Former Magistrates' Court,

Brockhurst Street,

Northwich

Cheshire West

Archaeological Evaluation Interim Report

Oxford Archaeology North

June 2013

Wates Construction

OA North Job No: L10609
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Prepared by:	Graham Mottershead	
Position:	Project Officer	
Date:	May 2013	
Checked by:	Ian Miller	Signed..
Position:	Senior Project Manager	
Date:	June 2013	
Approved by:	Alan Lupton	Signed.....
Position:	Operations Manager	
Date:	June 2013	

Oxford Archaeology North
Mill 3
Moor Lane Mill
Moor Lane
Lancaster
LA1 1GF
t: (0044) 01524 541000
f: (0044) 01524 848606

w: www.oxfordarch.co.uk
e: info@oxfordarch.co.uk

Oxford Archaeology Limited is a Registered Charity No: 285627

Janus House
Osney Mead
Oxford

OX2 0EA
t: (0044) 01865 263800
f: (0044) 01865 793496

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SUMMARY

Wates Construction has been appointed to deliver a proposed redevelopment of land in Northwich that is occupied currently by the former magistrates' court and the memorial hall, together with the adjacent area between Chester Way and the River Dane (centred on NGR 365880 373822). The redevelopment of the site will necessitate demolition of the existing structures, coupled with considerable earth-moving works and piling, which will have a negative impact on any buried archaeological remains.

An archaeological desk-based assessment of the site, carried out in 2005, concluded that the site has considerable potential for the survival of deposits relating to the industrial archaeology of Northwich. In particular, a salt works is shown within the boundary of the development area on eighteenth-century maps, together with a 'cistern' and a short arm off the River Weaver. In order to secure archaeological interests, the Development Control Archaeologist with the Cheshire Archaeology Planning Advisory Service recommended that the site should be subject to a programme of pre-determination field evaluation in order to establish the need, if any, for further archaeological mitigation. The scheme of works recommended required the excavation of a series of trenches with a combined total length of 80m, which were targeted on features shown on historical mapping.

The evaluation was carried out by Oxford Archaeology North (OA North) in May 2013, and comprised the excavation of five targeted trenches and a small test pit. The results obtained from the evaluation indicate that any archaeological remains in the central part of the site are most likely to have been destroyed entirely during the development of the site in the twentieth century, and that further archaeological investigation in this area is not merited. Conversely, buried remains of the former Croft Salt Works were found to survive *in-situ* across the western part of the site, and merit further investigation to mitigate their ultimate damage or loss during the course of the proposed development. As these remains are likely to be fragmentary, it is recommended that an archaeological watching brief maintained during any ground-reduction works required in these areas would be an appropriate course of action. Similarly, structural features were identified across the eastern part of the site, and ground-reduction in this area should be monitored archaeologically.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) is grateful to Gavin Davis and Patrick Hickey of Wates Construction for commissioning and supporting the project. Thanks are also expressed to Mark Leah, the Development Control Archaeologist with the Cheshire Archaeology Planning Advisory Service, for his advice and guidance.

The evaluation was undertaken by Graham Mottershead, Lewis Stitt and Phil Cooke. The report was written by Graham Mottershead and Ian Miller, and the drawings were prepared by Graham Mottershead and Mark Tidmarsh. The report was edited by Ian Miller, who was also responsible for project management.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 Wates Construction has been appointed to deliver a proposed redevelopment of land in Northwich that is occupied currently by the former magistrates' court and the memorial hall (Fig 1). The redevelopment of the site will necessitate demolition of the existing structures, coupled with considerable earth-moving works and piling, which will have a negative impact on any buried archaeological remains.

1.1.2 An archaeological desk-based assessment of the site, carried out in 2005, concluded that the site has considerable potential for the survival of deposits relating to the industrial archaeology of Northwich. In particular, a salt works is shown within the boundary of the development area on eighteenth-century maps, together with a short canal arm, associated wharves, and a 'cistern' (Ahmad and Adams 2005).

1.1.3 In order to secure archaeological interests, the Development Control Archaeologist with the Cheshire Archaeology Planning Advisory Service, which provides archaeological advice to Northwich Town Council, recommended that the site should be subject to a programme of pre-determination field evaluation in order to establish the need, if any, for further archaeological mitigation. The scope and extent of the works required was outlined in a Project Brief devised by the Development Control Archaeologist, and allowed for the excavation of a series of trenches with a combined total length of 80m.

1.1.4 In March 2013, Wates Construction commissioned Oxford Archaeology North (OA North) to fulfil the archaeological requirements outlined in the Project Brief. In the first instance, a Written Scheme of Investigation was produced, and following the formal approval of this document by the Cheshire Archaeology Planning Advisory Service, a programme of evaluation trenching was carried out in May 2013.

1.1.5 This document provides an interim report on the results obtained from the evaluation trenching. It also provides recommendations for an appropriate programme of further investigation to mitigate the impact of the proposed development on buried archaeological remains.

1.2 SITE LOCATION, TOPOGRAPHY AND GEOLOGY

1.2.1 ***Location:*** the study area comprises a plot of land on the southern fringe of Northwich town centre (centred on NGR 365880 373822). The site is situated between Chester Way and the River Dane (Fig 1), and lies at a height of approximately 13.80m above Ordnance Datum (aOD).

1.2.2 ***Geology:*** the solid geology of the area comprises Triassic Lower Keuper Saliferous Beds, from which salt is extracted (Geological Survey of Great Britain). Most of the area is covered with alluvium and other surrounding parts with deposits of boulder clay. An area of glacial sands and gravel lie to the north-west of the study area. The site and its immediate surrounding land lie in an area where soils have not been surveyed, although it is likely that these are either typical brown sands and earths or stagnogley soils (Furness 1978).

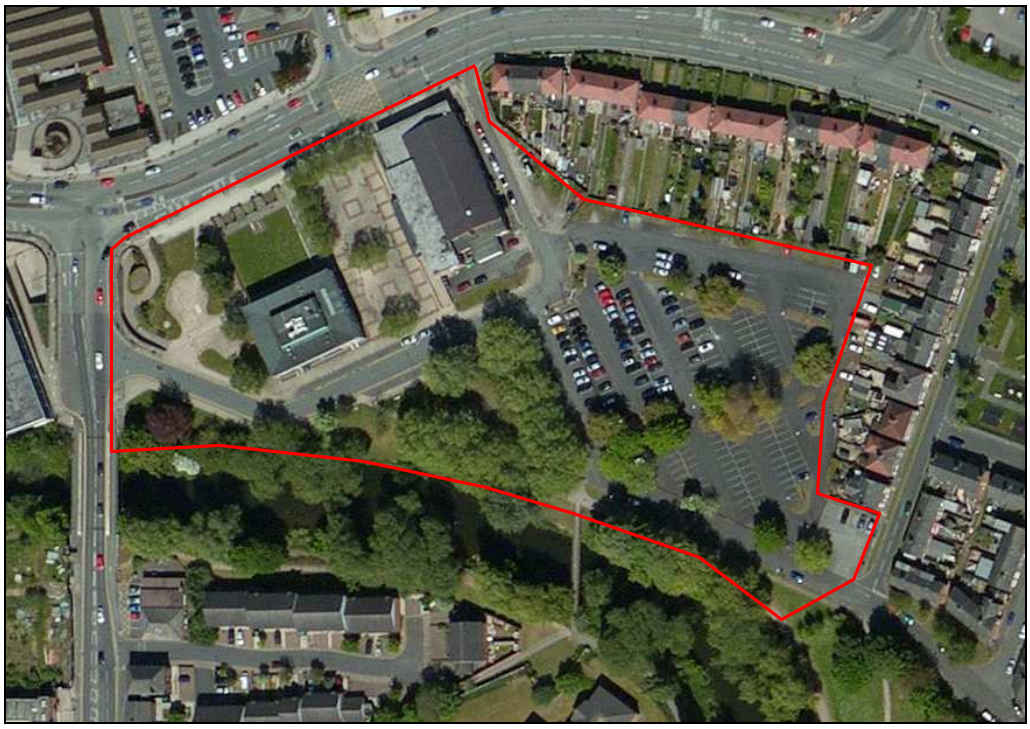

Plate 1: Boundary of the development area superimposed on a recent aerial view

2. METHODOLOGY

2.1 EVALUATION TRENCHING

2.1.1 All work was carried out in accordance with the Written Scheme of Investigation (WSI), and was consistent with the relevant standards and procedures provided by the Institute for Archaeologists (IfA), and generally accepted best practice.

2.1.2 The WSI allowed for the excavation of five trenches across the proposed development area (*Appendix 1*). The trenches were excavated by mechanical excavator, and all archaeological deposits were cleaned manually to define their extent, nature, form and, where possible, date.

2.2 ARCHIVE

2.2.1 A full archive of the work has been prepared to a professional standard in accordance with current English Heritage guidelines (1991) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). A copy of the report will be forwarded to the Cheshire Historic Environment Record (HER).

3. BACKGROUND

3.1 HISTORICAL BACKGROUND

3.1.1 The archaeological and historical background to the study area from the prehistoric period onwards has been summarised previously in an archaeological desk-based assessment carried out by National Museums Liverpool (Ahmad and Adams 2005). It is not intended to recount sections of that study for the present investigation, although the following section provides the background to the salt works that lies beneath the former magistrates' court, and has been compiled from additional research.

3.1.2 The earliest accurate plan of the salt works is provided by the Witton cum Twanbrook tithe map of 1846 (CRO EDT 438/2), which shows a T-shaped block of buildings, with a sub-oval reservoir or water-filled cistern situated immediately to the north-east (Plate 2). The works occupied a site on the north bank of the River Weaver, adjacent to a weir, with a short 'cut' extending from a bend in the river along the eastern boundary of the salt-working complex (Plate 2). The accompanying tithe apportionment identifies the building as an industrial works that was owned by Thomas Horatio Marshall, and occupied by Horatio Marshall (CRO EDT 438/1). The Marshall family's involvement in the salt trade can be traced to 1734, when the first Thomas Marshall established a business in Northwich. It remains uncertain precisely where Marshall's first works was, although it seems that the Croft Works had certainly been established by the 1770s.

Plate 2: Extract from the Witton cum Twanbrook tithe map of 1846 (CRO EDT 438/2)

3.1.3 A trade directory for 1850 contains a total of 28 entries for salt manufacturers in Northwich (Bagshaw 1850, 465). Amongst these entries are John and Thomas Marshall, salt manufacturers at the Croft Works. A survey carried out by John Thompson in *c* 1865 noted that Marshall's brine shaft was 36 yards deep (Calvert 1915, 155), and this may have been in the vicinity of the cistern.

3.1.4 A trade directory for 1874 gives TR Bower as a salt manufacturer at the Croft Works in Northwich (Morris & Co 1874, 513). Thomas Horatio Marshall Esq was evidently a well-respected local citizen by that time, as he had been appointed a County Magistrate for Leftwich by 1878, and had seemingly retired from salt-manufacturing (*Cheshire Observer*, 28 December 1878).

3.1.5 The next available survey of the site is provided by the Ordnance Survey 1:500 Town Plan of 1876 (Plate 3). This detailed plan shows the works to have expanded considerably relative to the tithe map of 1846, and also shows another large salt works, identified as the Leftwich Works, to have been established on the south bank of the River Weaver, directly opposite the Croft Works.

3.1.6 Whilst a new large manufacturing block had been established to west, the original elements of the Croft Works are shown to have expanded with the addition of structures along the northern end of the existing building, creating a broadly rectangular block. New buildings had also been erected on the bank of the river, and a railway laid to serve the different parts of the works (Plate 3). The reservoir immediately to the north of the buildings is annotated 'brine cistern', implying that it stored natural brine that had been pumped from underground sources prior to processing. A small detached block on the western edge of the cistern is likely to have been associated with pumping of the brine either to or from this storage point. The Ordnance Survey map also shows the short, narrow channel off the River Weaver that takes a course along the eastern boundary of the site, and annotates it as 'The Cut'.

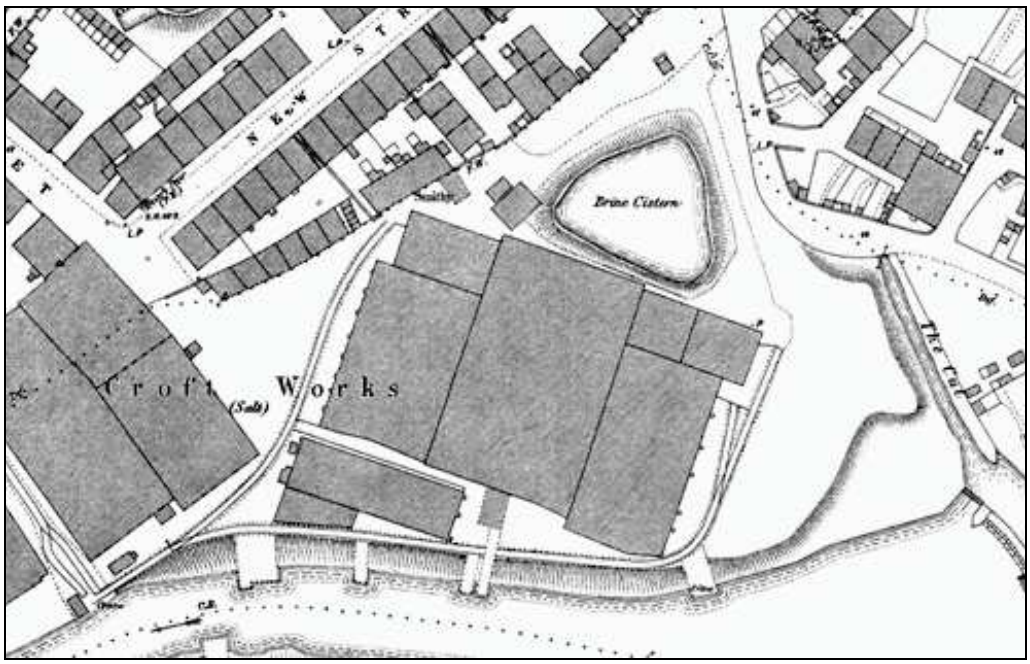

Plate 3: Extract from the Ordnance Survey map of 1876

3.1.7 A newspaper article printed in 1881 provides notice of an intention by the Northwich Gas Light and Coke Company Limited to apply to Parliament to bring a bill enabling significant infrastructure works to the town's gas supply (*London Gazette*, 18 November 1881). The Company refers to a plot of land they intended to develop, situated to the north-west of a 'salt works and hereditaments known as Barons Croft Salt Works, owned by Thomas Horatio Marshall, Esq, occupied by Thomas Redford'. It was also intended that, if passed, the bill would enable the Company:

'to purchase and acquire by agreement, or by compulsion if necessary, for the purposes of their undertaking, the lands and other property hereinafter described, that is say, three messuages or dwelling-houses, with the yards and land occupied therewith, situate and numbered 17, 19, and 21, Cross Street, in Northwich aforesaid, belonging or reputed to belong to Thomas Horatio Marshall, Esq, one of which tenements is occupied by Owen Dunn, and the other two are occupied by Bartholomew Golden; also a plot of land on the north-east side of the premises belonging to the said Limited Company, forming part of an old watercourse and its abutments, called the 'Cut', belonging or reputed to belong to the said Thomas Horatio Marshall, and occupied by him or by the said Limited Company, and through which a sewer belonging to the Northwich Local Board is laid.'

3.1.8 By 1887, the salt works was occupied by a partnership between John Chatterton and Robert Buckley, although the buildings were still owned by the Marshall family. However, Chadderton was evidently in financial trouble by that date and, having been filed as a debtor, his partnership with Robert Buckley had been dissolved by March 1887 (*London Gazette*, 4 March 1887).

3.1.9 It has not been established how long the salt works remained in operation after Chadderton and Buckley's partnership was dissolved. However, the site had been cleared of buildings by the time of the next Ordnance Survey 1:2500 map, which was published in 1910. The map also shows the large Leftwich Works on the opposite bank of the river to have been mostly demolished, with the fragmentary surviving buildings marked 'disused'.

3.1.10 A plan of the Croft Works, however, was produced prior to its demolition (Plate 4). This plan was reproduced in AF Calvert's comprehensive account of the Cheshire salt industry, which was published in 1915. Unfortunately, Calvert did not reproduce the key to the plan, although several salt 'pans in the open' are marked, together with the position of a chimney in the centre of the earlier block of buildings.

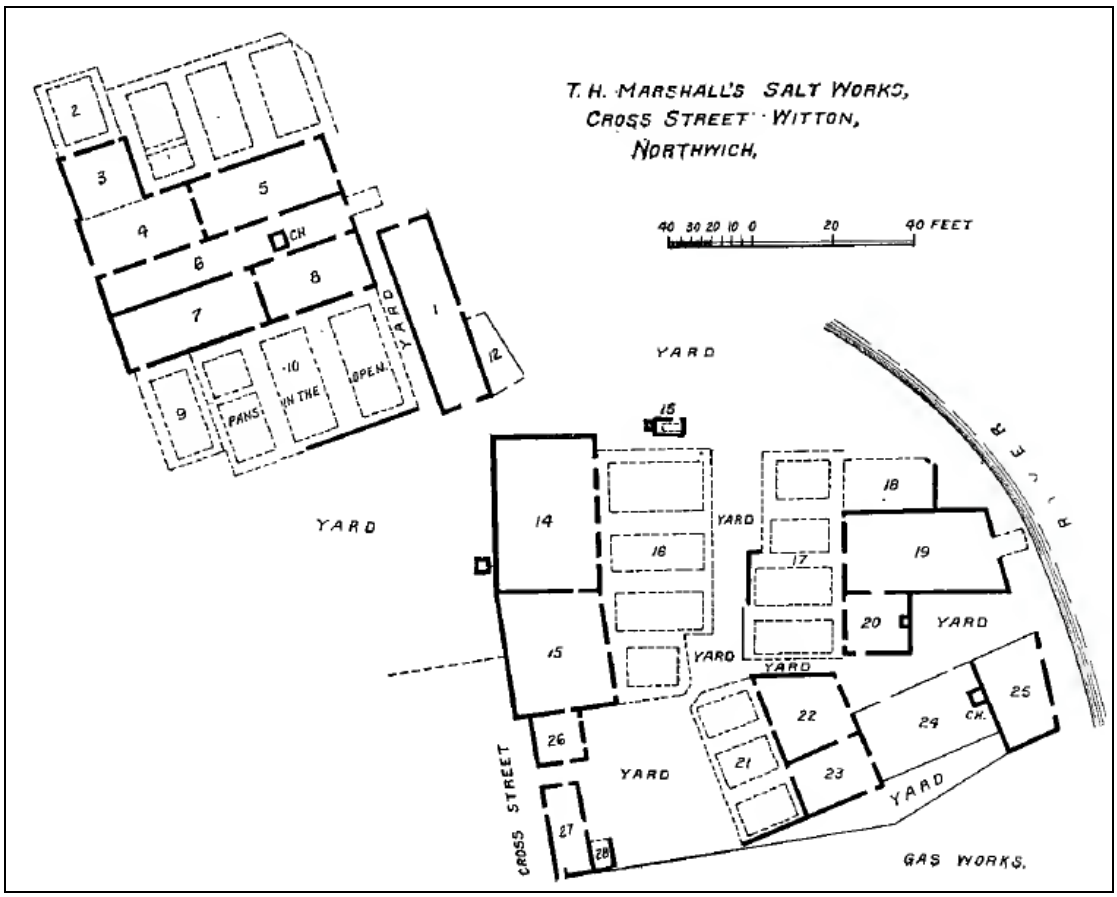

Plate 4: A plan of Marshall's Croft Works, reproduced by Calvert in 1915. The original works is in the top left, whilst the works shown in the bottom right is that added by 1876

4. SUMMARY OF RESULTS

4.1 INTRODUCTION

4.1.1 The archaeological evaluation comprised the excavation of five trenches of varying lengths, together with a small test pit (Fig 2). In addition, following consultation with the Development Control Archaeologist with the Cheshire Archaeology Planning Advisory Service, one of the trenches was expanded to establish the extent of buried structural remains exposed in the north-western corner of the site. The following section summarises the results obtained from the evaluation trenching.

4.2 TRENCH 1

4.2.1 Trench 1 was located in the north-western part of the site. It was placed across the western edge of a brine cistern and associated buildings depicted on historical mapping. The trench was excavated initially to a length of 10m, although it was extended subsequently to a length of 19m (Fig 2). The trench was aligned east/west, and had a maximum depth of 1.9m.

4.2.2 The earliest archaeological remains exposed in the trench comprised a brick-built structure that comprised the remains of three adjoining walls (***103***, ***104*** and ***105***), all seemingly of a contemporary build, and cut into the natural clay geology (***108***). The walls survived to a maximum height of eight courses, and comprised hand-made bricks bonded in a light-coloured lime-based mortar, consistent with a late eighteenth- or early nineteenth-century construction date. The base of the wall lay at a depth of 2.4m below the modern ground surface.

4.2.3 The position of these walls corresponded with the footprint of the small detached building shown on historical mapping adjacent to the brine cistern, and perhaps representing a pump house. However, no physical remains of housing for a pump, or any interior surfacing, were identified in the trench, precluding a positive identification of the building's intended function.

4.2.4 Excavation also revealed the remains of a later brick wall (***102***), which was exposed for a length of 4.5m across the north-western corner of the trench. This wall was constructed from machine-made bricks, and was three-courses wide and survived to a maximum height of six courses. The component bricks measured 230 x 110 x 70mm, and were bonded with a pale cement-based mortar, indicative of a late nineteenth- or twentieth-century construction date. The wall had been erected on a concrete foundation (***107***), which was 600mm thick, and may have formed part of a building post-dating the salt works.

4.2.5 The structural remains revealed in the trench were sealed beneath a layer (***101***) of mixed demolition material and clay, which had a maximum thickness of 1.4m. This deposit seemingly represented the demolition and levelling of the site during the early twentieth century. Layer ***101*** was sealed beneath a 300mm thick layer of dark brown sandy silt topsoil (***100***).

Plate 5: The walls of the possible pump house, looking north, with wall of later structure to the rear

Plate 6: Pump house walling (left) and later wall (right), looking west

4.3 TRENCH 2

4.3.1 Trench 2 was aligned east/west across the north-western corner of the salt works, and measured 10.5m long, 2m wide, and 1.8m deep (Fig 2). Modern services were encountered at the western end of the trench, and the length of the excavated trench was thus reduced from its intended 15m.

4.3.2 A layer of compacted, mid-grey clay (***202***), almost certainly representing the natural geology, was exposed at a depth of 1.65m below the modern ground surface. The natural geology was overlain in the eastern part of the trench by the fragmentary remains of a brick surface (***203***). This measured 1.2m long, 0.8m wide and 70mm deep, and was aligned north-east/south-west (Plate 7). It comprised broken hand-made bricks, which had been bonded with a light-coloured, lime-based mortar, and almost certainly represented the vestiges of a floor within one of the salt works' buildings.

4.3.3 The natural geology and surface ***203*** were sealed by a deposit (***201***) of clay mixed with demolition material, including fragments of brick, concrete and stone. This deposit had a maximum depth of 1.4m. The uppermost layer (***200***) comprised 300mm of topsoil and turf.

Plate 7: Remains of brick surface, looking west

4.4 TRENCH 3

4.4.1 Trench 3 was aligned north-west/south-east across the centre of the salt works, as shown on the Ordnance Survey map of 1876. It measured 18m long and 2m wide, and was excavated to a maximum depth of 1.5m.

4.4.2 The remains of several structures were revealed at the south-eastern end of the trench, which included walls ***302*** and ***303***. Wall ***302*** was aligned north-west/south-east across the end of the excavated trench, survived to a height of six courses and was three courses wide, although the foundation course stepped out. The fabric of the wall and comprised hand-made bricks that were bonded with a lime-based mortar, consistent with a late eighteenth- or early nineteenth-century construction date. It was abutted by wall ***303***, which was aligned north-east/south-west along the base of the excavated trench, and was similarly composed of hand-made bricks bonded with lime-based mortar. Wall ***303*** was laid on a foundation course of brick (***304***), which was only a single course deep, and set onto a levelling layer (***305***) of clinker and ash. The component bricks within walls ***302*** and ***303***, and the north-eastern side of ***304***, retained evidence of exposure to high temperatures, suggesting that these features had formed structural elements of one of the salt pan houses.

4.4.3 The south-western elevation of wall ***302*** was abutted by a brick surface (***306***), which continued beyond the edge of the excavated trench. The surface comprised similar hand-made bricks to those forming the walls, and is likely to have been of a contemporary date.

Plate 8: Brick walling looking south-west

*Plate 9: Construction of wall **303**, looking north-west*

4.5 TRENCH 4

4.5.1 Trench 4 was placed across the north-eastern part of the salt works, and the south-eastern edge of the brine cistern, as shown on the Ordnance Survey map of 1876. This trench was aligned measured south-west/north-east, and was excavated to a length of 15m long, and to a depth of 1.4m (Plate 10). A layer (***402***) of compact, mid-orange-brown clay was exposed at the base of the trench, at a depth of *c* 1.25m below the modern ground surface, and clearly represented the natural geology. No structural remains or deposits of archaeological interest were identified.

4.5.2 The natural geology was sealed by a deposit (***401***) of clay mixed with demolition material, including fragments of brick, concrete, clinker and ash. This deposit had a maximum depth of 1.0m. The uppermost layer (***200***) comprised 250mm of topsoil and turf.

Plate 10: General view along Trench 4 during excavation, looking west

4.6 TRENCH 5

4.6.1 Trench 5 was intended to investigate the channel leading off the river that is annotated 'The Cut' on historical mapping. This trench was intended to be 10m long, but due to its location adjacent to the site entrance and a large spoil heap, it had been shortened to a length of 8m (Fig 2). It was aligned south-east/north-west, and was excavated to a maximum depth of 1.2m. The existing ground surface in this part of the site comprised a modern concrete flag pavement (***500***). The flags each measured 400 x 400 x 60mm, and were laid upon concrete bedding measuring 300mm thick.

4.6.2 A road surface (***502***) was discovered at a depth of 1.1m below the modern ground surface (Plate 11). The surface was constructed from random-sized granite setts, with typical sizes of 160 x 120 x 100mm. It was laid upon a bedding of clinker (***503***), which was 500mm thick. This surface is likely to have post-dated the demolition of the Croft Salt Works.

*Plate 11: Stone sett surface **502**, looking south-east*

4.6.3 Excavation through surface ***502*** revealed the crown of an arched, brick-built culvert (***504***), which was aligned broadly north /south across the trench. The fabric of the culvert comprised hand-made bricks bonded with lime-based mortar, each brick having average dimensions of 220x 100x 70mm. The full depth of the culvert was not established, as the base had silted up. The silting had also blocked the passage to the south and it could only be observed for a short distance to the north. The culvert almost certainly represented the sewer referred to in 1881 (*Section 3.1.7 above*); there was no evidence for the channel having formed part of a navigable watercourse.

4.6.4 The structural remains exposed in the trench were sealed by a deposit (***501***) of clay mixed with demolition material, including fragments of brick, ash and clinker. This deposit had a maximum depth of 0.74m. This was overlain by modern hard surfacing (***500***).

Plate 12: Brick culvert running below road surface, looking south-east

Plate 13: Culvert interior, looking north

4.7 TEST PIT

4.7.1 A test pit was excavated by to locate the main service cables for the site. This pit was located 3.5m to the south-west of Trench 2, in the western part of the site (Fig 2). It was aligned south-east/north-west, measuring 1.6m long, 0.7m wide, and had a depth of 1m (Plate 14).

4.7.2 The remains of a brick wall (***603***) were exposed in the north-east-facing section of the test pit. It was constructed from hand-made bricks, was two-courses, and survived to a height of three courses. The component bricks measured 230 x 100 x 70mm, and were bonded with lime-based mortar. The wall had been built on top of a thin bedding of ash (***604***), which 80mm thick.

4.7.3 The wall was sealed beneath a 700mm thick mixed layer of crushed brick, ash and clay (***602***), which also contained a large flagstone that may have formed part of the interior floor of a building for the salt works. The layer also formed a levelling deposit for a 140mm thick bedding of concrete (***601***) for the modern hard surfacing (***600***).

Plate 14: Wall stub visible within the test pit, looking west

5. DISCUSSION

5.1 EVALUATION TRENCHES

5.1.1 The brick structure exposed in Trench 1 almost certainly represented the remains of the building shown adjacent to the brine cistern on the Ordnance Survey map of 1876. sited at the edge of the brine cistern on the map of 1876. This is likely to have been a pumping house. It had been heavily truncated by a later brick building, possibly a police station, which had destroyed all but the south-eastern part of the pump house and had removed any trace of the power systems and pumping mechanism. The piping running between the pump house and the main salt works is likely to have been laid above ground to make it easily accessible for the necessary regular maintenance, and had all been removed when the works was decommissioned.

5.1.2 No evidence was found in any of the excavated trenches for brick or stone facing around the edges of the brine cistern. Natural clay was observed at depths of between 1.3m and 1.8m below the existing ground surface, suggesting that it was not as deep as expected. It is likely that a brine shaft existed close proximity to the cistern, allowing brine to be pumped out of the aquifer and stored in the cistern before being pumped into the salt pans in the main works buildings.

5.1.3 The survival of salt works' buildings as shown on the Ordnance Survey map of 1876 was very fragmentary. A small patch of brick flooring found within Trench 2 suggests that structures survive in fragmentary pockets across the western portion of the site. The three-course wide wall found at the south-western end of Trench 3 represented a large internal wall visible on the mapping. Immediately to the south-west of this, the brick flooring indicated a better level of survival.

5.1.4 The wall running north-east from the brick floor was founded on a single-course deep bed of bricks splayed out to either side with brick rubble beneath and a floor of compacted cinder and ash. This is very similar to the construction methods employed at the Lion Salt Works Pan House 2 (OA North 2013) and, combined with the burning visible on the bricks and the large amount of cinder and ash within the backfill, suggest that this was part of a pan house flue.

5.1.5 It appeared that the channel leading from the river at the north-eastern side of the study area had a brick culvert built within it, and had then been infilled with clay. The culvert is likely to have been the sewer referred to in documentary accounts, and certainly post-dates 1876, as it is not shown on the Ordnance Survey map of that year.

6. CONCLUSION

6.1 CONCLUSION

6.1.1 The results obtained from the evaluation trench indicate that fragmentary buried remains of the former Croft Salt Works do survive in places across the study area, and these are likely to be damaged or destroyed during the course of the proposed development. In particular, the western and eastern parts of the site appear to have the potential for remains surviving in a fragmentary state (Fig 3). In the western part of the site, remains are present but have been truncated by a large number of services and other intrusions, although well-preserved remains may survive along the south-western edge of the site. At the east the brick-built sewer within the cut from the river has survived *in-situ*, together with the overlying road surface, and possibly other associated features.

6.1.2 Conversely, the central part of the site contained no surviving remains of archaeological significance (Fig 3). The evaluation demonstrated that the development of the magistrates' court resulted in the removal of any earlier structures and features of archaeological interest.

6.2 RECOMMENDATIONS

6.2.1 It is recommended that no further archaeological investigation is merited in the central part of the site, as all buried remains in this area were seemingly destroyed during twentieth-century redevelopment. However, the buried remains of the former Croft Salt Works were found to survive *in-situ* across the western part of the site, and merit further investigation to mitigate their ultimate damage or loss during the course of the proposed development, should ground-reduction works be required in these areas. As these remains are likely to be fragmentary, it is recommended that a watching brief maintained during ground-reduction works would be an appropriate course of action. Similarly, structural features were identified across the eastern part of the site, and ground-reduction in this area should be monitored archaeologically.

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APPENDIX 1: WRITTEN SCHEME OF INVESTIGATION

Oxford Archaeology North

March 2013

FORMER MAGISTRATES' COURT,

BROCKHURST STREET,

NORTHWICH,

CHESHIRE WEST

ARCHAEOLOGICAL EVALUATION

WRITTEN SCHEME OF INVESTIGATION

Proposals

The following Written Scheme of Investigation is offered in response to a request from Mr D Perkins, of Wates Construction, for a programme of archaeological evaluation in advance of a proposed development of land bounded by Brockhurst Street and Chester Way, Northwich.

1 BACKGROUND

1.1 CIRCUMSTANCES OF PROJECT

1.1.1 Wates Construction has been appointed to deliver a proposed redevelopment of land in Northwich that is occupied currently by the former magistrates' court and the memorial hall, together with the adjacent area between Chester Way and the River Dane (Plate 1). The redevelopment of the site will necessitate demolition of the existing structures, coupled with considerable earth-moving works and piling, which will have a negative impact on any buried archaeological remains.

1.1.2 An archaeological desk-based assessment of the site, carried out in 2005, concluded that the site has considerable potential for the survival of deposits relating to the industrial archaeology of Northwich. In particular, a salt works is shown within the boundary of the development area on eighteenth-century maps, together with a short canal arm, associated wharves, and a 'cistern' (Ahmad and Adams 2005).

1.1.3 In order to secure archaeological interests, the Development Control Archaeologist for Cheshire Archaeology Planning Advisory Service, which provides archaeological advice to Northwich Town Council, has recommended that the site should be subject to a programme of pre-determination field evaluation in order to establish the need, if any, for further archaeological mitigation. The scope and extent of the works required has been outlined in a Project Brief devised by the Development Control Archaeologist, and allows for the excavation of a series of trenches with a combined total length of 80m. This document provides a Written Scheme of Investigation for the required programme of archaeological work.

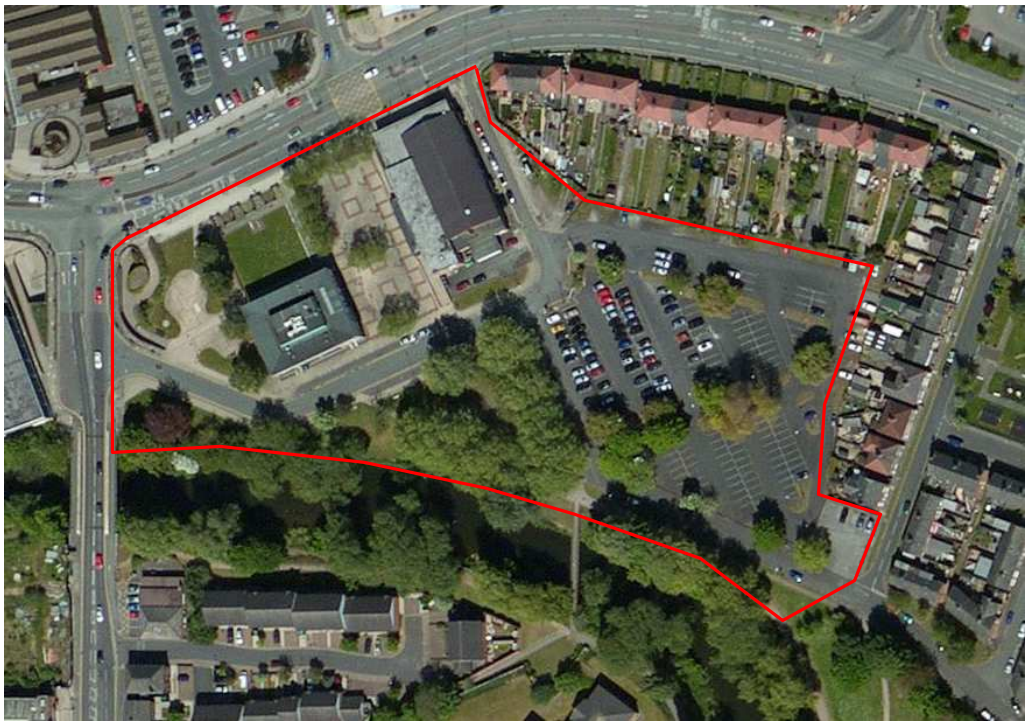


Plate 1: Boundary of the development area superimposed on a recent aerial view

1.2 OXFORD ARCHAEOLOGY

1.2.1 Oxford Archaeology is an educational charity under the guidance of a board of trustees with over 35 years of experience in archaeology, and can provide a professional and cost-effective service. We are the largest employer of archaeologists in the country (we currently have more than 200 members of staff), and can thus deploy considerable resources with extensive experience to deal with any archaeological obligations you or your clients may have. OA is an Institute for Archaeologists Registered Organisation (No 17). We have offices in Lancaster and Oxford, trading as Oxford Archaeology North (OA North) and Oxford Archaeology South (OA South) respectively, enabling us to provide a truly nationwide service. All work on the project will be undertaken in accordance with relevant professional standards, including:

- IfA's *Code of Conduct* (1999); *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* (1999); *Standard and Guidance for Archaeological Evaluations* (1999);
- English Heritage's *Management of Archaeological Projects*, 1991;
- The European Association of Archaeologists *Principles of Conduct for Archaeologists Involved in Contract Archaeological Work* (1998).

2 AIMS AND OBJECTIVES

2.1 ACADEMIC AIMS

2.1.1 The main research aim of the investigation, given the commercial nature of the development, will be to establish the presence or absence of buried archaeological remains on the site and, if present, characterise the level of preservation and significance, and provide a good understanding of their potential.

2.2 OBJECTIVES

2.2.1 The objectives of the project may be summarised as follows:

- to determine the presence, character, and extent of the eighteenth-century salt works shown on historical mapping;
- to determine the presence, character, and extent of the short canal arm and associated wharves shown on historical mapping;
- to determine the presence, character, and extent of the 'cistern' shown on historical mapping;
- to inform a decision as to whether further archaeological investigation will be required in advance of development ground works;
- to compile an archival record of any archaeological remains within the proposed development area.

3 METHOD STATEMENT

3.1 EVALUATION TRENCHING

3.1.1 Experience has shown the importance of a close working relationship between the client and their archaeological contractor on complex development projects. Such a relationship will help to ensure the timely and successful completion of the project in an efficient and cost-effective manner, achieving high technical and academic standards, whilst meeting all the requirements of the tender documentation, and fulfilling all the client's archaeological obligations. This ethic is at the heart of our approach to this project.

3.1.2 The development area will be investigated initially via the excavation of five targeted evaluation trenches. It is proposed that the trenching is focused on the western part of the development site (in the vicinity of the former magistrates' court), as this area will form an initial phase of the development works. Whilst the damage and/or destruction on buried archaeological remains caused by the construction of the extant buildings is currently unknown, the proposed trenches have been placed beyond their footprint (Plates 2 and 3).

3.1.3 In the event of significant archaeological remains being discovered in the trenches, it is likely that further archaeological investigation will be required. Any such additional works will be carried out in accordance with an Updated Written Scheme of Investigation, which will be devised in consultation with the Development Control Archaeologist.

3.1.4 ***General Methodology:*** it is proposed that the site be investigated initially via five trenches, each measuring *c* 2m wide and with a combined total length of 80m.

- *Trench 1:* this trench will measure 10m, and will be placed across the western edge of the 'cistern', and two associated buildings, which may represent pump houses, as shown on the Ordnance Survey map of 1876 (Plate 2);
- *Trench 2:* will measure 15m, and will be placed across a rectangular building forming the north-western corner of the salt works, as shown on the Ordnance Survey map of 1876 (Plate 2);
- *Trench 3:* this trench will investigate the core of the salt works as shown on the Ordnance Survey map of 1876 (Plate 2), and will measure 30m long;
- *Trench 4:* this trench will be targeted on the southern part of the 'cistern' shown on the Ordnance Survey map of 1876, and the northern extent of the principal buildings of the salt works (Plate 2). The trench will measure 15m long;
- *Trench 5:* this trench will be 10m long, and will be placed across the route of the short canal shown on the Ordnance Survey map of 1876 (Plate 2).

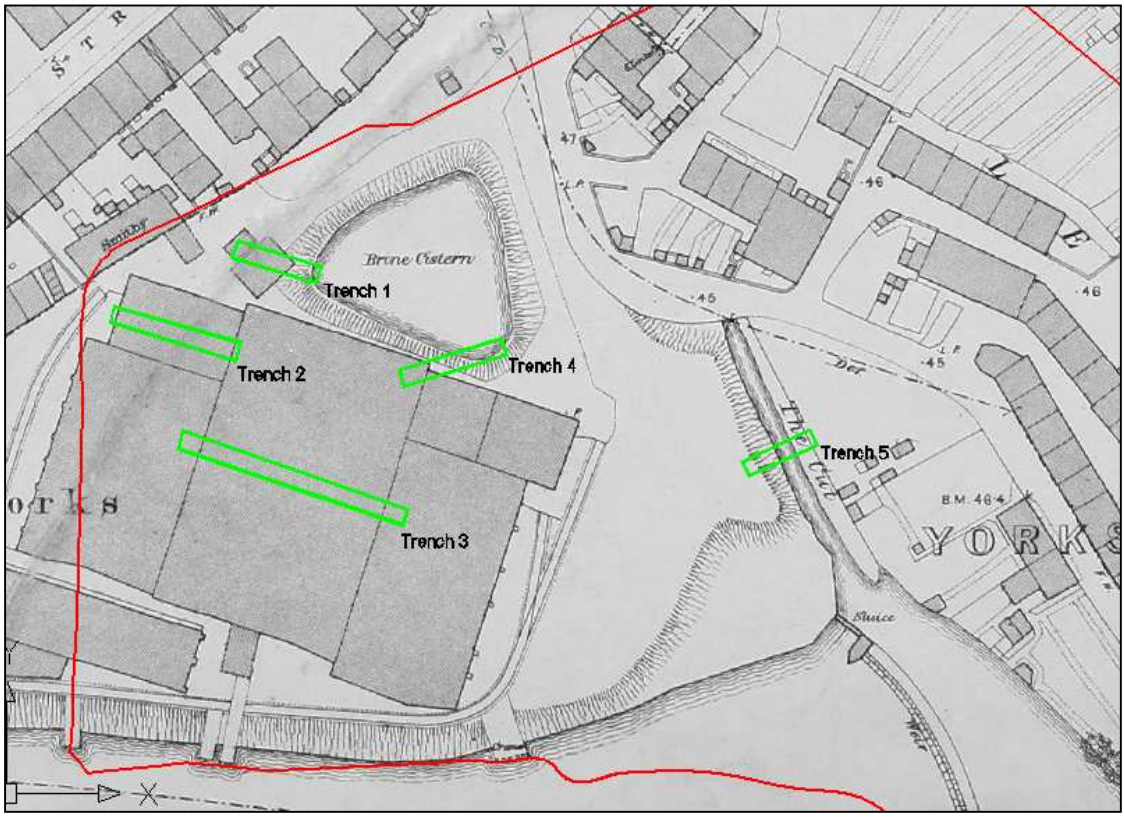


Plate 2: Proposed location of the trenches, superimposed on the Ordnance Survey map of 1876

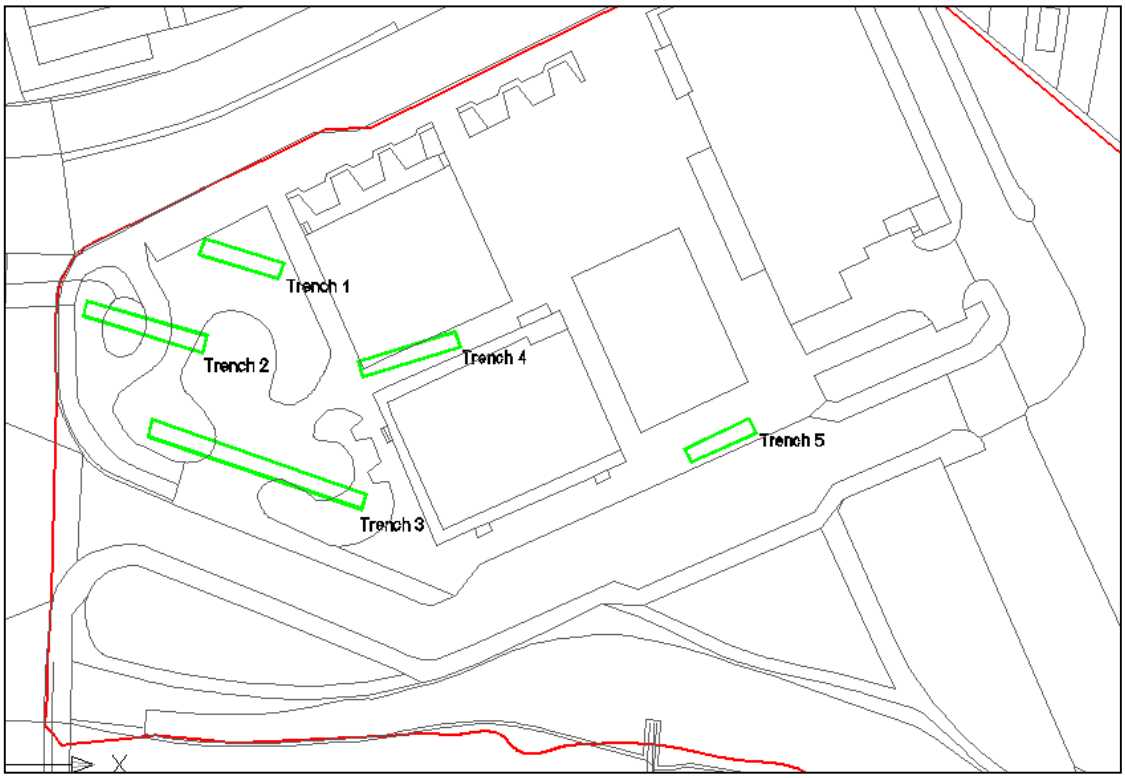


Plate 3: Proposed location of the evaluation trenches, superimposed on modern mapping detail

3.1.5 Excavation of the modern ground surface will be undertaken by a machine of appropriate power using a toothed bucket and, where necessary, a breaker. The uppermost levels of overburden/demolition material will then be removed using the same machine, but fitted with a toothless ditching bucket, to the top of the first significant archaeological level. The work will be supervised closely by a suitably experienced archaeologist; no machine work will be carried out in the absence of an archaeologist. Spoil from the excavation will stored adjacent to the trench, and will be backfilled upon completion of the archaeological works. Any archaeological deposits exposed will be cleaned manually to define their extent, nature, form and, where possible, date.

3.1.6 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 will be recorded on *pro-forma* context sheets, and will be accompanied with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.

3.1.7 ***Context Recording:*** all contexts will be recorded using *pro-forma* sheets, and details will be incorporated into a Harris matrix. Similar object record and photographic record *pro-formas* will be used. All written recording of survey data, contexts, photographs, artefacts and ecofacts will be cross-referenced from *pro-forma* record sheets using sequential numbering.

3.1.8 ***Photography:*** a full and detailed photographic record of individual contexts will be maintained and similarly general views from standard view points of the overall site at all stages of the evaluation will be generated. Photography will be undertaken using 35mm cameras on archivable black and white print film as well as the capture of digital images, and all frames will include a visible, graduated metric scale. Photographs records will be maintained on special photographic *pro-forma* sheets.

3.1.9 ***Planning:*** the precise location of all archaeological features encountered will be surveyed by EDM tacheometry using a total station linked to a pen computer data logger. This process will generate scaled plans within AutoCAD, which will then be subject to manual survey enhancement. The drawings will be generated at an accuracy appropriate for 1:20 scale, but can be output at any scale required. Sections will be manually drafted as appropriate at a scale of 1:10. All information will be tied in to Ordnance Datum.

3.1.10 Human remains are not expected to be present, but if they are found they will, if possible, be left *in-situ* covered and protected. If removal is necessary, then the 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*.

3.1.11 Any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996.

3.1.12 ***Finds policy:*** OA North employs in-house artefact and palaeoecology specialists, with considerable expertise in the investigation, excavation, and finds management of sites of all periods and types, who are readily available for consultation. Finds storage during fieldwork and any site archive preparation will follow professional guidelines (UKIC). Emergency access to conservation facilities is maintained by OA North with the Department of Archaeology, the University of Durham.

3.1.13 Finds recovery and sampling programmes will be in accordance with best practice (following current Institute for Archaeologists guidelines) and subject to expert advice in order to minimise deterioration. Metalwork recovered from stratified contexts will be subject to X- radiographic screening, in accordance with current English Heritage guidelines (English Heritage 2006).

3.1.14 ***Environmental Sampling:*** the strategy for palaeo-environmental sampling will be developed on site, in consultation with appropriate specialists, as necessary. The environmental sampling strategy will therefore evolve from a discussion between those specialists and the field team and will be in accordance with current best practice.

3.1.15 In broad terms, however, the sampling strategy will be aimed at recovering palaeo-botanical, palaeo-zoological and pedological evidence. It is anticipated that environmental samples (bulk samples of 30 litres volume, to be sub-sampled at a later stage) will be collected from stratified undisturbed deposits and will particularly target negative features.

3.2 HEALTH AND SAFETY

3.2.1 Full regard will be given to all constraints during the course of the project. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers.

3.2.2 OA North undertakes to safeguard, so far as is reasonably practicable, the health, safety and welfare of its staff and of others who may be affected by our work. OA North will also take all reasonable steps to ensure the health and safety of all persons not in their employment, such as volunteers, students, visitors, and members of the public (this includes trespassers). OA North will ensure that no one suffers injury because of dangers arising from the state of the premises, or things done, or omitted to be done, on the premises.

3.2.3 OA North is fully familiar with and will 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 (2007);
- The Control of Asbestos Regulations (2006);

- The Workplace (Health, Safety and Welfare) Regulations (1992);
- Construction (Health, Safety and Welfare) Regulations (1996);
- The Health and Safety (Miscellaneous Amendments) Regulations (2002);
- 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);

3.2.4 OA North has professional indemnity to a value of £2,000,000, employer's liability cover to a value of £10,000,000 and public liability to a value of £15,000,000. Written details of insurance cover can be provided if required.

3.2.5 Normal OA North working hours are between 9.00 am and 5.00 pm, Monday to Friday, though adjustments to hours may be made to maximise daylight working time in winter and to meet travel requirements. It is not normal practice for OA North staff to be asked to work weekends or bank holidays and should the Client require such time to be worked during the course of a project a contract variation to cover additional costs will be necessary.

3.3 OTHER MATTERS

3.3.1 The client is asked to provide OA North with any information of underground services on the site.

3.4 POST-EXCAVATION AND REPORT PRODUCTION

3.4.1 ***Archive:*** the results of the archaeological investigation will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*The Management of Archaeological Projects, 2nd edition, 1991*) and 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. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IfA in that organisation's code of conduct. As part of the archiving process, the on-line OASIS (On-line Access to Index of Archaeological Investigations) form will be completed.

3.4.2 The paper and finds archive for the archaeological work undertaken at the site will be offered for deposition with the Cheshire West and Chester Museums Service (headquarters at the Grosvenor Museum in Chester), which has the capacity to co-ordinate the deposition of the finds and the paper and electronic archive. This archive can be provided in the English Heritage Centre for Archaeology format, both as a printed document and on CD (as appropriate). The archive will be deposited with the museum within six months of the completion of the fieldwork. Except for items subject to the Treasure Act, all artefacts found during the course of the project will be donated to the receiving museum.

3.4.3 ***Report:*** four copies of a bound and collated final report will be submitted to the client within six weeks of the completion of the fieldwork. Further copies will be sent to the Local Planning Authority, and the Development Control Archaeologist with Cheshire Archaeology Planning Advisory Service. The final report will include a copy of this Written Scheme of Investigation, and indications of any agreed departure from that scheme. It will include an historical and archaeological background to the study area, an outline methodology of the investigation, and present, summarise, assess, and interpret the results of the programme of archaeological works detailed above. It will also include an assessment of the finds, which will be accompanied by relevant proposals for detailed finds analysis and conservation with costs. In addition, recommendations for any further mitigation works and details of the final deposition of the project archive will also be made.

3.4.4 ***Confidentiality:*** the final report is designed as a document for the specific use of the client, and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

4 WORK TIMETABLE

4.1 It is anticipated that the evaluation trenching will be completed within a six-day period.

4.2 A report will be submitted within six weeks of the completion of the fieldwork.

5 STAFFING PROPOSALS

5.1 The project will be under the overall charge of **Ian Miller BA FSA** (OA North Senior Project Manager) to whom all correspondence should be addressed. His role will be to ensure that the project design is implemented within the framework of the Project Objectives. He will be responsible for all aspects of staff and resource logistics, ensuring the smooth running of the project programme. He will liase with the Client and the Development Control Archaeologist with regard to progress, and will maintain relationships with other contractors.

5.2 The fieldwork is likely to be undertaken by **Graham Mottershead BA** (OA North Project Supervisor). Graham is an highly experienced field archaeologist, with over 20 years continuous experience of field archaeology. Graham recently directed the programme of archaeological evaluation and excavation of the Lion Salt Works in Marston, near Northwich.

5.3 It is not possible to provide details of specific technicians that will be involved with the fieldwork at this stage, but all shall be suitably qualified archaeologists with proven relevant experience. It is anticipated that up to two technician will be required for the initial stage of the fieldwork.

5.4 Assessment of any finds recovered from the evaluation will be undertaken by OA North's in-house finds specialist **Christine Howard-Davis BA** (OA North Finds Manager). Christine has extensive knowledge of all finds of all periods from archaeological sites in northern England, and is a recognised expert in the analysis of post-medieval artefacts.

6 MONITORING

6.1 Monitoring meetings will be established with the Client and the archaeological curator at the outset of the project. Monitoring of the project will be undertaken by the Development Control Archaeologist with the Cheshire Archaeology Planning Advisory Service, or his/her representative, who will be afforded access to the site at all times.

7 REFERENCES

Ahmad, C, and Adams, M, 2005 *An Archaeological Assessment of Northwich Vision, Northwich, Cheshire,* National Museums Liverpool, unpubl rep

English Heritage, 1991 *The Management of Archaeological Projects, 2nd edition*, London

English Heritage, 2006 *Guidelines on the X-Radiography of Archaeological Metalwork,* Swindon

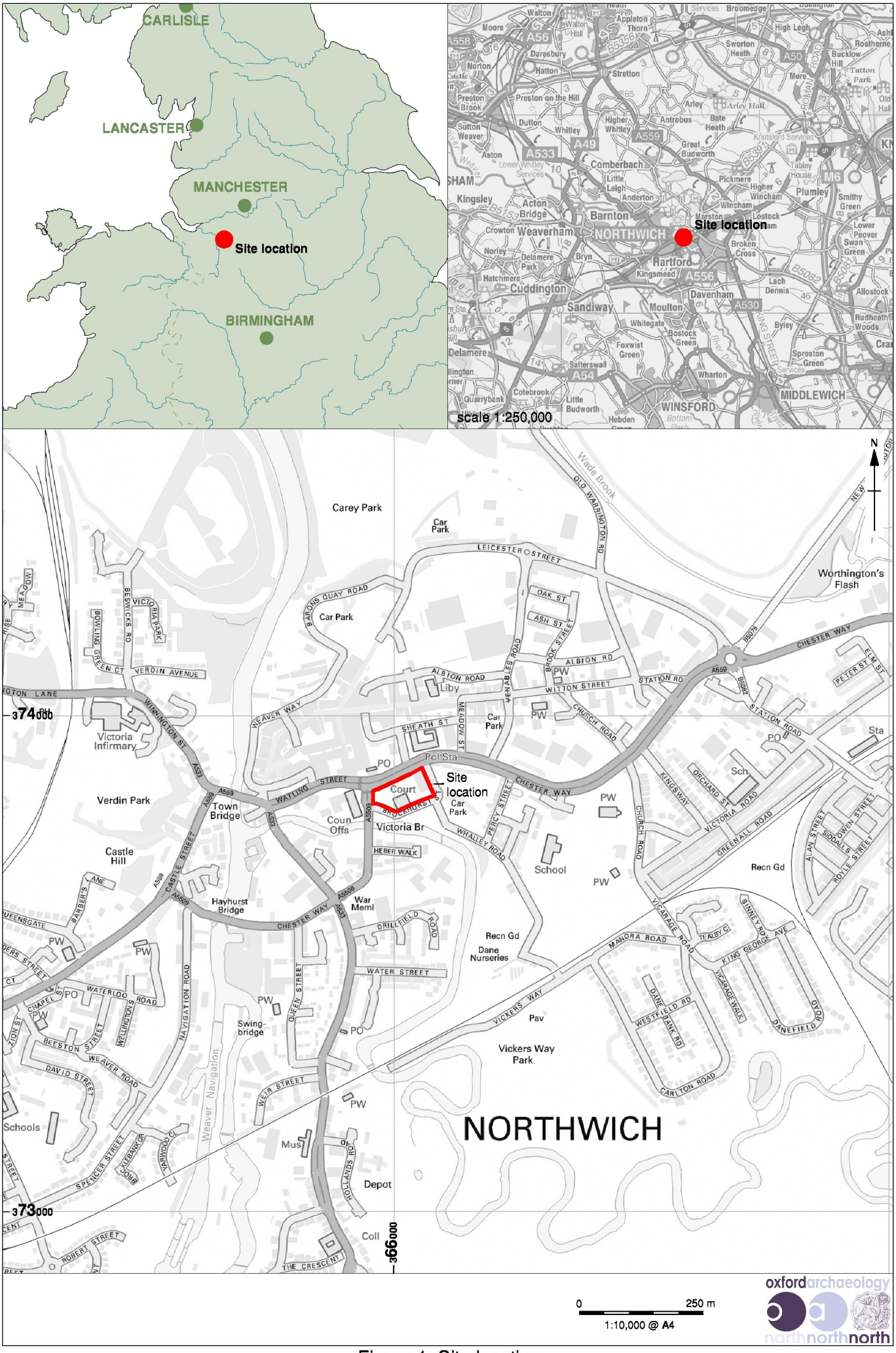
ILLUSTRATIONS

LIST OF FIGURES

Figure 1: Site location

Figure 2: Evaluation trench plan

Figure 3: Areas of archaeological potential



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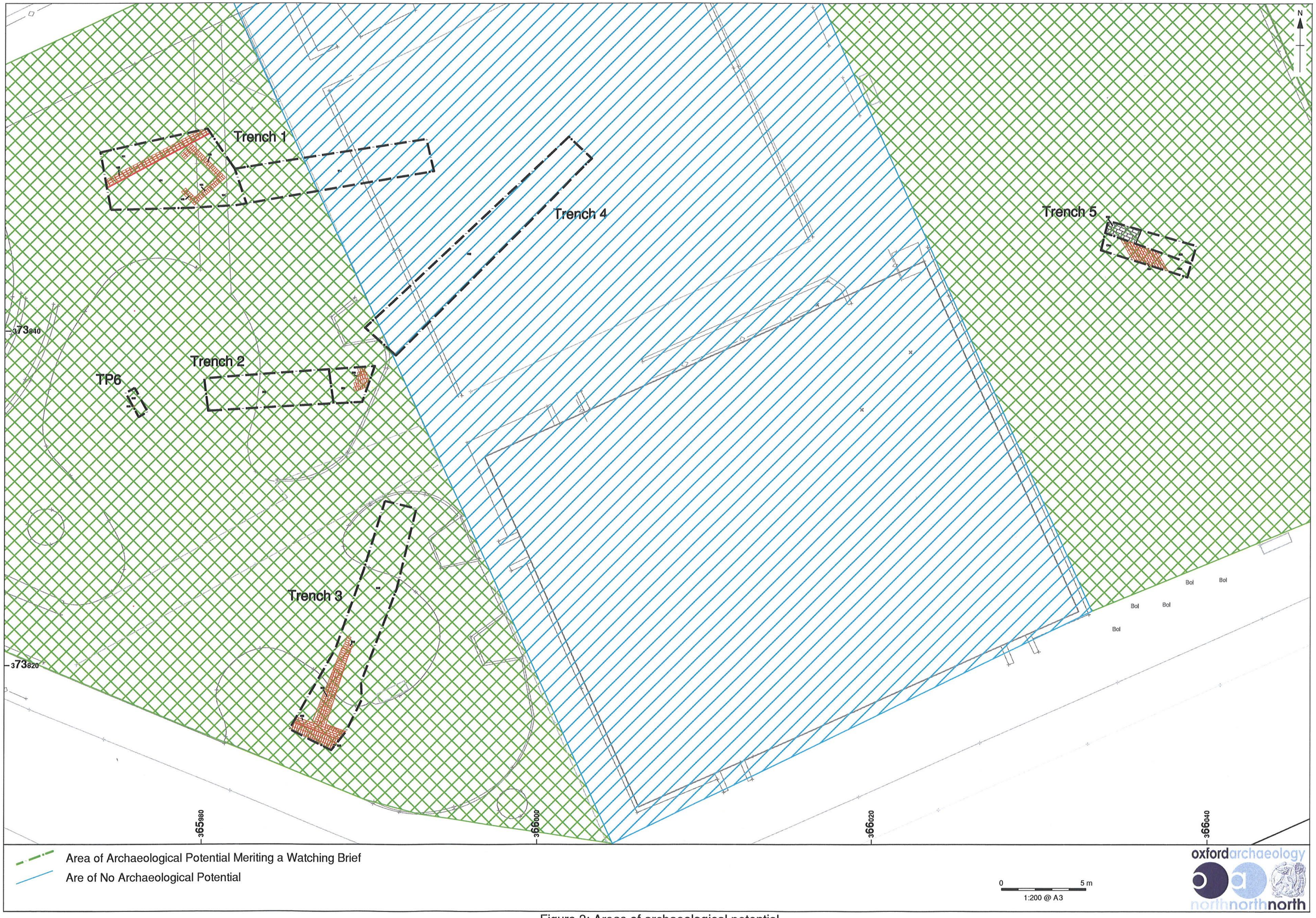

Figure 3: Areas of archaeological potential