

**An Archaeological Watching Brief on the
site of the former White House, Benwell,
Newcastle upon Tyne**



ARS Ltd Report No. 2015/8
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Executive Summary

In May 2014 Archaeological Research Services Ltd (ARS Ltd) was commissioned by Brightblue Studio on behalf of White House Community Group to carry out an archaeological watching brief on the site of the former White House in Benwell, Newcastle upon Tyne. This follows two previous phases of work at the site including an archaeological building recording and an archaeological evaluation, both carried out by ARS Ltd in 2009.

The course of the Vallum of Hadrian's Wall was believed to run across the northern end of the site, however the previous evaluation found no evidence of Roman Activity on the site and it was noted that extensive services, for sewerage, electricity and gas are likely to have badly disturbed any surviving archaeological deposits.

The Watching Brief concluded that, based on the industrial past of the site and the nature of the deposits uncovered, it is almost certain that if the vallum of Hadrian's Wall once existed at this site, that it has been destroyed prior to this investigation. The modern made ground surfaces and re-deposited clays that were recorded suggest that extensive clay extraction and subsequent levelling had occurred on the site prior to the construction of White House, with some deposits also resulting from the subsequent demolition of White House in 2011. The only archaeological feature discovered during the watching brief was that of a small ditch [406] located under the road deposits in the north-eastern corner. The ditch was cut into a re-deposited clay deposit (414) and contained two fills, neither of which yielded any archaeological material. However, based on material remains found in the clay, it can be said that the ditch is of post-medieval date and is not associated with the vallum of Hadrian's Wall.

1. INTRODUCTION

1.1 In December 2012 Archaeological Research Services Ltd (ARS Ltd) was commissioned by Brightblue Studio on behalf of White House Community Group to carry out an archaeological watching brief on the site of the former White House in Benwell, Newcastle upon Tyne. The northern part of the site lies within the buffer zone of the UNESCO World Heritage Site, Frontiers of the Roman Empire (Hadrian's Wall), and the course of the *Vallum* of Hadrian's Wall is believed to run through this area. This watching brief follows two previous phases of work carried out by ARS Ltd at the site. These were an archaeological building recording (Amat 2009a) and an archaeological evaluation (Amat 2009b).

1.2 The works have the potential to contribute to the Research Framework for Hadrian's Wall (Symonds and Mason 2009).



Figure 1. Site location (Ordnance Survey data copyright OS, reproduced by permission, Licence no. 100045420).

2. LOCATION AND GEOLOGY

2.1 The site is located in Benwell, Newcastle upon Tyne, centred at NZ 2267 6438, less than a mile to the north of the northern bank of the River Tyne. The solid geology of the area is Westphalian coal measures and sandstone bedrock. The overlying drift geology comprises glacial till and alluvial clay, silt and sand (British Geological Survey 2014).



Figure 2. Detailed site location (Ordnance Survey data copyright OS, reproduced by permission, Licence no. 100045420).

3. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.1. Prehistoric

3.1.1 The earliest evidence of prehistoric activity discovered in the vicinity of the study area is a Neolithic stone axe (HER 1376) that was found in 1853 at the Roman fort at Benwell.

3.2 Romano-British

3.2.1. Hadrian's Wall is a UNESCO World Heritage Site. The study area is situated on what is believed to be the course of the *Vallum* of Hadrian's wall. A Roman fort is known to have existed approximately 1km to the west of the study area. In connection with the fort are the remains of a bath house and a temple along with its associated burials. There is also evidence for a large Roman civilian settlement that lay to the south of the fort.

3.3 Medieval

3.3.1 The earliest reference to Benwell appears as Bynnewalle in around 1050 when it was a member of the barony of Bolbec.

3.4 Post-Medieval

3.4.1. Benwell remained a small rural village during the post-medieval period, however in 1644 a civil war camp was built in the area during the siege of Newcastle.

3.4.2 During the 18th/ 19th century, the area along Westgate road was used for clay extraction and associated brickworks sites. Housing spread to accommodate workers and industrialists and transport systems were also expanded.

3.4.3 Before 1882 the site of White House was an open field and was referred to as 'Clay Pits' on the First edition OS map of 1844 (Amat 2009a). Given that the area was used as clay pits it is highly probable that any evidence of the *vallum* has been destroyed during the quarrying process.

3.4.4 An archaeological building recording and evaluation were carried out at the site by ARS Ltd in 2009 (Amat 2009a and b). The evaluation consisted of three trenches, two of which contained back-filled clay and loose shale deposits dumped during site levelling at the end of the 19th century and one which contained a circular sandstone structure that is also believed to have been connected to the clay pit (Amat 2009b). No material culture or dating evidence was retrieved from *in-situ* contexts and no evidence of any Roman activity was found on-site. It was also noted that extensive services, for sewerage, electricity and gas will are likely to have badly disturbed any surviving archaeological deposits.

4. AIMS AND OBJECTIVES

4.1 The purpose of the watching brief is to ensure that important archaeological remains are not destroyed without first being adequately recorded. The watching brief will formulate an appropriate mitigation strategy to ensure appropriate recording, preservation or management of the archaeological resource. In particular:

- the presence or absence of archaeological features their quality, depth and preservation.
- an assessment of their significance and importance in line with NPPF (DCLG 2012).
- the likely impact of the works upon any such features.
- the appropriate mitigation of the development's impact upon those remains.

5. METHODOLOGY

5.1 The groundworks involved the grubbing out of the basement level and foundations of White House, the excavation of two trial pits measuring 2.35m x 8.2m and 10m x 5m and all further groundworks relating to the new centre's construction and its associated landscaping.

5.2 All archaeological fieldwork, recording of archaeological features and deposits and post-excavation analysis was carried out to acceptable standards as set out in the Institute for Archaeologists' *Code of Practice* (2010) and *Standard and Guidance for Archaeological Watching Briefs* (2008).

5.3 Groundworks were undertaken using a mechanical excavator fitted with a toothless ditching bucket under the direct and continuous monitoring a suitably qualified member of staff from ARS Ltd.

5.4 All deposits were recorded according to the normal principles of stratigraphic excavation. Each context was recorded on pro-forma records which included the following: character and contextual relationships; detailed description (dimensions and shape; soil components, colour, texture and consistency); interpretation and phasing as well as cross-references to the drawn, photographic and finds registers.

5.5 Site features were all planned at a scale of 1:20. Trench section edges were also drawn at a scale of 1:20.

5.6 A photographic record was maintained including photographs of all significant features and overall photographs of the excavation area. All images were taken in black and white print, colour print and digital format, and contained a graduated photographic scale.

6. RESULTS

6.1 Phase 1

6.1.1 The first phase of the watching brief was carried out in December 2011 during site clearance works following the demolition of White House. This involved the grubbing out of the building's basement level and foundations, together with the excavation of a trial pit measuring 2.35m x 8.2m, to the south of the former building's footprint.

6.1.2 The basement level and foundations were removed to reveal a coarse grey-brown clayey sand (001) containing brick, stone, metal and general building waste across the site. This had a depth of c.1m and was removed to reveal dark brown sandy clay (002) with shale inclusions. This clay (002) appeared to be a natural deposit.

6.1.3 The trial pit was excavated 16m to the south of the former structure. It measured 2.35m x 8.2m and was excavated to a depth of 3m. The trench was dug through turf and topsoil (101) with a depth of 0.3m to reveal a shallow scattering of yellow builder's sand (102) (Figure 3). This deposit (102) had a depth of c.0.05m and overlay a soft orange-brown re-deposited clay (103) with a depth of 0.12m – 0.15m. The clay (103) was removed to reveal a sequence of consecutive backfill deposits (Figures 4-6) consisting of a mid grey-brown silty clay with mixed sand and limestone chippings (104), a light grey-brown silty clay with a higher concentration of stone chippings and fragments of small boulders (105), a compacted dark grey-brown silty-clay with stone chippings and fragments of small boulders (106), and a light grey-brown silty clay with a higher concentration of stone chippings and fragments of small boulders (107). These deposits were removed to reveal the natural, firm dark-grey shale-y clay with frequent loose glacial limestone boulders (108).



Figure 3: Phase 1 trial pit during excavation, looking north-east.



Figure 4: Phase 1 Trial pit during excavation, looking north.



Figure 5: Phase 1 trial pit following excavation, looking north (scale = 2m).



Figure 6: East facing section of Phase 1 trial pit (scale = 2m).

6.2 Phase 2

6.2.1 The second phase of the watching brief was carried out in June 2014 and involved the excavation of a trial pit measuring 10m x 5m, to the immediate north of the former building's footprint.

6.2.2 The trial pit was excavated to a depth of 1m. The trench was dug through turf and topsoil (201) with a depth of 0.1m to reveal a coarse mid-yellowish brown silt (202) containing high concentrations of broken brick, timber and stone chips (Figure 7). This deposit (202) had a depth of 0.8m and was removed to reveal a loose mid-grey ashy silt (203) containing broken brick, stone, timber and cement (Figure 8). This deposit (203) had a depth of 0.14m and overlay a mid-orange-yellow clay (204) containing boulders and angular stones. This deposit (204) appeared to be a re-deposited natural clay and formed the limit of excavation (Figure 9).

6.2.3 Along the west side of the trial pit a north-south aligned linear cut feature (205) was noted which was filled by deposit (203) (Figure 10). Along this side of the trial pit deposit (204) had a depth of 0.85m and overlay the mid-orange-yellow clay (204) which was here encountered at a depth of 1.7m below the present ground level. This cut (205) appears to represent a machine cut, backfilled with material taken from elsewhere on the site (203). This cut (205) probably formed part of the grubbing-out of the basement and foundations of the former building, which was subject to watching brief in Phase 1.



Figure 7: Phase 2 Trial pit during excavation, looking south-east showing deposit (202).



Figure 8: Phase 2 trial pit following excavation, looking south showing deposit (203).



Figure 9: Phase 2 trial pit, looking east (scale = 1m).



Figure 10: Phase 2 trial pit, looking north, showing machine cut (205), partially excavated along the west side of the trench backfilled with (203) (scale = 1m).

6.3 Phase 3

6.3.1 The third phase of the watching brief was carried out in December 2014 at which time the site contained a tarmac surface surrounding the northern, eastern and western perimeters with a large grassed area encompassing the central and southern areas of the site (Figure 11). The watching brief monitored the excavation of an area measuring 53m east-west by 55m north-south at its eastern extent, and 65m north-south at its western extent to an observed depth of 3m where natural clays were encountered.

6.3.2 The stripped area was initially removed of the tarmac (401) and associated road deposits (402), (403) to a depth of 0.3m along the northern, eastern and western perimeters of the site. Once removed, a series of modern backfill deposits (404), (409), (420), (422), (423), (424), (425) containing high concentrations of broken brick, timber and sandstone fragments were encountered directly beneath to depths of up to 1.2m below the ground surface (Figure 12). Wall foundations (421) from the demolished White House were also encountered amongst the modern backfill deposits. When the backfill deposits were removed, a layer of fine yellowy orange re-deposited clay (414) was revealed (Figure 13).

6.3.3 The central and southern areas were stripped of topsoil (405) to reveal a series of different deposits in different locations across the area at a depth of 0.4m. Under the topsoil in the centre of the site, a large pit cut [428] with two layers of modern backfill (411), (412) was uncovered containing broken brick, timber, plastics, ceramics and stone fragments (Figure 14). This cut [428] probably formed part of the grubbing-out of the basement and foundations of the former building, which was subject to a watching brief in Phase 1. Located to the immediate west of the pit was a thin deposit of light greyish-brown silty clay (416) and to the immediate south was a thin layer of mid-brown silty clay and mixed sand (415). Across the rest of the central and southern area, a layer of re-deposited clay was encountered (414).

6.3.4 In the north-eastern corner of the site, a linear cut [406] measuring 5m x 1.2m x 0.4m deep was located that cut into the re-deposited clay (414) (Figure 15). It contained two fills, a primary fill of light grey silty clay (406) and a secondary fill of medium mid-brownish grey silty clay (407). Two sections, measuring 1m x 0.6m and 1.3m x 0.7m, of the ditch were excavated to investigate the feature, but no finds were recovered (Figure 16-17). Based on modern material found within the re-deposited clay (414) (see Section 6.3.5), the ditch is presumably of post-medieval date and not associated with the *vallum* of Hadrian's Wall.

6.3.5 The fine yellowy orange re-deposited clay (414), which the ditch [406] was cut into, was found across the entire excavation area once the modern deposits and features were removed (Figure 21 & 22). This layer was found to a depth of 0.5m, and was likely deposited as a levelling agent prior to the construction of White House. As the mechanical digger removed the clay deposit, another dark brown/black clay (413) was revealed (Figure 18). It covered the full extent of the site at a depth of 0.85m and is believed to be a backfill deposit created when the land was excavated and backfilled during the period when the site served as a clay quarry. Below this deposit was a similar dark, grey, silty-clay, but more compacted with medium sandstone boulder inclusions (426) (Figure 18). This deposit also covered the full extent of the site, and had a depth of 0.35m. At a depth of 2.8m below ground level, the natural dark-grey shaley-clay (427) was revealed across the entire site (Figure 19).



Figure 11: Phase 3 extent of site, looking south, illustrating road around perimeters and grassed area in centre.



Figure 12: Phase 3, looking north-east, modern backfill deposits in foreground.



Figure 13 : Phase 3, looking south, re-deposited clay across site (414).



Figure 14 : Phase 3, pit cut [428] under topsoil, looking south-east, containing two modern backfills (411) and (412).



Figure 15: Phase 3, looking north-east, post-medieval ditch [408] (scale = 1m).



Figure 16: Phase 3, West facing section of ditch (406), (407), [408], section slot 1 (scale = 1m).



Figure 17: Phase 3, West facing section of ditch (406), (407), [408], section slot 2 (scale = 1m).



Figure 18: Phase 3, looking north, mechanical digger exposing dark grey clay deposits (413), (426) under re-deposited clay (414).



Figure 19: Phase 3, South facing section of excavation area showing clay (414), (413), (426) and natural clay deposits (427) (scale = 1m).

7. DISCUSSION

7.1 Based on the industrial past of the site, and the nature of the deposits uncovered, it is almost certain that if the *vallum* of Hadrian's Wall once existed at this site, that it has been destroyed prior to this investigation. The modern made ground surfaces and re-deposited clays that were recorded suggest that extensive clay extraction and subsequent levelling had occurred on the site prior to the construction of White House, with some deposits also resulting from the subsequent demolition of White House in 2011. The only archaeological feature discovered during the watching brief was that of a small ditch [406] located under the road deposits in the north-eastern corner. The ditch was cut into a re-deposited clay deposit (414) and contained two fills, neither of which yielded any archaeological material. However, based on material remains found in the clay, it can be said that the ditch is of post-medieval date and is not associated with the *vallum* of Hadrian's Wall.

8. PUBLICITY, CONFIDENTIALITY AND COPYRIGHT

8.1 Any publicity will be handled by the client.

8.2 Archaeological Research Services Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

9. STATEMENT OF INDEMNITY

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

10. ACKNOWLEDGEMENTS

10.1 Archaeological Research Services Ltd would like to thank all those involved with this work in particular Henry Amos of Brightblue Studio and David Heslop, Tyne and Wear County Archaeologist.

11. REFERENCES

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Symonds, M.F.A. and Mason D.J.P. (eds.) 2009. *Frontiers of knowledge: a research framework for Hadrian's Wall*. Council for British Archaeology.

Websites

British Geological Survey <http://www.bgs.ac.uk/>

Keys to the Past <http://www.keystothePast.info>

Tyne and Wear Sitelines <http://www.twsitelines.info>

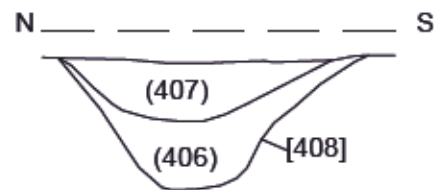
APPENDIX 1 – CONTEXT REGISTERS

Context Register

Context No.	Description
401	Tarmac
402	Black road base
403	Red road base
404	Builder's sand
405	Topsoil
406	Primary fill of [408]
407	Secondary fill of [408]
408	Cut of ditch (406)
409	Rubble dump under tarmac in SE corner
411	Rubble dump pit, primary fill infilling former White House foundations
412	Rubble dump pit, secondary fill infilling former White House foundations
413	Dark brown/black modern backfill across site
414	Re-deposited clay
415	Mid-brown silty clay and mixed sand deposit
416	Light greyish-brown silty clay backfill
420	Sandstone rubble dump
421	White House foundations
422	Bluish-grey clay overlying (414) in NW corner
423	Brown sandy silt under tarmac along W-perimeter
424	Small sandstone/chalky white rubble dump
425	Degraded sandstone deposit
426	Compacted clay deposit
427	Natural, grey shaley clay
428	Cut of pit (411)

Figure 20: Plan and Section Drawings of F406
 Scale: 1:20 at A4

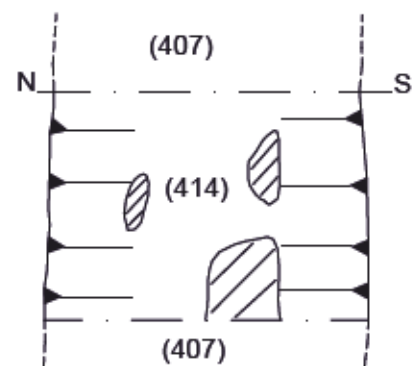
WEST FACING SECTION OF F406 SLOT 1



WEST FACING SECTION OF F406 SLOT 2

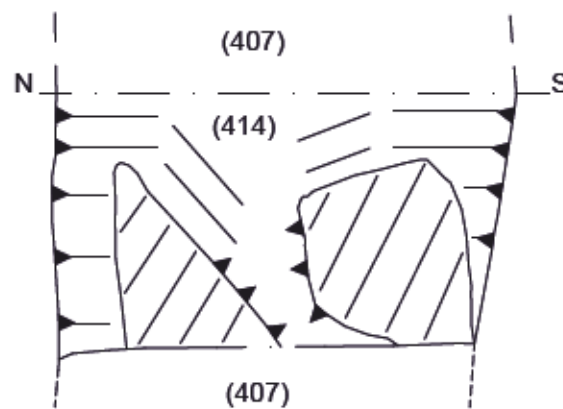


PLAN OF F406 SLOT 1



▨- SANDSTONE

PLAN OF F406 SLOT 2



▨- SANDSTONE

Key:



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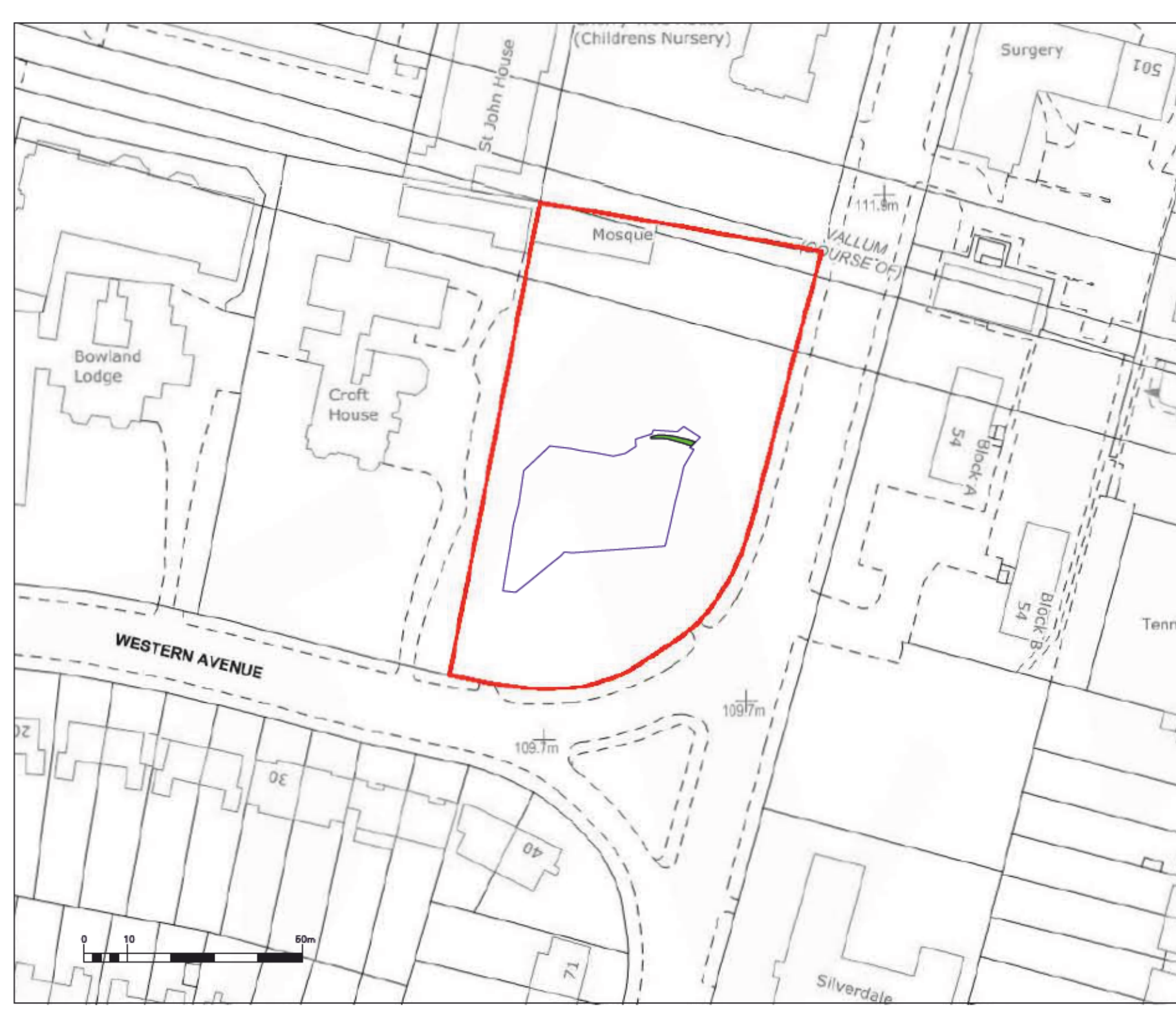
Title: Figure 21- Trench Location Plan
Scale: 1:750 @ A4
Drawn: DGC

- Key:
- Limit of Excavation during current phase of works
 - Site Boundary
 - Post-Medieval Ditch F.407

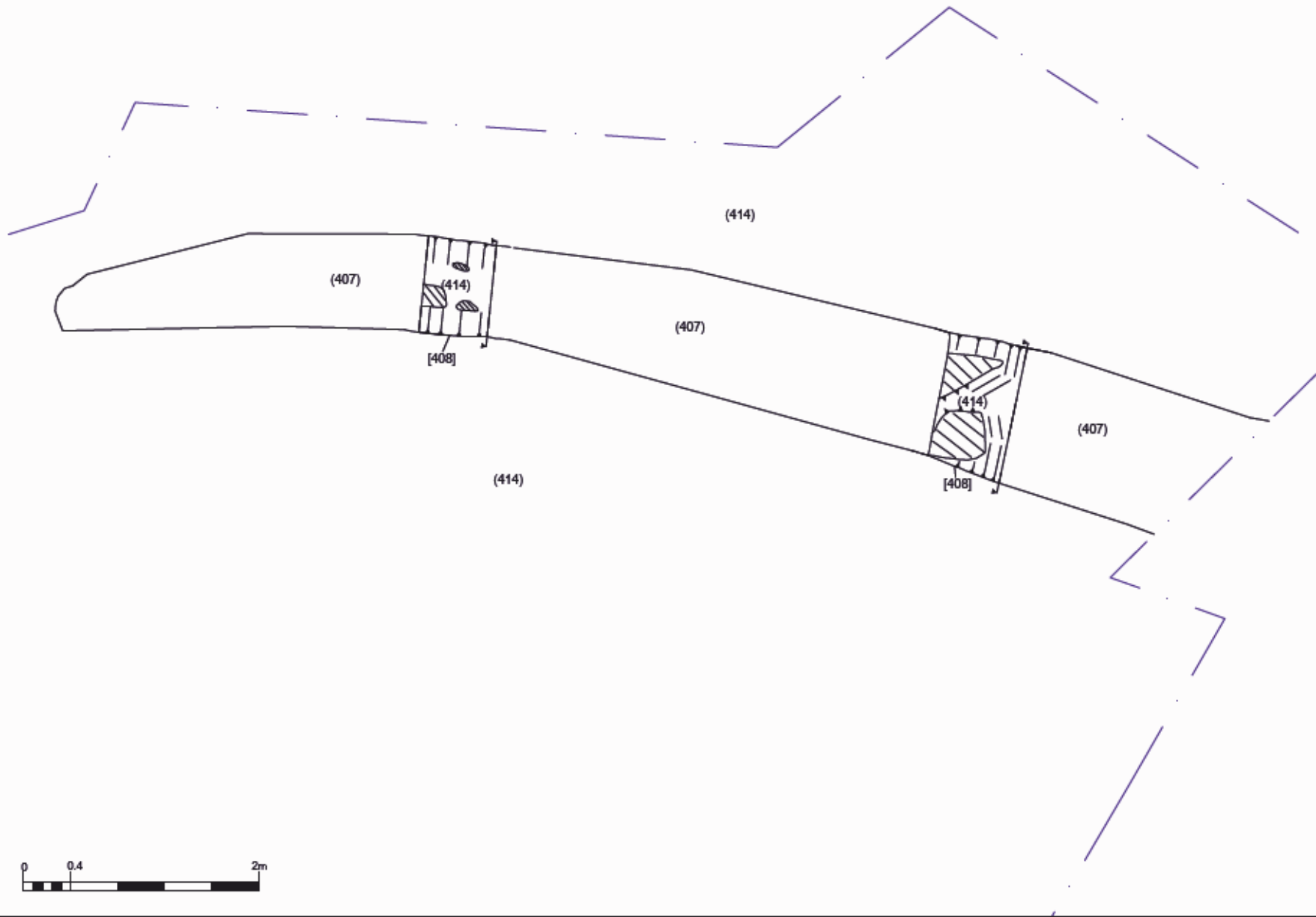


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APPENDIX 3 – BRIEF

Tyne and Wear Specialist Conservation Team

Specification for Archaeological Watching Brief at White House, Benwell, Newcastle upon Tyne

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Date: 22/05/2014

County Archaeologist's Reference Number: MON 6916 WB

The Tyne and Wear Specialist Conservation Team is the curatorial service for archaeology, industrial archaeology and historic buildings throughout the Tyne and Wear districts. It helps and advises Newcastle, Gateshead, North Tyneside, South Tyneside and Sunderland Councils to carry out their statutory duties to care for the precious historic environment of Tyneside and Wearside. The Team can be found at the Strategic Housing, Planning and Transportation Division of the Environment & Regeneration Directorate of



Introduction

Planning permission has been granted for the re-development of the former White House site at Benwell for a mosque and community centre. These works are on the line of the UNESCO World Heritage Site of Hadrian's Wall, and, on the recommendation of the County Archaeologist and English Heritage, need to be archaeologically monitored during the excavation of basements and foundations for the new structures.

Archaeological evaluation in 2009 showed that the area around the former building has been heavily disturbed, partly by the use of the site for brick quarrying, and partly by the landscaping and construction work of the White House. The present operation will be in two stages – an initial operation in early June and a more substantial phase at a later date. It is anticipated that the monitoring will comprise two site visits, one for each phase. The project architect will furnish the archaeological consultant with relevant the plans and construction programme details.

The watching brief must be carried out by a suitably qualified and experienced archaeological organisation.

All work must be carried out in compliance with the codes of practice of the Institute of Field Archaeologists and must follow the IFA Standard and Guidance for Watching Briefs (revised 2001).

The work will record, excavate and environmentally sample (if necessary) any archaeological deposits of importance found on the plot. The purpose of this brief is to obtain tenders for this work. The report must be the definitive record for deposition in the Tyne and Wear HER.

A toothless bucket will be used on the plant employed on site to reduce damage to archaeological remains.

The North-East Regional Research Framework for the Historic Environment (2006) notes the importance of research as a vital element of development-led archaeological work. It sets out key research priorities for all periods of the past allowing commercial contractors to demonstrate how their fieldwork relates to wider regional and national priorities for the study of archaeology and the historic environment. The aim of NERRF is to ensure that all fieldwork is carried out in a secure research context and that commercial contractors ensure that their investigations ask the right questions. The relevant key research theme for this work is Riii – The Roman Military Presence, p 148

The commissioning client will provide plans indicating the location of the proposed work.

Notification

The County Archaeologist needs to know when archaeological fieldwork is taking place in Tyne and Wear so that he can inform the local planning authority and can visit the site to monitor the work in progress. The Archaeological Contractor **must** therefore inform the County Archaeologist of the start and end dates of the Watching Brief. He **must** also keep the County Archaeologist informed as to progress on the site. The CA must be informed of the degree of archaeological survival. The Client will give the County Archaeologist reasonable access to the development to undertake monitoring.

The tasks

1 A final construction timetable has yet to be agreed. Tenders for the Watching Brief should therefore be a cost per day including overheads such as travel costs and equipment. Contingency costs will be provided for environmental sampling and scientific dating per sample and for finds analysis. Any variation on the agreed timetable will be notified by the client, who will give a minimum of 48 hours notice of a change on the days of site attendance. Close liaison between the parties involved will be needed to co-ordinate this element of the work, to ensure that time is not wasted by unproductive site attendance.

2 The work involves undertaking a structured watching brief to observe and record any archaeological deposits and finds from this locality. The absence of deposits and finds must be recorded as negative evidence. **The Watching Brief will not aim to hinder the construction programme, however should archaeological remains be found, the appointed archaeologist must be allowed sufficient time to fully record (by photograph and scale plan and section), excavate and environmentally sample (if necessary) the archaeological deposits.** Within the course of the Watching Brief, it may be possible to record sections through the stratigraphy exposed during the construction work.

General Conditions

All staff employed by the Archaeological Contractor shall be professional field archaeologists with appropriate skills and experience to undertake work to the highest professional standards.

The Archaeological Contractor must maintain a Site Diary for the benefit of the Client, with full details of Site Staff present, duration of time on site, etc. and contact with third parties.

The Archaeological Contractor must be able to provide written proof that the necessary levels of Insurance Cover are in place.

Environmental Sampling and Scientific Dating

Scientific investigations should be undertaken in a manner consistent with “The Management of Archaeological Projects”, English Heritage 1991 and with “Archaeological Science at PPG16 Interventions: Best Practice for Curators and Commissioning Archaeologists”, English Heritage, 2003.

Aims of environmental sampling – to determine the abundance/concentration of the material within the features and how well the material is preserved, to characterise the resource (the site) and each phase, to determine the significance of the material and its group value, what crop processing activities took place on the site? What does this tell us about the nature of the site? Is there any evidence for changes in the farming practice through time? How did people use this landscape? Can we place certain activities at certain locations within the site? Function and date of individual features such as pits, hearths etc. Are the charred assemblages the result of ritual deposition or rubbish? Is the charcoal the result of domestic or industrial fuel?

Deposits should be sampled for retrieval and assessment of the preservation conditions and potential for analysis of biological remains (English Heritage 2002). Flotation samples and samples taken for coarse-mesh sieving from dry deposits should be processed at the time of fieldwork wherever possible. Sieving recovers fish, amphibian, small bird and mammal bone, small parts of adult mammals and young infused bones which may be under-represented otherwise. However it is noted that clay soils in this region make sieving difficult. Discuss the potential for sieving with Regional Advisor for Archaeological Science.

Environmental samples (bulk soil samples of 30 litres volume, to be sub-sampled at a later stage) will be collected by the excavator from suitable (i.e. uncontaminated) deposits. It is suggested that a large number of samples be collected during evaluation from which a selection of the most suitable (uncontaminated) can be processed. All tenders will give a price for the full analysis, report production and publication per sample.

Deposits will be assessed for their potential for radiocarbon, archaeomagnetic (guidance is available in the Centre for Archaeology Guideline on Archaeometallurgy 2001) and Optically Stimulated Luminescence dating. Timbers will be assessed for their potential for dendrochronology dating. Sampling should follow procedures in “Dendrochronology: guidelines on producing and interpreting dendrochronological dates”, Hillam, 1998. All tenders will quote the price of these techniques per sample.

The following information should be provided with the environmental samples to be processed – brief account of nature and history of the site, aims and objectives of the project, summary of archaeological results, context types and stratigraphic relationships, phase and dating information, sampling and processing methods, sample locations, preservation conditions, residuality/contamination etc.

Laboratory processing of samples shall only be undertaken if deposits are found to be reasonably well dated, or linked to recognisable features and from contexts the derivation of which can be understood with a degree of confidence.

A range of features, and all phases of activity, need to be sampled for charred plant remains and charcoal. A ceramic features should not be avoided as the plant remains from these features may help to date them. Deep features should be sampled in spits to pick up changes over time. Part, or all of each of the contexts should be processed. In general samples should be processed in their entirety. All flots should be scanned, and some of the residues.

Pollen samples can be taken from features such as lakes, ponds, palaeochannels, estuaries, saltmarshes, mires, alluvium and colluvium, and from waterlogged layers in wells, ditches and latrines etc. Substances such as honey, beer or food residues can be detected in vessels. Activities such as threshing, crop processing and the retting of flax can be identified. When taken on site, pollen samples should overlap. Your regional science advisor can advise on the type of corer or auger which would be most appropriate for your site. Samples need to be wrapped in clingfilm and kept dark and cool. Make a description of the sediments in which the pollen was found, and send this with the sample to be assessed.

Coastal or estuary sites (even those which are now well drained) are suitable for sampling for foraminifera. Diatoms can also be found on marine sites, but also in urban settings (sewers, wells, drains, ditches etc). They only survive in waterlogged conditions. These aquatic microfossils are used as proxy indicators of the former aquatic ecological conditions on site, changes in sea levels and temperature, salinity, PH and pollution. Forams are taken from cores, monolith tins or bulk samples. Diatoms are cut from monolith tins or cores or taken as spot samples.

Insects, which are useful as palaeoenvironmental indicators, survive best in waterlogged deposits such as palaeochannels and wells. They can provide information on climate change and landscape reconstruction as some species are adapted to particular temperatures, habitats or even particular trees. Certain insects can indicate the function of a feature or building (eg. Weevils, which were introduced by the Romans, often indicate granary sites, parasites will indicate the presence of particular animals such as sheep or horse, latrine flies survive in the mineral deposits in latrines, or in the daub of medieval buildings etc). Samples need to be sealed (eg. in a plastic box).

Where there is evidence for industrial activity, macroscopic technological residues should be collected by hand. Separate samples should be collected for micro-slugs (hammer-scale and spherical droplets). Guidance is available in the English Heritage "Archaeometallurgy" guidelines, 2001.

Buried soils and sediment sequences should be inspected and recorded on site by a recognised geoarchaeologist. Procedures and techniques in the English

Heritage document “Environmental Archaeology”, 2002 and “Geoarchaeology”, 2004 should be followed.

Sampling strategies for wooden structures should follow the methodologies presented in “Waterlogged wood. Guidelines on the recording, sampling, conservation and curation of waterlogged wood” R. Brunning, 1996. If timbers are likely to be present on your site, contact a wood specialist beforehand. Pre-excavation planning – determine questions to ask, agree on a sampling strategy, allocate reasonable time and budget. Soil samples should be taken of the sediments surrounding the timber. Keep the timbers wet! Record them asap on-site – plan, photograph, record the size and orientation of the wood (radial, tangential, transverse), any toolmarks, joints, presence of bark, insect damage, recent breaks, and if another piece of wood was on top of or below the piece sampled. Both vertical and horizontal positioning of wood must be recorded. Wood samples can provide information on woodland management such as medieval coppicing, type of taxa (native or foreign), conversion technology (how the wood was turned into planks), building techniques and type of tools used.

Waterlogged organic materials should be dealt with following recommendations in “Guidelines for the care of waterlogged archaeological leather”, English Heritage and Archaeological Leather Group 1995.

Animal Bone

Animal bone can explore themes such as hunting and fowling, fishing, plant use and trade, seasonality, diet, age structures, farrowing areas, species ratios, local environment.

Animal bone assemblages should be assessed by a recognised specialist.

The specialist will need to know a brief account of the nature and history of the site, an account of the purpose, methods (details of sampling) for recovery of animal bones, and the main aims and results of the excavation, details of any specific questions that the excavator wants the animal bone specialist to consider, information about other relevant finds from the excavation (e.g. bone tools, fishing equipment, weaving equipment), specific information about each context that has produced significant quantities of animal bone (recovery method, phase, context type, position in relation to major structures, contamination by more recent material, some indication of the amount of bone (by weight or by container size). See “Ancient Monuments Laboratory Advisory Note, “Assessment of animal bone collections from excavations”, Sebastian Payne, 1991 and “The Assessment of a collection of animal bones”, S. Davis, n.d., Ancient Monuments Laboratory.

Human Remains

Human remains must be treated with care, dignity and respect.

Excavators must comply with the relevant legislation (essentially the Burial Act 1857) and local environmental health concerns. If found, human remains must

be left in-situ, covered and protected. The archaeological contractor will be responsible for informing the police, coroner and County Archaeologist. If it is agreed that removal of the remains is essential, the archaeological contractor will apply for a licence from the Home Office and their regulations must be complied with.

Site inspection by a recognised osteologist is desirable for isolated burials and essential for cemeteries. The remains will be recorded in-situ and subsequently lifted, washed in water (without additives). They will be marked and packed to standards compatible with "Excavation and post-excavation treatment of cremated and inhumed human remains", McKinley and Roberts, 1993. After excavation, the remains will be subject to specialist assessment.

Analysis of the osteological material should take place according to published guidelines "Human Remains from Archaeological Sites, Guidelines for producing assessment documents and analytical reports, English Heritage, 2002.

Some of the potential benefits from the study of human skeletons – demography, growth profiles, patterns of disease, genetic relationships, activity patterns, diet, burial practices, human evolution. New scientific techniques available include DNA and stable isotope analyses.

The final placing of the remains after scientific study and analysis will be agreed beforehand.

Further guidance is available in:

"Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England", The Church of England and English Heritage, 2005 (www.english-heritage.org.uk/upload/pdf/16602_HumanRemains1.pdf)

"Church Archaeology: its care and management", Council for the Care of Churches, 1999

The Advisory Panel on the Archaeology of Christian burials in England can provide free well-informed advice with consideration of relevant religious, ethical, legal, archaeological and scientific issues. Panel's website:

<http://www.britarch.ac.uk/churches/humanremains/index.html>

or email the secretary simon.mays@english-heritage.org.uk

Treasure

Defined as:

- Any metallic object, other than a coin, provided that at least 10% by weight of metal is precious metal and that is at least 300 years old when found
- Any group of two or more metallic objects of any composition of prehistoric date that come from the same find

- All coins from the same find provided that they are at least 300 years old when found, but if the coins contain less than 10% gold or silver there must be at least ten
- Any object, whatever it is made of, that is found in the same place as, or had previously been together with, another object that is Treasure
- Any object that would previously have been treasure trove, but does not fall within the specific categories given above. Only objects that are less than 300 years old, that are made substantially of gold or silver, that have been deliberately hidden with the intention of recovery and whose owners or heirs are unknown will come into this category

If anything is found which could be Treasure, under the Treasure Act 1996, it is a legal requirement to report it to the local coroner within 14 days of discovery. The Archaeological Contractor must comply with the procedures set out in The Treasure Act 1996. Any treasure must be reported to the coroner and to The Portable Antiquities Scheme Finds Liaison Officer, Rob Collins (0191 2225076 or Robert.Collins@newcastle.ac.uk) who can provide guidance on the Treasure Act procedures.

Finds Processing and Storage

Finds shall be recorded and processed in accordance with the IFA Guidelines for Finds Work

Finds will be assessed by an experienced finds specialist.

The Archaeological Contractor will process and catalogue the finds in accordance with Museum and Galleries Commissions Guidelines (1992) and the UKIC Conservation Guidelines, and arrange for the long term disposal of the objects on behalf of the Client. A catalogue of finds and a record of discard policies, will be lodged with the finds for ease of curation.

Assessment should include x-radiography of all iron objects (after initial screening to exclude recent debris) and a selection of non-ferrous artefacts (including all coins). Refer to "Guidelines on the x-radiography of archaeological metalwork, English Heritage, 2006.

If necessary, pottery sherds and bricks should be recommended for Thermoluminescence dating.

Finds processing, storage and conservation methods must be broadly in line with current practice, as exemplified by the IFA "Standard and guidance for the collection, documentation, conservation and research of archaeological materials", 2001. Finds should be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication "First Aid for Finds" (Watkinson and Neal 1998). Proposals for ultimate storage of finds should follow the UKIC publication "Guidelines for the Preparation of Excavation Archives for Long-term Storage" (Walker 1990). Details of methodologies may be requested from the Archaeological Contractor.

Other useful guidance – “A Strategy for the Care and Investigation of Finds”, English Heritage, 2003, “Finds and Conservation Training Package”, English Heritage, 2003.

All objects must be stored in appropriate materials and conditions to ensure minimal deterioration. Advice can be sought from Jacqui Huntley of English Heritage (07713 400387) where necessary.

The report

The production of Site Archives and Finds Analysis will be undertaken according to English Heritage Guidelines (Managing Archaeological Projects 2nd Edition).

The archaeological contractor will provide a report of archaeological operations, including:

- a site location plan and grid reference
- brief description of recording procedures
- plans and sections of stratigraphy recorded (if practical)
- report on the finds (if any)
- environmental report (if relevant)
- colour photographs of the site and any significant archaeological features/finds
- a summary of the results of the work
- copy of this specification

The report will form an addition to the *Short Reports* files in the Tyne and Wear Historic Environment Record.

A single bound and collated paper copy of the report needs to be submitted for the HER with a further four pdf digital versions:

- one for the commissioning client
- one for the planning authority, Newcastle City Council – to be submitted formally by the developer, as part of the discharge of the archaeological conditions of the Planning Consent.
- one on CD is required by the HER, in a plastic case and not attached to the report, for deposition in the County HER at the address below.

The report and CD for the HER must be sent by the archaeological consultant or their client directly to the address below. If the report is sent via the planning department, every page of the report will be stamped with the planning application number which ruins the illustrations. The HER is also often sent a photocopy instead of a bound colour original which is unacceptable.

- one for Mike Collins, English Heritage’s Hadrian’s Wall Archaeologist {Mike.Collins@english-heritage.org.uk}.

Site Archive

The archive should be a record of every aspect of an archaeological project – the aims and methods, information and objects collected, results of analysis, research, interpretation and publication. It must be as complete as possible, including all relevant documents, records, data and objects {Brown, 2007, 1}.

The site archive (records and materials recovered) should be prepared in accordance with *Managing Archaeological Projects*, Second Edition, 5.4 and appendix 3 (HBMC 1991), “Archaeological documentary archives” IFA Paper No. 1, “Archaeological Archives – creation, preparation, transfer and curation” Archaeological Archives Forum etc., *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990) and “Archaeological Archives – A guide to best practice in creation, compilation, transfer and curation” by Duncan H. Brown, Archaeological Archives Forum, July 2007.

Documentary Archive

The documentary archive comprises all records made during the archaeological project, including those in hard copy and digital form.

This should include written records, indexing, ordering, quantification and checking for consistency of all original context sheets, object records, bulk find records, sample records, skeleton records, photographic records (including negatives, prints, transparencies and x-radiographs), drawing records, drawings, level books, site note-books, spot-dating records and conservation records, publication drafts, published work, publication drawings and photographs etc.

A summary account of the context record, prepared by the supervising archaeologist, should be included.

All paper-based material must at all times be stored in conditions that minimise the risk of damage, deterioration, loss or theft.

Do not fold documents

Do not use self-adhesive labels or adhesive or tape of any kind

High quality paper (low-acid) and permanent writing materials must be used.

Original drawings on film must be made with a hard pencil, at least 4H.

Do not ink over original pencil drawings.

Use polyester based film for drawings (lasts longer than plastic).

Store documents in acid-free, dust-proof cardboard boxes

Store documents flat

All documents must be marked with the project identifier (e.g. site code) and/or the museum accession number.

All types of record must use a consistent terminology and format.

Use non-metal fastenings, and packaging and binding materials that ensure the longevity of documents.

Copies of reports and appropriate drafts, with associated illustrative material, must be submitted for inclusion with the archive.

Material Archive

The material archive comprises all objects (artefacts, building materials or environmental remains) and associated samples of contextual materials or objects.

All artefacts and ecofacts retained from the site must be packed in appropriate materials.

All finds must be cleaned as appropriate to ensure their long-term survival

All metal objects retained with the archive must be recorded by x-radiograph (except gold or lead alloys or lead alloys with a high lead content and objects too thick to be x-rayed effectively e.t.c.)

All finds must be marked or labelled with the project and context identifiers and where relevant the small-finds number

Use tie-on rot-proof labels where necessary

Bulk finds of the same material type, from the same context, may be packed together in stable paper or polythene bags

Mark all bags on the outside with site and context identifiers and the material type and include a polyethylene label marked with the same information

Use permanent ink on bags and labels

Sensitive finds must be supported, where appropriate, on inert plastic foam or acid-free tissue paper. It is not advisable to wrap objects in tissue as the unwrapping could cause damage.

The archive will be placed in a suitable form in the appropriate museum (typically Museum of Antiquities for Newcastle and Tyne and Wear Museums for the rest of Tyne and Wear (check with these institutions) with the landowner's permission.

A letter will be sent to the County Archaeology Officer within six months of the report having been submitted, confirming where the archive has been deposited.

Monitoring

The Archaeological Contractor will inform the County Archaeologist of the start and end dates of the Watching Brief to enable the County Archaeologist to monitor the work in progress. The Client will give the County Archaeologist reasonable access to the development to undertake monitoring.

OASIS

The Tyne and Wear County Archaeologist supports the Online Access to the Index of Archaeological Investigations (OASIS) project. This project aims to provide an online index/access to the large and growing body of archaeological grey literature, created as a result of developer-funded fieldwork.

The archaeological contractor is therefore required to register with OASIS and to complete the online OASIS form for their watching brief at <http://www.oasis.ac.uk/>. Please ensure that tenders for this work takes into account the time needed to complete the form.

Once the OASIS record has been completed and signed off by the HER and NMR the information will be incorporated into the English Heritage Excavation Index, hosted online by the Archaeology Data Service.

The ultimate aim of OASIS is for an online virtual library of grey literature to be built up, linked to the index. The unit therefore has the option of uploading their grey literature report as part of their OASIS record, as a Microsoft Word document, rich text format, pdf or html format. The grey literature report will only be mounted by the ADS if both the unit and the HER give their agreement. The grey literature report will be made available through a library catalogue facility.

Please ensure that you and your client understand this procedure. If you choose to upload your grey literature report please ensure that your client agrees to this in writing to the HER at the address below.

For general enquiries about the OASIS project aims and the use of the form please contact: Mark Barratt at the National Monuments Record (tel. 01793 414600 or oasis@english-heritage.org.uk). For enquiries of a technical nature please contact: Catherine Hardman at the Archaeology Data Service (tel. 01904 433954 or oasis@ads.ahds.ac.uk). Or contact the Tyne and Wear Archaeology Officer at the address below.

If you need this information in another format or language, please contact Jennifer Morrison, Archaeology Officer.