Bar Hill
Cambridgeshire
CB23 8SQ

t: +44 (0) 1223 850500
e: [oaeast@oxfordarchaeology.com](mailto: oaeast@oxfordarchaeology.com)
w: <http://oxfordarchaeology.com>



Director: Gill Hey, BA PhD FSA MCIfA
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APPENDIX B TRENCH DESCRIPTIONS AND CONTEXT INVENTORY

Trench D						
General description					Orientation	E/W
Roman demolition deposit 569 consisted of a light reddish-brown silty sand, at a depth of 25.43m above Ordnance Datum (aOD). This was overlain by dark soil horizons, the earliest of which (568 ; top at c 25.88m aOD) constitutes the archaeological plane. These were in turn themselves sealed by a series of post-medieval brick and mortar demolition layers below modern topsoil.					Length (m)	3.6
					Width (m)	2.5
					Max depth (m)	2.02
Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
560	Layer	-	0.17	Disturbed topsoil	-	Modern
561	Layer	-	0.21	Mid-orange-red sand	-	Modern
562	Layer	-	0.40	Mid-grey-brown silty sand levelling deposit with brick and ceramic inclusions	-	Modern
563	Layer	-	0.10	Pale grey silty sand with brick and stone fragments	-	Post-medieval
564	Layer	-	0.17	Mid-grey-brown silty sand with brick and stone inclusions	-	Post-medieval
565	Layer	-	0.15	Pale grey silty sand and rubble, with brick fragments	-	Post-medieval
566	Layer	-	0.10	Pale grey silty sand and rubble, with brick fragments	-	Post-medieval
567	Layer	-	0.41	Dark grey-brown soil with some rubble	-	Medieval/post-medieval
568	Layer	-	0.45	Mid-grey-brown soil with little rubble	-	Late Roman/early medieval?
569	Layer	-	0.04 (left <i>in situ</i>)	Pale red-brown silty sand with mottled patches	-	Roman
Note: Context numbers 570 to 579 were not used.						

Trench E						
General description				Orientation		NNE/SSW
<p>A sandstone rubble demolition deposit (581) in the westernmost intervention was recorded at a depth of 23.86m aOD. In a small area of deeper disturbance, this was seen to overlie a pale grey-brown clay soil (580), perhaps a Roman buried soil. Deposit 581 was overlain by dark soils, which were in turn cut by the construction cut for a modern brick wall. A make-up layer and topsoil sealed the wall.</p> <p>In the central intervention, rubble deposit 581 was again identified, at a depth of 24.08m aOD. This was overlain by a 0.60m-thick grey-brown sandy-clayey silt, which lay beneath 1.20m of modern material.</p> <p>Rubble layer 581 was also present in the easternmost intervention, at 24.40m aOD. There, it was overlain by a dark grey-brown sandy-clayey silt, which was cut by a modern construction trench.</p>				Length (m)		West: 7.50 Centre: 3.40 East: 2.90
				Width (m)		West: 7.00 Centre: 1.80 East: 2.10
				Max depth (m)		West: 1.88 Centre: 1.80 East: 2.80
Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
580	Layer	-	Left <i>in situ</i>	Pale yellow-brown-mottled grey-brown clay, with frequent sandstone fragments, charcoal and ceramic building material inclusions	-	Roman
581	Layer	-	0.18	Dark grey-brown sandy-clayey silt, with frequent sandstone fragments and occasional charcoal flecks	-	Roman
582	Layer	-	0.54	Dark grey-brown sandy-clayey silt, with small sandstone fragments and occasional pebbles	-	Medieval/post-medieval
583	Layer	-	0.38	Mid-brown sandy-clayey silt with small pebbles and charcoal inclusions	-	Modern
584	Layer	-	0.38	Pale grey, moderately coarse crushed concrete, used to raise ground level	-	Modern
585	Layer	-		Dark grey sandy-clayey silt, with charcoal flecks and occasional small pebbles	-	Modern

Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
586	Structure	-	0.45	E-W wall of machine-cut bricks (225 x 115 x 76mm). Part of a demolished modern building. Set in construction cut 588	-	Modern
587	Fill	-	0.18	Pale red-brown sandy clay. Fill of construction trench 588	-	Modern
588	Cut	-	0.16	Modern construction trench for wall 586 and backfill 587	-	Modern

Note: Context numbers **589** to **599** were not used.

Trench F						
General description				Orientation	E/W	
A sandstone rubble layer (613) was recorded at a depth of 25.07m aOD. This was overlain by a grey-brown sandy-clayey silt (612), the top of which (c 25.47m aOD) may constitute the archaeological plane. However, it contained seven post-medieval potsherds, which, if not intrusive, might indicate post-medieval disturbance. Layer 612 was cut by two features of unknown function, which were in turn overlain by a sequence of post-medieval layers and modern topsoil.				Length (m)	4.70	
				Width (m)	4.20	
				Max depth (m)	1.85	
Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
600	Layer	-	0.27	Disturbed topsoil	-	Modern
601	Layer	-	0.33	Pale grey-brown silty sand with mottled red patches, gravel and brick fragments	-	Modern
602	Layer	-	0.39	Dark grey-brown silty sand with brick and stone fragments	-	Modern
603	Layer	-	0.18	Pale red-brown silty sand with grey mottling, brick and stone inclusions	-	Modern
604	Layer	-	0.29	Mid-grey-brown silty sand and rubble	-	Modern
605	Layer	-	0.24	Dark grey-brown silty sand	-	Post-medieval
606	Layer	-	0.14	Mid-grey-brown silty sand	-	Post-medieval

Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
607	Fill	-	0.18	Dark grey silty sand with red mottling, brick fragments and rubble. Uppermost fill of pit 610 , above 611	-	Post-medieval
608	Cut	-	0.20	Recorded in section only, so shape in plan unknown. Gradually sloping sides, base not observed. Filled by 609	-	Post-medieval
609	Fill	-	0.20	Dark grey-brown silty sand with charcoal and small stone inclusions. Fill of 608	-	Post-medieval
610	Cut	-	0.36	Recorded in section only, so shape in plan unknown. Gradually sloping sides, base not observed. Filled by 607 and 611	-	Post-medieval
611	Fill	-	0.18	Mid-grey-brown clayey silt with charcoal flecks and small stone inclusions. Primary fill of 610 , below 607	-	Post-medieval
612	Layer	-	0.46	Mid-grey brown clayey silt with red mottled patches	Amphora; Roman tile; post-medieval pottery	Late Roman/early medieval or post-medieval?
613	Layer	-	Left <i>in situ</i>	Mid-red-brown silty sand with large sandstone inclusions	-	Roman

Note: Context numbers **614** to **619** were not used.

Trench G						
General description					Orientation	N/A
Bedrock was encountered at 24.23m aOD and was found to be overlain by a pale yellow-brown silty sand (620), seemingly a buried soil representing the ground surface in the early Roman period, at 24.43m aOD. This layer contained fragments of Roman tile and part of a Roman ceramic oil lamp. It was directly overlain by a sequence of post-medieval deposits lying beneath modern topsoil.					Length (m)	14
					Width (m)	14
					Max depth (m)	1.74
Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
620	Layer	-	0.34	Pale yellow-brown silty sand, no inclusions	Roman ceramic lamp fragment; Roman ceramic building material	Roman
621	Layer	-	0.30	Dark grey-brown silty sand with rubble and slate fragments	Roman ceramic building material; animal bone	Post-medieval
622	Layer	-	0.24	Pale brown silty sand with small to large stone inclusions	-	Post-medieval
623	Layer	-	0.67	Dark grey-brown silty sand, with slate fragments and stone rubble	Post-medieval pottery; sewer-pipe fragments	Post-medieval
624	Layer	-	0.05	Mid-red-brown silty sand, no inclusions	-	Post-medieval
625	Layer	-	0.49	Pale grey-brown silty sand, disturbed topsoil	-	Modern
626	Layer	-	Left <i>in situ</i>	Red-pink sandstone bedrock	-	Natural
Note: Context numbers 627 to 639 were not used.						

Trench H						
General description					Orientation	NNE-SSW
Significant archaeology was identified at a depth of 24.05m aOD as a demolition deposit (641/642), which survived only in a small 'island' of stratigraphy behind a post-medieval construction cut. This overlay an orange-brown silty sand relict subsoil (640), which contained sherds of Roman pottery. Above the demolition debris was a sequence of dark soils, which were in turn overlain by modern topsoil.					Length (m)	16
					Width (m)	4
					Max depth (m)	2.16
Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
640	Layer	-	0.17	Mottled yellow/orange-brown silty sand with only a few small charcoal inclusions	Roman pottery; post-medieval pottery (one sherd, probably intrusive)	Roman

Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
641	Layer	-	0.44	Mid-grey-brown sandy-clayey silt, with sandstone rubble and charcoal inclusions	-	Roman
642	Layer	-	0.34	Mid-yellow-brown silty sand with large sandstone fragments	Roman pottery	Roman
643	Layer	-	0.36	Dark grey-brown clayey silt with large charcoal flecks	-	Post-medieval
644	Layer	-	0.36	Mid-grey-brown clayey silt with small sandstone fragments and charcoal flecks	Roman ceramic building material; post-medieval pottery; clay tobacco-pipe fragment; sewer-pipe fragment; chimney-pot fragment; copper-alloy wire fragment; animal bone	Post-medieval
645	Layer	-	0.54	Dark grey-brown clayey silt with sandstone inclusions	Oyster shell	Medieval/post-medieval
646	Layer	-	0.60	Mid-grey-brown silty sand with some stone rubble. Disturbed topsoil	-	Modern
Note: Context numbers 647 to 659 were not used.						

Trench J						
General description				Orientation	NNE-SSW	
The trench was excavated to identify the extent of the concrete slab beneath the former bus station. As such, only the brick road surface (660) and sand bedding layer 661 were removed to the top of the concrete slab (662). No archaeological remains were encountered.				Length (m)	2.70	
				Width (m)	1.30	
				Max depth (m)	0.20	
Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
660	Structure	-	0.10	Brick road surface	-	Modern
661	Layer	-	0.10	Sand bedding for brick road surface 660	-	Modern
662	Layer	-	-	Blue-grey reinforced concrete	-	Modern
Note: Context numbers 663 to 679 were not used.						

Trench K						
General description					Orientation	NNE-SSW
The trench was excavated to identify the extent of the concrete slab beneath the former bus station. As such, only the brick road surface (680) and sand bedding layer 681 were removed to the top of the concrete slab (682). No archaeological remains were encountered.					Length (m)	2.70
					Width (m)	1.30
					Max depth (m)	0.20
Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
680	Structure	-	0.10	Brick road surface	-	Modern
681	Layer	-	0.10	Sand bedding for brick road surface 680	-	Modern
682	Layer	-	-	Blue-grey reinforced concrete	-	Modern
Note: Context numbers 683 to 699 were not used.						

Trench L						
General description					Orientation	NNW-SSE
An east/west-aligned sandstone wall (706/707) was encountered at 28.16m aOD. This wall, in which there was a gap, 0.6m wide, perhaps a narrow doorway, overlay a layer of yellow-brown sandy soil (709) that had accumulated against the south face of an earlier east/west wall (708). A poorly defined feature (705), recorded in section only, seemingly cut the north side of 706/707 . These remains, which clearly represent elements of a stone building (or buildings) and associated deposits within the Roman legionary fortress, were overlain by a dark soil (704), the top of which (28.29m aOD) may constitute the archaeological plane. It was overlain by a soil (703) that yielded two medieval potsherds, which was itself cut by a late post-medieval brick wall lying below modern deposits.					Length (m)	2.70
					Width (m)	1.30
					Max depth (m)	1.46
Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
700	Layer	-	~0.10	Brick road surface	-	Modern
701	Layer	-	0.32	Blue-grey reinforced concrete surface	-	Modern
702	Layer	-	0.37	Mid-yellow limestone hardcore (sub-base for 701)	-	Modern
703	Layer	-	0.25	Mid-red-brown silty sand with small brick/tile fragments and charcoal inclusions	Medieval pottery	Medieval/post-medieval

Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
704	Layer	-	0.52	Dark grey-brown clayey silt with occasional sandstone and brick/tile fragments	-	Undated, but stratigraphic position suggests possibly late Roman/early medieval
705	Cut	-	0.75	Construction cut for post-medieval wall 710	-	Post-medieval
706	Structure	-	0.30	E/W-aligned wall of roughly dressed red sandstone blocks. Up to three courses surviving. Same as 707	-	Roman
707	Structure	-	0.20	E/W-aligned wall, same as 706 . Gap of 0.6m between the two fragments may indicate a narrow doorway, but not certain	-	Roman
708	Structure	-	0.05	E/W-aligned wall, with only the top visible beneath later wall 706/707 . Constructed of regular-sized, squared sandstone blocks	-	Roman
709	Fill	-	0.02	Pale yellow-brown silty sand with occasional charcoal flecks. Very little seen, but seems to have accumulated against wall 708 , and pre-dated later wall 706/707	-	Roman

Context No	Type	Width (m)	Depth (m)	Description	Finds	Date
710	Structure	-	0.75	Hand-made brick wall, aligned north/south, although appearing to turn 90° to the west, truncating wall 706/707 . The wall was one brick wide and bonded with sandy lime mortar. Constructed within construction cut 705	-	Post-medieval
711	Fill	1	0.75	Fill to the south of wall 710 , possibly cellar backfill	-	Post-medieval

Note: Context numbers **712** to **719** was not used.

APPENDIX C FINDS REPORTS

C.1 Pottery

By Chris Howard-Davis

C.1.1 All of the pottery has been examined and recorded following the basic guidelines laid down in *A Standard for Pottery Studies in Archaeology* (Prehistoric Ceramics Research Group *et al* 2016) and the data recorded in an Excel Spreadsheet. Diagnostic sherds (rims and bases) were too infrequent to justify the calculation of EVEs.

C.1.2 **Roman pottery:** there are, in total, eight fragments of Roman-period pottery, together weighing 285g. The overall average sherd weight is c 36g, but, if amphora is excluded, this falls to 27.7g. The sherds are not heavily abraded. Wares were both imported and British-made (Table 1), coming exclusively from Trenches F, G and H on the 'Grassy Knoll' (Table 2).

	No frags	Weight (g)	Average weight (g)	% total by count	% total by weight
Amphora	2	76	38	25	26.67
Orange/buff oxidised wares	2	15	7.5	25	5.03
Samian	3	176	58.6	37.5	61.75
Oil lamp	1	18	18	12.5	6.3
Total	8	285	35.6		

Table 1: Roman-period ware-types represented

Context no	Orange-buff oxidised wares	Oil lamp	Samian	Amphora	Total
612				2	2
620		1			1
640	2		1		3
642			2		2
Total	2	1	3	2	8

Table 2: Distribution Roman-period ware-types between contexts

C.1.3 Two joining fragments of a small bowl with a plain upright rim, in a hard-buff oxidised fabric, came from buried soil **640**, in Trench H. This is likely to be of second-century date.

C.1.4 There are three fragments (176g; average sherd weight 58.6g) of samian ware, from buried soil **640**, and demolition layer **642** (Trench H). The joining sherds from **642** can be identified as a dish of form Dr 18/31, a Lezoux product with a stamp of Silvanus ii (SILVANI), datable to c AD 130-60 (Dickinson 2014, 251). The form of the small fragment from **640** is not clear, but it could be from the rim of a small Dr 30 bowl, a form current throughout the entire period of samian production (Webster 1996).

- C.1.5 There are, in addition, two small fragments (76g) of thick-walled vessel provisionally identified as amphora, from deposit **612** (Trench F). The fabric is not well-preserved, however, and has not been identified.
- C.1.6 One fragment from layer **620** (Trench G) is identifiable as deriving from the nozzle of an oil lamp, of a type known as factory lamps (*firma lampen*) of Loeschke's type 10 (Loeschke 1919). The type appears in Britain c AD 90, and is most common in the second century, before falling out of use and occurring only occasionally in the early third century (*ibid*).
- C.1.7 **Medieval pottery:** there are two small fragments of medieval pottery. These comprise two joining fragments of incompletely reduced green-glazed ware, decorated with a thumbled cordon, from deposit **703**, which are broadly datable to the mid-twelfth- to mid-fourteenth century (McCarthy and Brooks 1988).
- C.1.8 **Post-medieval and later pottery:** there are, in total, 21 fragments of post-medieval and later pottery, together weighing 1435g (Table 3), with an average sherd weight of c 68.3g. The bulk of the material is unabraded and comprises large, frequently joining, fragments, suggesting that it is unlikely to have travelled far prior to deposition.

Ceramic type	No Frags	Weight (g)	Average sherd weight (g)	% total by count	% total by weight
Black-glazed redware	11	842	76.5	52.3	58.67
Brown-glazed redware	2	154	77	9.52	10.73
Early Blackware	4	161	40.25	19.04	11.21
Coarse, unglazed redware	1	182	182	4.76	12.68
Late grey stoneware	1	46	46	4.76	3.2
Refined white earthenware	1	24	24	4.76	1.67
Black-glazed redware with internal slip	1	26	26	4.76	1.81
Totals	21	1435	68.33		

Table 3: Post-medieval and later ware-types

- C.1.9 There is nothing exceptional in the assemblage, except to note that it is dominated by various dark-glazed redwares, several of which are early forms, including handled cups, from deposit **644**, and a handled jar of probable seventeenth-century date, from layer **623** (Table 4). The latter is paralleled by material from early post-Dissolution pits at Warrington Friary (Howard-Davis 2002, fig V.14) or the contemporary production site at Rainford (Philpott *et al* 2015, fig 5.43, no 118).

Context no	Black-glazed redware	Brown-glazed redware	Early Blackware	Black-glazed redware with internal slip	Coarse, unglazed redware	Late grey stoneware	Refined white earthenware	Totals
612	6			1				7
623			1					1
640					1			1
644	5	2	3			1	1	12
Total	11	2	4	1	1	1	1	21

Table 4: Distribution of post-medieval and later ware-types between contexts

C.1.10 It is of note that the excavations did not produce any typically late seventeenth- and eighteenth-century finewares, which might have been expected to appear on sites that were occupied during this period, and later wares are also rather scant. Nineteenth- and early twentieth-century material is confined to one fragment of late stoneware and one of refined white earthenware, both from deposit **644**.

C.2 Building Material

By Chris Howard-Davis

C.2.1 In total, 14 fragments of ceramic building material were recovered. Roman-type material came from layers **612**, **620**, **621** and **644**. Most was recovered from buried soil **620** (3111g), which produced pieces of flanged tegulae, thin, curved fragments, which can probably be identified as imbrices, and thick, flat fragments which are probably from floor tiles; one fragment bears an incomplete cursive signature. Large fragments of tegulae also came from deposits **612** (957g), and **644** (2564g), but the small fragments from **621** are undiagnostic.

C.2.2 Pieces of modern, salt-glazed sewer pipes came from layers **623** (two fragments, 563g) and **644** (one fragment, 116g). The latter was found alongside a large fragment (730g) from the upper rim of a chimney pot.

C.3 Other finds

By Chris Howard-Davis

C.3.1 There is a single plain fragment from a clay tobacco-pipe stem, recovered from deposit **644**. This layer also yielded a small loop of copper-alloy wire, which cannot be dated.

APPENDIX D ENVIRONMENTAL REPORTS

D.1 Faunal Remains

By Ian Smith

D.1.1 A small quantity of mammal bones, teeth and oyster-shell fragments (the latter comprising 11 fragments weighing c 193g) were recovered, from layers **621**, **640**, **644** and **645**. Identification to species, anatomical element and side were attempted for each bone specimen. Diagnostic zones of mammal bones were recorded following Serjeantson (1996), and surface preservation was assessed following Harland *et al* (2003). Reference was made to Winder (2017) with regard to the oysters.

D.1.2 **Provenance and dating:** three of the contexts from which bone was recovered were (for the purposes of this report) not considered 'significant archaeology'. One (**621**) was a post-medieval demolition layer, whilst the other two (**644**, **645**) were post-medieval soils. None of these deposits can be considered to be undisturbed, and could, potentially, contain residual material of mixed date (Table 5). Buried soil **640** was potentially one of the more interesting deposits, seemingly being of Roman date, but produced only a single (pig) tooth.

Context No	Common name	Taxa	Element	Side	NISP	Serjeantson zones (or note)	Fusion state
621	large mammal (cattle/horse size)	Mammalia	rib	left	1	1,2	
640	pig	<i>Sus sp</i>	tooth, mandibular incisor	right	1	none	
644	large mammal (cattle/horse size)	Mammalia	rib	indeterminate	1	7	
644	large mammal (cattle/horse size)	Mammalia	skull/cranium	left	2	1	
644	pig	<i>Sus sp</i>	humerus	left	2	5,6,7,8	unfused metaphysis and refitting epiphysis
645	oyster	<i>Ostrea edulis</i>	valve	right	4	none	

Table 5: Faunal remains from the excavations

D.1.3 **Preservation:** amongst the bones, the surface texture is good enough that fine cut marks might be recognised. Most surfaces range from 'good' to 'fair' with regard to surface texture, following the York system (Harland *et al* 2003), although one fragment (a refitting epiphysis) is 'poor'. There is no burnt bone.

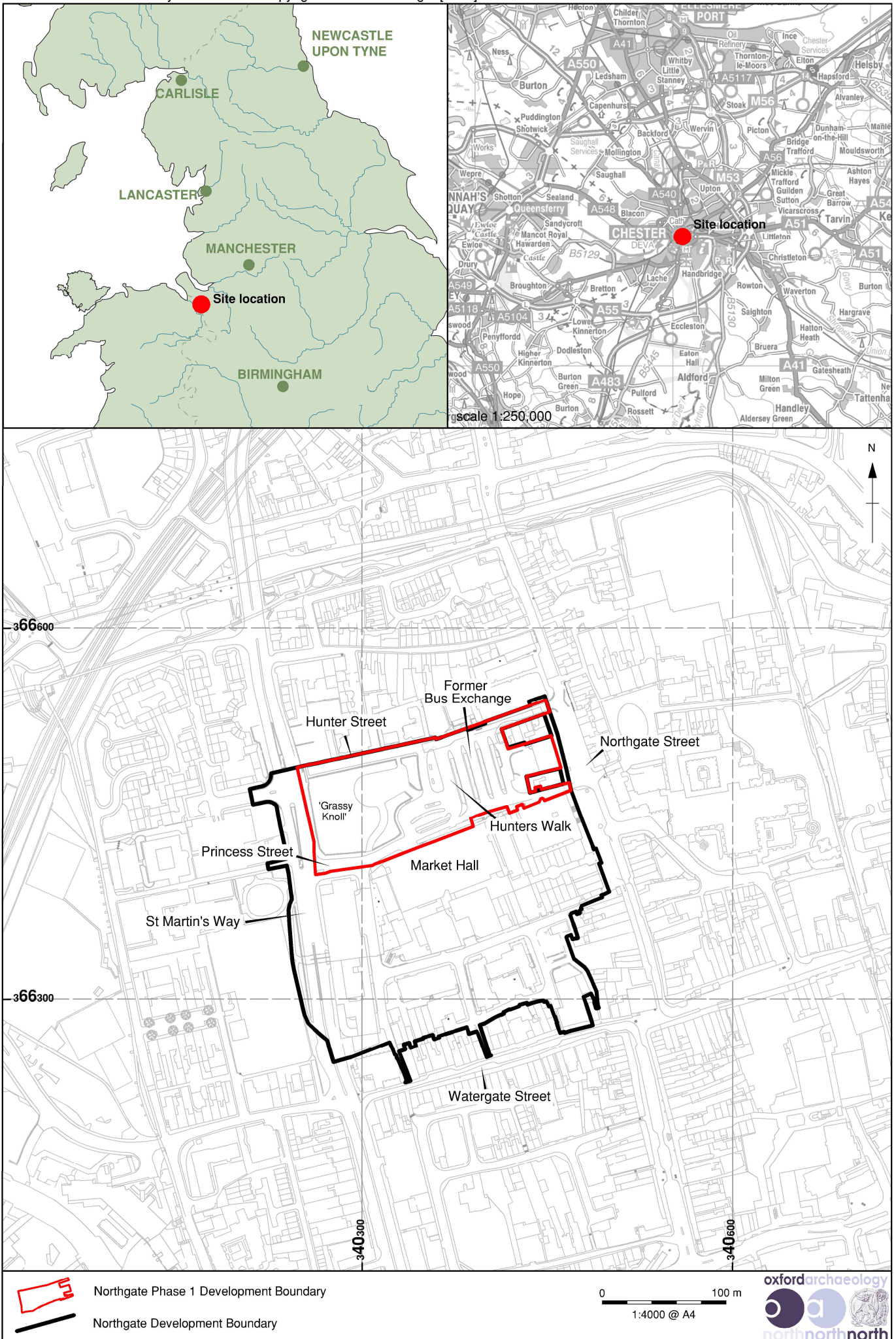
- D.1.4 **Species and anatomical elements:** the species recovered include pig (*Sus* sp) cattle/horse-sized mammals and oyster. The pig remains comprise a mandibular incisor from buried soil **640** and an unfused, left-hand side distal humerus with refitting epiphysis. The latter has been damaged by rodent gnawing, which is most evident across the epiphysis and on the lateral condyloid crest (*sensu* Sisson and Grossman 1938, 179).
- D.1.5 The oyster shell comprises one largely complete right-hand valve (with possible erosion of all edges) and three indeterminate fragments. The largely complete valve has a maximum length of 110.63mm (Winder 2017, 243).
- D.1.6 **Interpretation:** few conclusions can be drawn from this very small assemblage but, excluding the oyster, all of the remains are either of domesticates or probably domesticated mammals. There is no further potential for this material in isolation, since the numbers of specimens are not sufficient for significant conclusions to be drawn and most of the contexts are not considered secure. The only exception to the latter is buried soil **640**, but this produced only a single pig incisor. There is no potential with regard to the recovery of biometrical data or measurements.

APPENDIX E SITE SUMMARY DETAILS / OASIS REPORT FORM

Site name:	Northgate Redevelopment Phase 1, 'Grassy Knoll' and Bus Station, Chester
Site code:	P1CNG19
Grid Reference	SJ 40312 66457
Type:	Evaluation and Watching brief
Date and duration:	3rd and 16th December 2019
Location of archive:	The archive is currently held at OA North, Mill 3, Moor Lane Mills, Moor Lane, Lancaster, LA1 1QD, and will be deposited with The Grosvenor Museum, Chester in due course.
Summary of Results:	<p>Significant archaeology was identified in five evaluation trenches (Trenches D, E, F, H and L). For the most part, this comprised a seemingly extensive horizon of sandstone rubble, which almost certainly derives from buildings in the Roman legionary fortress, in this case probably barrack blocks within the central range. A fragment of sandstone walling, potentially forming part of one of these barracks, was also recorded in Trench L. These remains were buried beneath later material, and were mostly approximately 1.05-2.80m below the modern surface across the area investigated.</p> <p>These significant archaeological remains were sealed by a thick build-up of dark soils that, from the associated finds, appear to have accumulated over a prolonged period, potentially (on stratigraphic grounds), from the early post-Roman period to the post-medieval period. Subsequently, a considerable depth of material was deposited over the area in modern times, seemingly in relation to landscaping during the establishment of the Grassy Knoll and the construction of the bus station.</p> <p>No deposits or remains of archaeological significance were exposed in any of the watching brief test-pits immediately behind the buildings fronting Northgate Street.</p>

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RN*T24147*MAT*August 2019



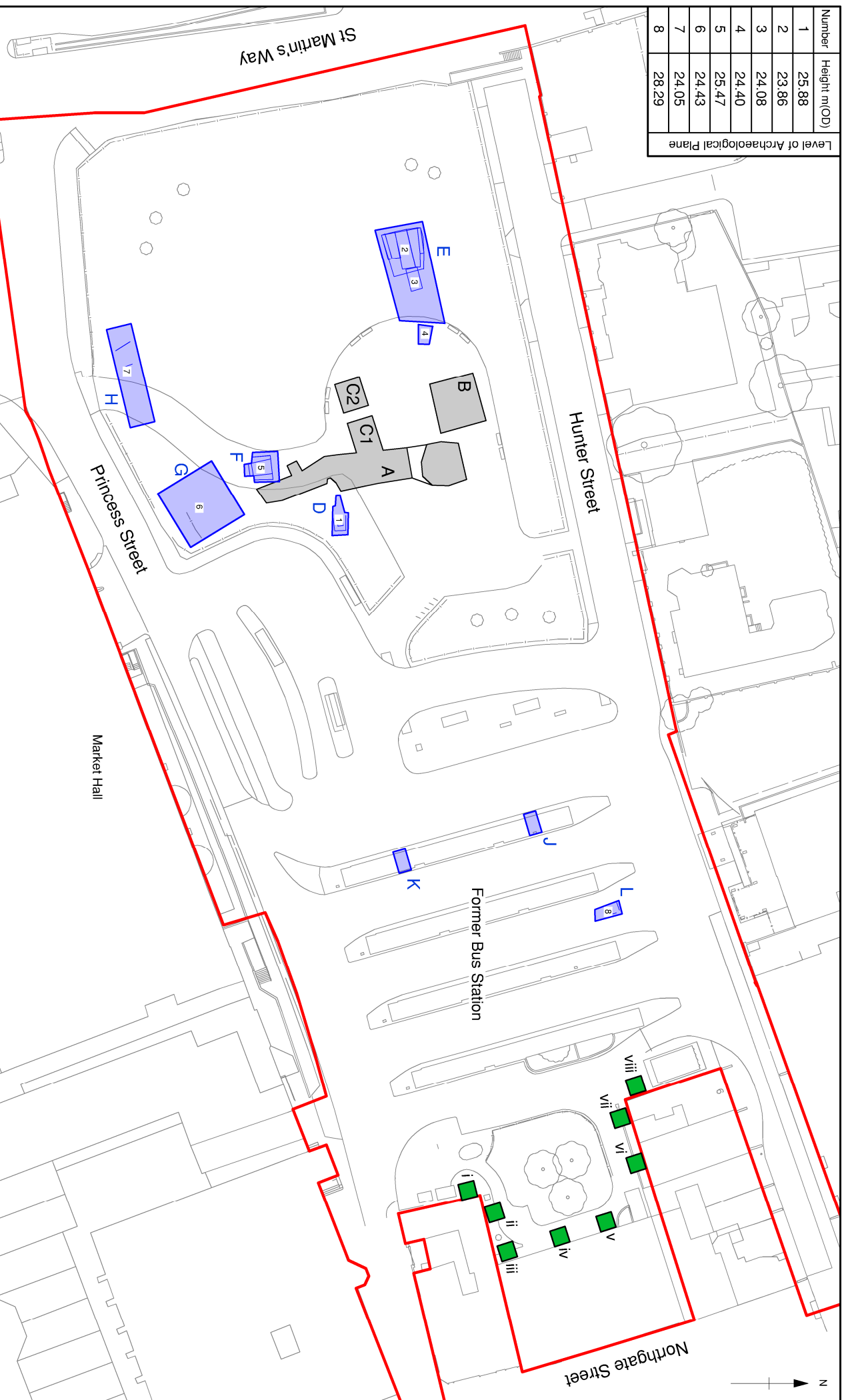
Northgate Phase 1 Development Boundary
Northgate Development Boundary

0 100 m
1:4000 @ A4



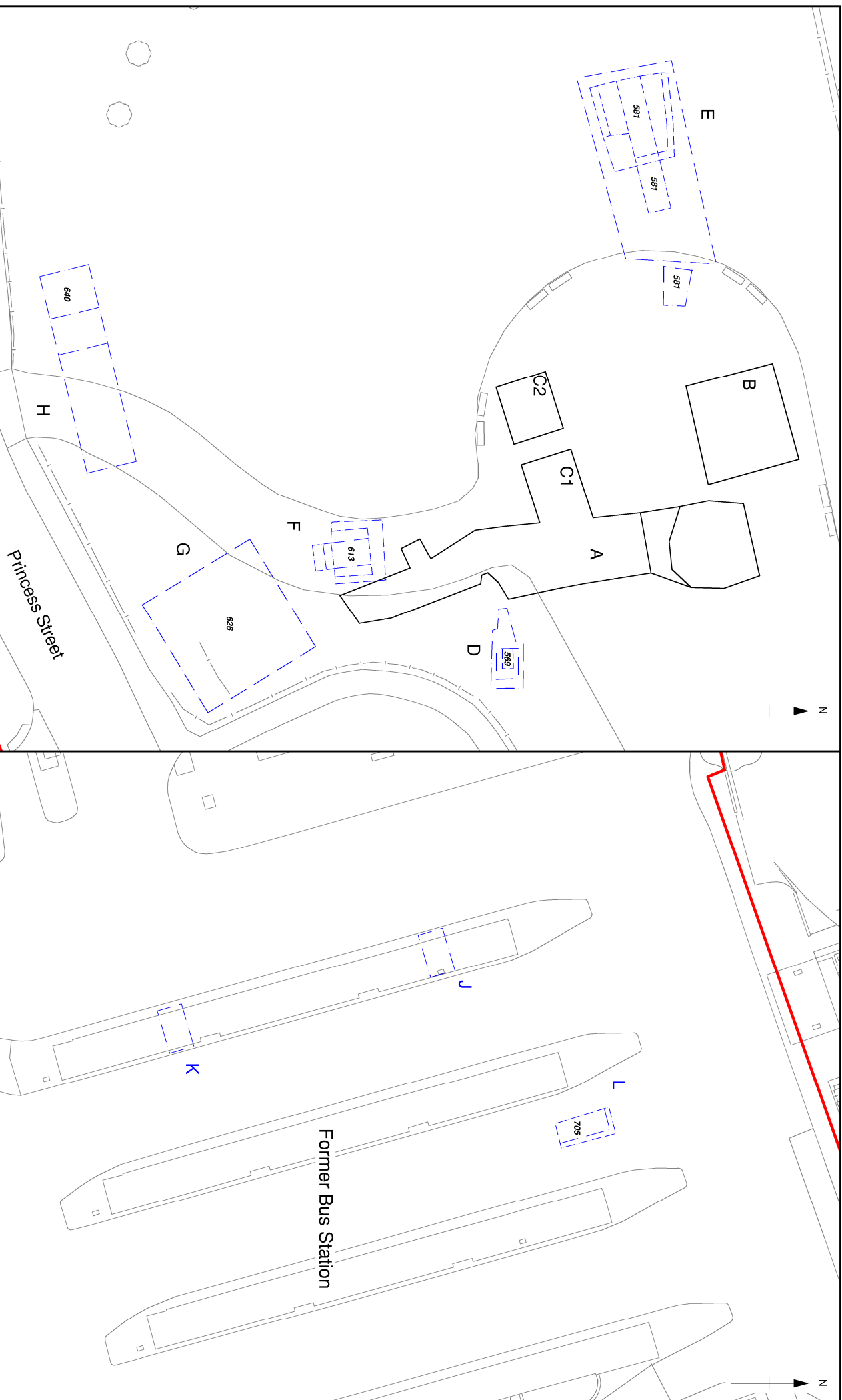
Figure 1: Chester Northgate development location

Number	Height m(OD)	Level of Archaeological Plane
1	25.88	
2	23.86	
3	24.08	
4	24.40	
5	25.47	
6	24.43	
7	24.05	
8	28.29	



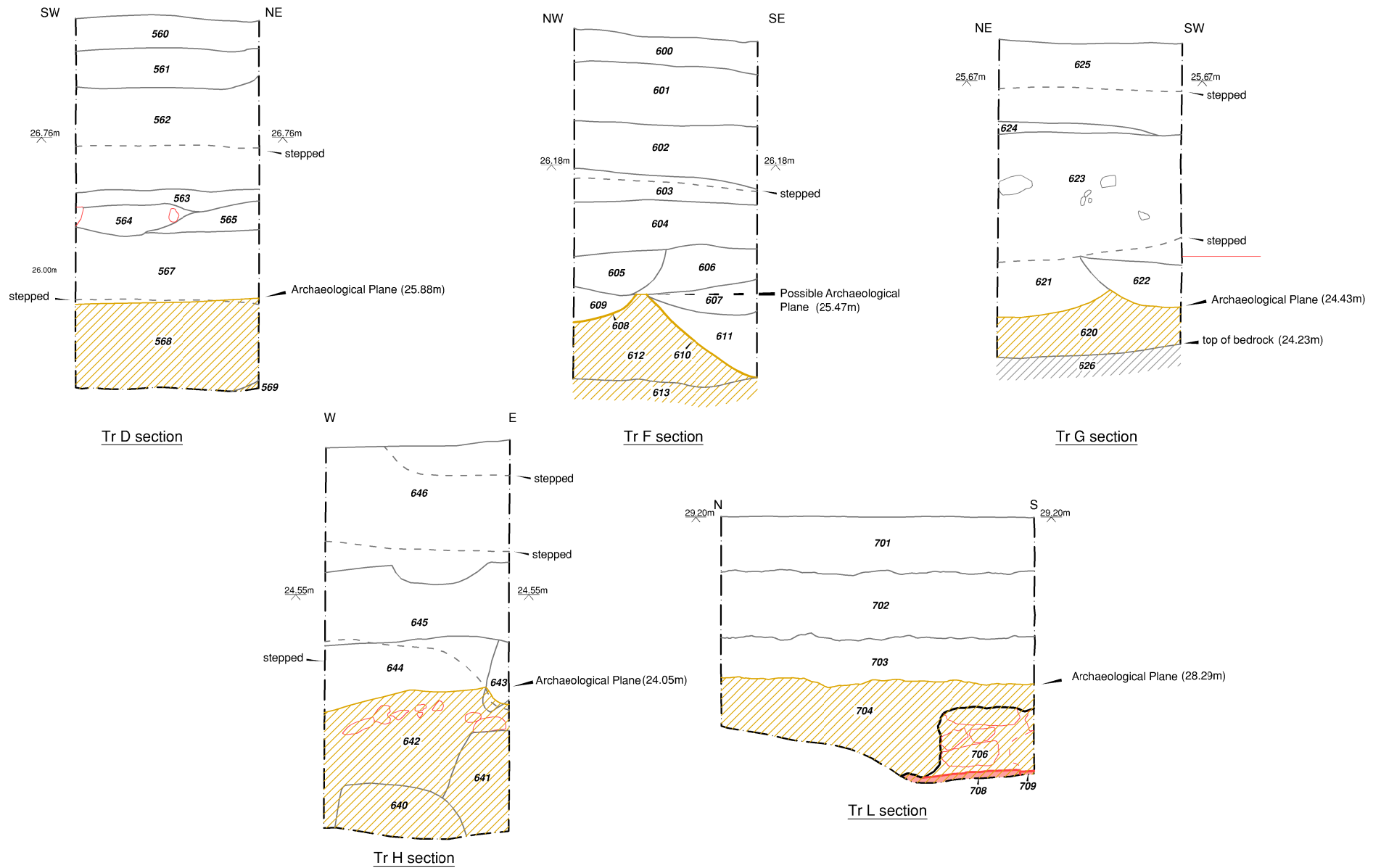
- Phase-1 Boundary
- Trenches (Dec 2019)
- Watching Brief
- Trenches (Oct 2019)

Figure 2: Location of evaluation trenches and watching brief test-pits



- Phase-1 Boundary
- Trenches (Dec 2019)
- Trenches (Oct 2019)

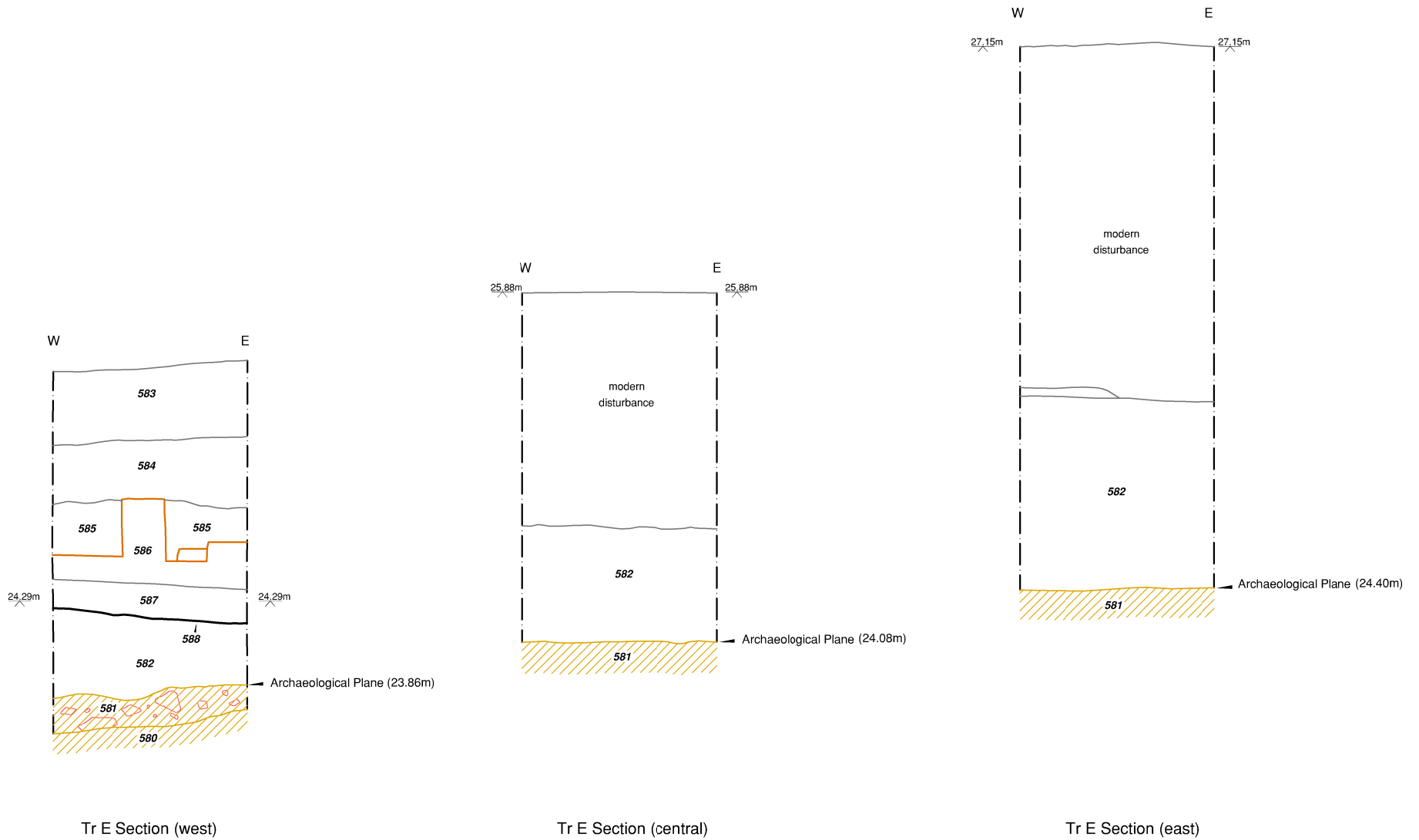
Figure 3: Evaluation trenches excavated on the 'Grassy Knoll' and Bus Station producing archaeological evidence



Limit of excavation ◻ Stone
 Cut Layer/Deposit

0 0.75 m
 1:30 @ A4

Figure 4: Sections of Trenches D, F, G, H and L



- Limit of excavation
- Cut
- Layer/Deposit
- Stone
- Brick

0 0.75 m
1:30 @ A4



Figure 5: Sections of Trench E

Number	Height m(OD)	Level of Archaeological Plane
1	25.88	
2	23.86	
3	24.08	
4	24.40	
5	25.47	
6	24.43	
7	24.05	
8	28.29	

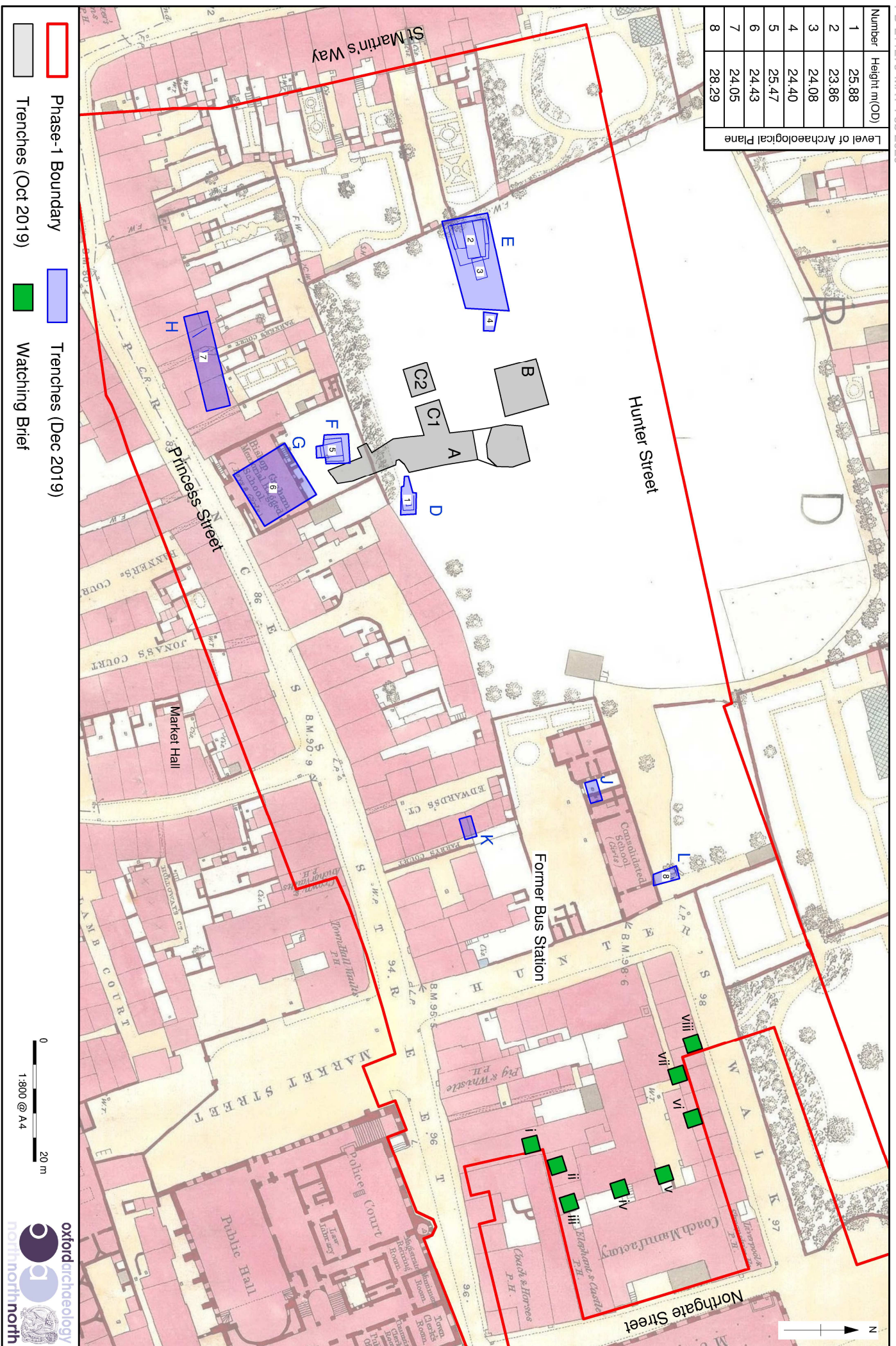


Figure 6: Evaluation Trenches superimposed on the Ordnance Survey 1:500 map of 1874



**Head Office/Registered Office/
OA South**

Janus House
Osney Mead
Oxford OX20ES

t: +44 (0) 1865 263 800
f: +44 (0) 1865 793 496
e: info@oxfordarchaeology.com
w: <http://oxfordarchaeology.com>

OA North

Mill 3
Moor Lane
Lancaster LA1 1QD

t: +44 (0) 1524 541 000
f: +44 (0) 1524 848 606
e: [oanorth@oxfordarchaeology.com](mailto: oanorth@oxfordarchaeology.com)
w: <http://oxfordarchaeology.com>

OA East

15 Trafalgar Way
Bar Hill
Cambridgeshire
CB23 8SQ

t: +44 (0) 1223 850500
e: [oaeast@oxfordarchaeology.com](mailto: oaeast@oxfordarchaeology.com)
w: <http://oxfordarchaeology.com>



Director: Gill Hey, BA PhD FSA MCIfA
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