RACECOURSE ESTATE
HALL LANE, HOUGHTON-LE-SPRING
SUNDERLAND

ARCHAEOLOGICAL EVALUATION
PHASE 4

SEPTEMBER 2012

Prepared for:	By:
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REPORT ON AN ARCHAEOLOGICAL EVALUATION
PHASE 4

Prepared by:

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***Frontispiece**: View looking southwest towards the excavated evaluation trench at Racecourse Estate, Hall Lane, Houghton-le-Spring, Sunderland.*

Grid Reference: NZ 34547 49478
Date of fieldwork: 6th September 2012
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The fourth phase in a process of archaeological evaluation trenching was conducted in September 2012 ahead of a housing development on land at Racecourse Estate, Hall Lane, Houghton-le-Spring, Sunderland (centred on Grid Reference NZ 34547 49478), located on the east side of Houghton-le-Spring.

Archaeological trenching was requested by the Tyne and Wear County Archaeologist, due to the proximity of the site to the medieval village of Houghton-le-Spring (just to the west), and because the site lies within the grounds of Houghton Hall, a c.17th manor house and grade II listed building.

An archaeological evaluation trench was required to investigate the character, nature, date, depth, degree of survival of archaeological deposits and structures in the ground which will be disturbed by the construction work.

The evaluation trench investigated a triangular green area of land at the south end of the development site, immediately north of Queensway, east of Hall Lane and south of Normandy Crescent. The single phase 4 evaluation trench was aligned east-west, and measured 11.70 metres (length) x 1.50 metres (width) x 0.35m (maximum depth).

The evaluation trench revealed a disturbed mix of shallow industrial deposits (02) beneath the topsoil, associated with waste from the coal industry. The coal waste sat directly upon the natural sandy-clay (03). No archaeological remains were observed within the trench.

The evaluation concluded that any archaeological remains formerly existing within the trench are likely to have been removed by truncation, either from activities associated with the local coal industry or perhaps during C20 construction and landscaping associated with the recently demolished buildings on the site.

Due to the negative results of this evaluation, no further work is recommended as part of this scheme, although any future works in the immediate vicinity should be considered on their own merits with respect to the need for archaeological intervention.

1. INTRODUCTION

1.1 Purpose of Evaluation

This document reports on the fourth phase of a process of archaeological evaluation trenching conducted in September 2012 ahead of a housing development on land at Racecourse Estate, Hall Lane, Houghton-le-Spring, Sunderland (centred on Grid Reference NZ 34547 49478), located on the east side of Houghton-le-Spring (*see Illus. 01-02*).

Archaeological trenching was requested by the Tyne and Wear County Archaeologist, due to the proximity of the site to the medieval village of Houghton-le-Spring (just to the west), and because the site lies within the grounds of Houghton Hall, a c.17th manor house and grade II listed building. An archaeological evaluation trench was required to investigate the character, nature, date, depth, degree of survival of archaeological deposits and structures in the ground which will be disturbed by the construction work.

The evaluation trench investigated a triangular green area of land at the south end of the development site, immediately north of Queensway, east of Hall Lane and south of Normandy Crescent (*see illus. 03*).

1.2 Cultural Heritage Background

1.2.1 General History

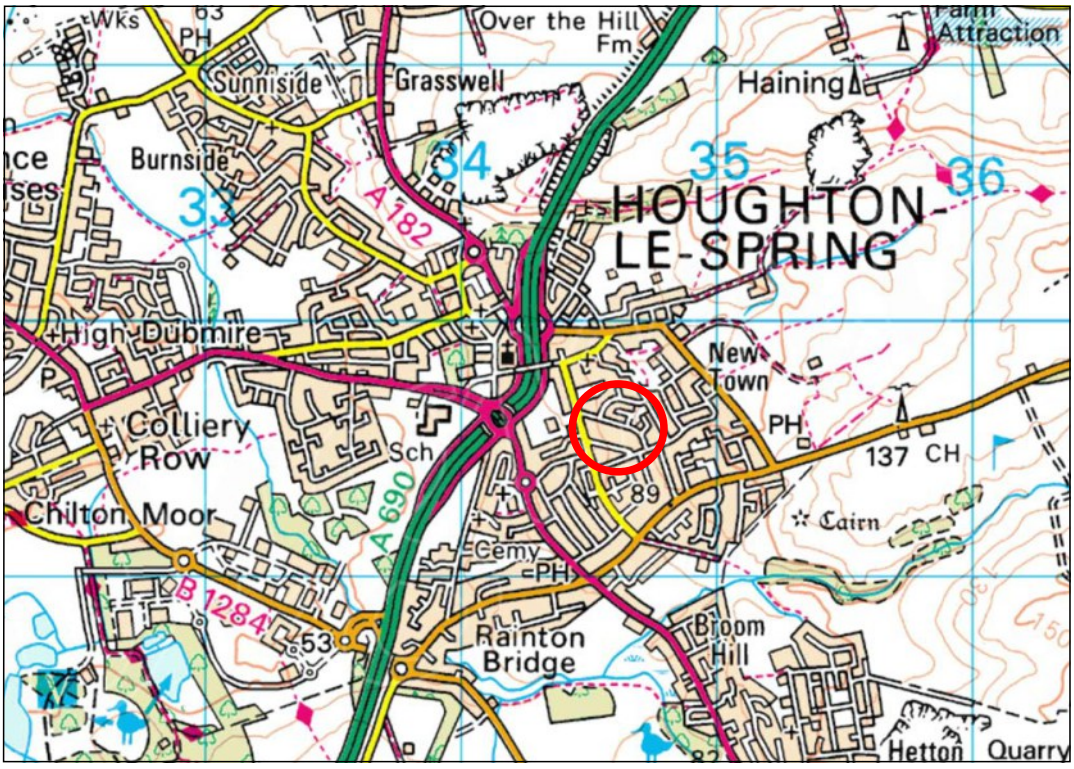
Houghton-le-Spring and the surrounding area is particularly rich in prehistoric and historic remains dating as far back as the later stone age. The Copt Hill burial mound, to the east of the evaluation area, is an important ritual site showing evidence for repeated use in the later Neolithic and Early Bronze Age, and was reused in subsequent periods up to the early medieval. Although no Roman remains have previously been identified at Houghton, the Roman fort at Chester-le-Street lies some seven kilometres to the west and a road connected it to the major Roman supply base at South Shields, some 18km north of Houghton. The possibility that a settlement of some kind also existed at Houghton, perhaps associated with a road connection and another crossing of the Wear to the south, should not be dismissed.

The name Houghton derives from *Hoctona*, the name of the settlement listed in the Boldon Book of 1183:

> *In Houghton are thirteen cottagers, whose tenures, works and payments are like those of Newbotill; and three other half cottagers, who also work like the three half cottagers of Newbotill. Henry the greeve, holds two oxgangs of 24 acres for his service. The smith - 12 acres for his service. The carpenter holds a toft and 4 acres (16,000m^2) for his service. The punder (one who impounds straying animals) has 20 acres and the thraves of Houghton, Wardon and Morton; he renders 60 hens and 300 eggs. The mills of Newbotill and Bidic, with half of Raynton Mill, pay XV marks. The demesne, consisting of four carucates, and the sheep pastures are in the hands of the lord.*

The 'Hough' part of the *Hoctona* /Houghton name comes from the Anglo-Saxon word meaning 'a point of land projecting into a plain'. The addition of 'le-Spring' is explained in various ways: a Lord of the Manor by that name (in 1311 the village was owned by Albreda, widow of Lord Henry Spring) or due to the numerous limestone springs in the

Illus. 01: *Location of Houghton-le-Spring in the Northeast of England, 1:200,000 (Houghton-le-Spring is circled in red).*



Illus. 02: *Location of archaeological evaluation site in Houghton-le-Spring, 1:20,000 (The evaluation site is circled in red).*

area (an ancient document dated 1220 describes the town as 'Houghton Sprynges'). The latter is supported by a “Regester Booke belonginge to the Paryshe of Houghton in the Springe” from 1598, is based around the medicinal springs which flow from the surrounding limestone rocks. This would associate Houghton-le-Spring with the distinctive group of local place-names which use "le" to signify "in the" as in Chester-le-Street, Witton-le-Wear, Dalton-le-Dale, Hetton-le-Hole. Credence is added to this consideration by the area of the town formerly known as the Lake and the stream/spring that nowadays still runs through the centre of the town, although this has long since been directed to run through a culvert.

The earliest documentary evidence for the village is AD 1112 and the earliest specific reference to a person or event there seems to concern a priest, Renaldus, who served its church in 1131. However, it is also reported that In 995 when Cuthbert’s coffin was being transported north from Ripon to Chester-le-Street, the oxen pulling it stopped at Wredelaw - almost certainly the hill Warden Law in the parish of Houghton – and only moved on after a vision in which Cuthbert said his coffin should be carried to Dun Holme, the present Durham. This story may be of early 12th-century origin, and may have been influenced by the presence of an important Anglo-Saxon church – otherwise unknown to history – at Houghton. Adding weight to this suggestion is the evidence that Houghton is noted in the Boldon Book as head of a great manor belonging to Durham, suggesting that there may well originally have been a bishop’s residence there.

In the 14th Century the village is listed as having 27 tenants, a watermill, brew house, oven and forge (HER 280). In addition to its church, St. Michael’s and All Angels Church (HER 263), the village retains other buildings of medieval origin, including part of the fabric of the much-altered medieval Rectory (HER 264); the archway entrance into the rectory was re-built as the entrance to St. Michael’s Church. Also still standing is the late-medieval Houghton Hall (HER 1858), built by Rector Robert Hutton, a noted Puritan who was buried alongside his horse and dog in the grounds of the Hall.

1.2.2 **Historic Environment Record of site**

The following entries can be found within the Tyne and Wear Historic Environment Record (HER) and represent the closest historically significant monuments within the development site.

HER 280 Houghton village
The earliest documentary reference is 1112. At the time of Boldon Buke Houghton was clearly an important centre of the Bishop's estate, - 13 cotmen, 3 half cotmen, bailiff, smith, carpenter, pounder, with work services owed from other vills. Temp. Hatfield's Survey 4 free tenants, 23 tenants of demesne lands, extensive bond lands and exchequer lands, watermill, brewhouse, oven, onetime forge. It was described by Surtees as one of the great copyhold manors of the see of Durham, as well as the centre of an extensive parish. Originally a substantial village, still showing its C17 and 18th century prosperity, on an E-W axis. At the W end is the rectory, separated from the church by the main road from Durham, then the church on the N side of Church Street, in the centre Quality Hill (now Nesham Place) with Houghton Hall on its SW corner, and at the E end, awkwardly attached, Market Place. In 1483 Bishop Dudley granted leave to the rector “to enclose and fortify and embattle a tower” (removed in the late 18th century). In 1574 the Kepier Grammar School was founded and built, and in 1668 the Davenport and Lilburne almshouses were constructed. By 1794 Houghton-le-Spring township has a population of 996 persons in 225 families. Further expansion led to the establishment of a weekly market by 1825; around the same time there were 21 inns and public houses, 2 beer shops and a large brewery on the Durham road. By 1891 the population had risen to 37, 921.

HER 1858 Houghton Hall
Houghton Hall was the manor house of the original village, a tall square forbidding building of the early C17, two-and-a-half-storeyed, with no gables, the straight parapet

(though later) no doubt part of the original design. Four bay façade with four-light mullioned windows and a quasi-classical door surround (triangular hoodmould like a pediment with an oval window below it above the four-centred door). The same doorcase on the side and back elevations, but with mainly three-light windows. The back is three-bay with two-light staircase windows in the centre. Ground-floor room with upper panels arcaded and an overmantel with strapwork {1}. Surtees records that local tradition credited the Parliamentarian Robert Hutton (d1680) with erecting the Hall, although Surtees himself thought the character of the building suggested that an earlier Robert Hutton, rector of Houghton 1589-1623, was the builder. The later Robert was buried in his own orchard, either due to his Puritan views, or, according to local tradition, to his wish to be buried alongside his favourite horse. The tomb seems to have been removed to the churchyard in the mid C20. The manor descended through the Hutton family until the C19. Fordyce records that it was then the home of George Elliot, colliery viewer to the Marchioness of Londonderry. By 1890 he was recorded as Sir George Elliot, MP (buried in Houghton Hillside Cemetery). By 1902 the house was occupied by a Mrs Atkinson. Subsequent editions of Kelly's directory do not record it as being the home of any named private resident. OS maps up to 1939 still show it as 'Houghton Hall', set in its own grounds. Rushford in c1950 states that the house 'after many vicissitudes' had become a social club, as it was when Pevsner (1953) wrote, describing the entrance as 'covered up by a recent wooden porch and a brick structure marked 'Gents'. Houghton-le-Spring Social Club moved out of the Hall around 1970 (into a new purpose-built clubhouse to the south, in what had been the Hall garden) and the Hall was taken over by the YMCA; the present gymnasium and toilet blocks were built onto the rear of the building around 1980 {2}. Now a private residence again.

The tomb of Robert Hutton lay within the development site and is marked on the Ordnance Survey map. Although it was moved to Houghton Church in the early C20 to make way for the Racecourse Estate (so named because there was a greyhound stadium to the south), fragmentary human remains, structural remains of the tomb or remains of the horse skeleton could potentially be present.

HER 7853 Hutton’s Tomb
Robert Hutton, rector of Houghton in 1589, built Houghton Hall. His grandson, also called Robert, was a captain in Cromwell's Army and served in the Scottish campaign and the plunder of Dundee after the Restoration. He and the Rector feuded because of their religious differences - the younger Robert Hutton was a Puritan. The arguments are said to have been caused because Captain Hutton wanted his favourite horse to be buried in the churchyard and the Rector had refused. The grandson had then exclaimed "I would not even enter your church". When the Rector retorted "Aye, but I'll warrant thou'll come in here feet first", Captain Hutton replied "No, I'd rather be buried in my own garden". When the horse died, Captain Hutton buried it in his orchard at Houghton Hall and left instructions that on his death, he too should be buried there. This was duly carried out. The later tomb bore the inscription "Hic lacet Robertus Hutton, Armiger, qui obut Avg. die nono 1680 et moriendo vivit". The tomb remained in the orchard of Houghton Hall until the twentieth century when it was taken to the churchyard. The tomb is marked on the Ordnance Survey first edition map of 1850 as "Hutton's Tomb 1680".

2. EVALUATION PROGRAMME

2.1 Aims

Given the potential archaeological sensitivity of the site, specifically the possibility of discovering preserved sub-surface remains associated with the medieval village of Houghton-le-Spring and the C17 manor of Houghton Hall, archaeological trenching was requested to inform the Planning Authority of the character, nature, date, depth, degree of survival of archaeological deposits there.

The excavation of a single evaluation trench, measuring 11.70 metres in length x 1.50m metres in width, was requested. It was specified in the Brief prepared by the Tyne & Wear Archaeological Officer that the trench should be of sufficient depth to establish either the presence of natural sub-soil or the presence of any archaeological material.

2.2 Methods

Overburden on the site was removed by mechanical excavator supervised by archaeological staff from The Archaeological Practice Ltd. Hand excavation, including cleaning of the trench faces to reveal changes in context and potential features, was carried out prior to recording by the same, suitably qualified and experienced staff from the Archaeological Practice Ltd. It was not found necessary or appropriate to take environmental samples from the excavation since no archaeological remains of importance were revealed.

Illus. 03: *Location of the archaeological trench within the evaluation site, 1:1250.*

3. RESULTS

3.1 TRENCH 1 *(see Illus. 03)*

The Phase 4 evaluation trench excavated on the site of Racecourse Estate, Hall Lane, Houghton-le-Spring, was aligned east-west, and measured 11.70 metres (length) x 1.50 metres (width). The trench was located at a distance of 43.60m east of the corner with Hall Lane and Queensway; with its southwest corner being a distance of 27.40m north of Queensway and its southeast corner being a distance of 24.10m from Queensway. The trench reached a maximum depth of 0.35m.

3.1.1 Stratigraphy and Archaeology

The evaluation trench revealed a disturbed mix of shallow industrial deposits (02) beneath the topsoil, associated with waste from the coal industry. The coal waste sat directly upon the natural sandy-clay (03). No archaeological remains were observed within the trench.

3.1.2 Context List

(01) Dark grey-brown, firm, clay-silt topsoil (total depth of 0.20m from ground level).

(02) Black, loose, fine-coarse industrial waste with a 10% inclusion of loam (total depth 0.20m-0.30m from ground level).

(03) Light orange-brown, firm, sandy-clay till natural with common inclusions of fragmented sandstone and gravels.

3.1.3 Interpretation

No archaeological remains or features were revealed during the excavation of the evaluation trench at Racecourse Estate, Hall Lane, Houghton-le-Spring. The presence of coal waste may reflect previous industrial activity on the site or in its immediate vicinity, while the stark contrast between the natural clay and overlying deposits suggests that any archaeological remains formerly existing there may have been removed by truncation, perhaps during construction and landscaping associated with the recently demolished buildings on the site.

4. CONCLUSIONS & RECOMMENDATIONS

4.1 Conclusions

No archaeological remains of significance were exposed or recorded during this phase of archaeological evaluation at Racecourse Estate, Hall Lane, Houghton-le-Spring.

Due to the complete absence of archaeological remains within the evaluation trench, it must be assumed that activities associated with the local coal industry and later with the construction of the recently demolished residential properties on the site, have truncated potential archaeological deposits.

Although it is not out of the question that archaeological remains may exist within the site as features cut into subsoil, beyond the boundaries of the trench excavated during this evaluation, the disturbed nature of the soil and particularly shallow stratigraphy, indicate a low potential for the survival of archaeological remains across the site.

The evaluation concludes that the potential for the survival of archaeological remains within the site of Racecourse Estate, Hall Lane, Houghton-le-Spring is not considered high enough to merit further work during the present scheme of development works.

4.2 Recommendations

Due to the negative results of this evaluation no further work is recommended in association with this development scheme.

However, given the potential for significant archaeological deposits to exist in the area, any future work should be considered on their own merits with respect to the need for archaeological intervention.

Illus. 04: *East view of excavated evaluation trench.*

Illus. 05: *West view of excavated evaluation trench.*

Illus. 06: *South facing section of excavated evaluation trench.*

Illus. 07: *Southwest view of excavated evaluation trench.*

SPECIFICATION FOR PRELIMINARY EVALUATION WORK TO RECORD SUSPECTED ARCHAEOLOGICAL DEPOSITS AT RACECOURSE ESTATE, HALL LANE, HOUGHTON-LE-SPRING, SUNDERLAND

Introduction

A series of planning applications have been submitted for the above site:

- 07/01859/FUL for 83 dwellings and a community building
- 07/04506/FUL for stopping up the highway
- 08/03952/FUL for 28 bungalows
- 08/04694/FUL for an extra care facility of 40 apartments

Further applications are expected.

The residential scheme will ultimately include 3 phases (the commissioning client will provide a plan).

An archaeological desk based assessment has been completed (Archaeological Services, Durham University, September 2007). The appointed archaeologist must familiarise themselves with the results of previous archaeological work on the site before starting work.

The report concludes that the site lies adjacent to the medieval village of Houghton le Spring and was probably agricultural land at that time. Medieval and post medieval remains might be present.

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The site lay within the grounds of Houghton Hall, which is listed grade 2.

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Geotechnical work shows a depth of 0.55m of 'made ground' which could include archaeological deposits.

The assessment recommends the excavation of 8 archaeological evaluation trenches. One is located on the site of Hutton's tomb. The other 7 are positioned in those parts of the site which appear to be least disturbed. An artificial bank has been created over the site of the tomb during landscaping works. This will need to be removed to allow the trench to be excavated.

In accordance with PPG16 and UDP Policies B13 and B14 eight preliminary evaluation trenches are required.

The commissioning client needs to be aware that if archaeological deposits are found in these preliminary evaluation trenches, further archaeological work will be required, in the form of either an excavation and/or a watching brief. Such work would be subject to a separate specification and Written Scheme of Investigation.

Research Aims and Objectives

The evaluation report should make reference to Regional and Thematic Research Frameworks.

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.

See http://www.algao.org.uk/Association/England/Regions/ResFwks.htm

Ideally and where possible the evaluation should cross-reference its aims and objectives to national priorities, defined in SHAPE (Strategic Frameworks for Historic Environment Activities and Programmes in English Heritage), and the English Heritage Research Agenda 2005-2010.

Where appropriate note any similar nationwide projects using ADS, internet search engines, ALSF website, HEEP website, OASIS, NMR excavation index.

All staff on site must understand the project aims and methodologies.

Methods statement

Eight evaluation trenches are needed to inform the Planning Authority of the character, nature, date, depth, degree of survival of archaeological deposits on this site. The excavation must be carried out by a suitably qualified and experienced archaeological organisation. The work will record and environmentally sample 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, and it must contain recommendations for any further work needed on this site before development destroys any archaeological remains.

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 work will be undertaken according to English Heritage Guidelines - Managing Archaeological Projects 2nd Edition ('MAP2') 1991 (www.english-h.gov.uk/guidance/map2/index.htm) and Management of Research Projects in the Historic Environment (MoRPHE) – The MoRPHE Project Managers' Guide, Project Planning Notes and Technical Guides 2006 (www.english-heritage.org.uk/publications).

The work will be undertaken according to MoRPHE Project Planning Notes 2006 - PPN3 – Archaeological Excavation and PPN6 – Development of Procedural standards and guidelines for the historic environment.

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 Archaeological Field Evaluations 2001 www.archaeologists.net

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 Evaluation. 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 and of any significant finds. The Client will give the County Archaeologist reasonable access to the development to undertake monitoring.

Jacqui Huntley, English Heritage's Regional Science Adviser must be informed of the work and invited to visit the site, particularly when environmental samples are to be taken or organic materials have been found (07713 400387 or jacqui.huntley@english-heritage.org.uk).

PROJECT INITIATION

PROJECT DESIGN

Because this is a detailed specification, the County Archaeologist does not require a Project Design from the appointed archaeologist. However a health and safety statement and risk assessment, identifying potential risks in a risk log (see template in appendix 2 of The MoRPHE Project Manager's Guide) and specifying suitable countermeasures and contingencies, is required to be submitted to the commissioning client.

The Management of Research Projects in the Historic Environment (MoRPHE) – The MoRPHE Project Managers' Guide 2006 contains general guidance on Risk management (section 2.3.2, Appendix 2).

Risk assessments must be produced in line with legislative requirements (for example the Health and Safety at Work Act 1974, the Management of Health and Safety at Work Regulations 1999, the Control of Substances Hazardous to Health (COSHH) Regulations 2002 and the Personal Protective Equipment at Work Regulations 2002) and best practice e.g. as set out in the SCAUM (Standing Conference on Archaeological Unit Managers) Health and Safety Manual http://www.scaum.org/uk

Detailed information on hazards and how to carry out a risk assessment can be obtained from the Health and Safety Executive (www.hse.gov.uk) and the local authority health and safety department.

Specific guidance for land contamination and archaeology can be obtained from the Institute for Archaeologists (www.archaeologists.net), the Construction Industry Research and Information Association (www.contaminated-land.org) and the Association of Geotechnical and Geoenvironmental Specialists (www.ags.org.uk).

See also Environment Agency, 2005 "Guidance on Assessing the Risk Posed by Land Contamination and its Remediation on Archaeological Resource Management".

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

The Archaeological Contractor must detail measures taken to ensure the safe conduct of excavations, and must consult with the client's structural engineers concerning working in close proximity to the foundations of the surrounding buildings. The Client may wish to see copies of the Archaeological Contractor's Health and Safety Policies.

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

PROJECT EXECUTION

1) Archaeological evaluation

The trenches are shown on figure 13 in the desk based assessment.

The dimensions of the trenches are each 10m x 2m in plan **at base**.

Trench locations can be adjusted to avoid services or for practical or safety purposes. However Hutton's tomb must be targeted by a trench.

Trenches can be widened if feasible in order to step the sides to reach depths over 1.2m where necessary, otherwise shoring will be required.

Trenches must avoid known services.

Trenches must stay a safe distance away from pylons and overhead power lines.

The commissioning client will advise of any ecological or biodiversity issues which need to be taken into consideration.

The commissioning client will advise of any protected trees which must be avoided by the evaluation. Damage to trees covered by a Tree Protection Order carries a substantial fine.

Trench positions should be accurately surveyed prior to excavation and tied in to the national grid.

The trenches should be excavated to the depth of natural subsoil if this can be reached safely.

Tasks

Hand excavation, recording and environmental sampling (as stipulated below) of deposits down to the depth specified above.

Any modern overburden or levelling material can be machined-off using a wide toothless ditching bucket under strict archaeological supervision and the remaining deposits are to be excavated by hand.

Excavation is to be carried out with a view to avoid damage to any archaeological features which appear to worthy of preservation in-situ.

Excavation is to be carried out by single context planning and recorded on *pro forma* context sheets. Features over 0.5 m in diameter can be half sectioned.

Environmental sampling (and where relevant scientific dating) are compulsory parts of the evaluation exercise. All tenders will give a price for the assessment, full analysis, report production and publication per environmental and scientific dating sample as a contingency.

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. Advice on the sampling strategy for environmental samples and samples for scientific dating etc. must be sought from Jacqui Huntley, English Heritage Regional Advisor for Archaeological Science (jacqui.huntley@english-heritage.org.uk or 07713 400387) **before** the evaluation begins. See Appendix 1 for more information.

See Appendix 2 for guidance on procedures relating to human remains.

See Appendix 4 for guidance on Treasure Act procedures.

The spoil can be kept close-by and rapidly backfilled into the trenches at the conclusion of this work.

Recording

A full written, drawn (accurate scale plans, elevations and section drawings) and photographic record (of all contexts in black and white print and colour transparency with clearly visible graduated metric scale) will be made.

The finished report must include a plan and section of each trench plus plans and sections through excavated archaeological features.

There will be elevation drawings of any standing structures such as walls.

Pro-forma context sheets will be used.

All deposits and the base of the trench will be levelled. Levels will be expressed as metres above Ordnance Datum.

Stratigraphy shall be recorded even when no archaeological features have been recognised.

A 'Harris' matrix will be compiled where stratified deposits are recorded.

2) Post-excavation and report production

Finds Processing and Storage

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.

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

Finds will be assessed by an experienced finds specialist.

Human and animal bone assemblages will be assessed by a recognised specialist (see Appendices 2 and 3 for more information).

Industrial slag and metal working debris will be assessed by a specialist.

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 Thermo-luminescence 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.

PRODUCTS

The report

1. The Archaeological Contractor must produce an interim report of 200 words minimum, **two weeks after the completion of the field-work**, for the Client and the Planning Authority, with a copy for information to the County Archaeologist. This will contain the recommendations for any further work needed on site.

2. The production of Site Archives and Finds Analysis will be undertaken according to English Heritage Guidelines - Managing Archaeological Projects 2nd Edition (‘MAP2’) 1991 and Management of Research Projects in the Historic Environment (MoRPHE) 2006.

3. A full archive report or post-excavation assessment, with the following features should be produced **within six months of the completion of the field-work**. All drawn work should be to publication standard. The report must include:

* Location plans of trenches and grid reference of site
* Site narrative – interpretative, structural and stratigraphic history of the site
* Plans showing major features and deposit spreads, by phase, and section locations
* Sections of the two main trench axes and through excavated features with levels
* Elevation drawings of any walls etc. revealed during the excavation
* Artefact reports – full text, descriptions and illustrations of finds
* Tables and matrices summarising feature and artefact sequences.
* Archive descriptions of contexts, grouped by phase (not for publication)
* Deposit sequence summary (for publication/deposition)
* Colour photographs of trenches and of archaeological features and finds
* Laboratory reports and summaries of dating and environmental data, with collection methodology.
* A consideration of the results of the field-work within the wider research context (ref. NERRF).
* Recommendations for further work on site, or further analysis of finds or environmental samples
* Copy of this specification

4. Three bound and collated copies of the report need to be submitted:

- one for the commissioning client
- one for the planning authority (Sunderland City Council) plus a copy on CD – this must be formally submitted by the developer to the planning department with the appropriate fee.
- one for deposition in the County HER at the address below. A digital copy of the report on CD is also required by the HER in a plastic case. Please do not attach this to the report.

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.

Publication

If significant archaeological features are found during the evaluation, the results may also warrant publication in a suitable archaeological journal. The tender should therefore include an estimated figure for the production of a short report of, for example 20 pages, in a journal such as Archaeologia Aeliana, the Arbeia Journal, Industrial Archaeology Review or Durham Archaeological Journal. This is merely to give the commissioning client an indication of potential costs.

Before preparing a paper for publication, the archaeological contractor must discuss the scope, length and suitable journal with the County Archaeologist.

Archive Preparation and Dissemination

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), MoRPHE Project Planning Notes 2006 PPN3 – Archaeological Excavation, "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.

Digital Archive

See MoRPHE Technical Guide 1 – Digital Archiving & Digital Dissemination 2006.

SIGNPOSTING

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 evaluation 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.

The tender

Tenders for the work should contain the following:-

1. Brief details of the staff employed and their relevant experience
2. Details of any sub-contractors employed
3. A quotation of cost, broken down into the following categories:-
   * Costs for the excavation, incl. sub-headings of staff costs on a person-day basis, transport, materials, and plant etc.
   * Post-excavation costs, incl. storage materials
   * Cost of Environmental analysis and scientific dating per sample
   * Estimated cost for full publication of results in an archaeological journal
   * Overheads
4. An indication of the required notification period (from agreement to start date) for the field-work; the duration of fieldwork and the expected date for completion of the post-excavation work (a maximum of 6 months after completion of the fieldwork)

Monitoring

The Archaeological Contractor will inform the County Archaeologist of the start and end dates of the excavation to enable the CA to monitor the work in progress.

Should important archaeological deposits be encountered, the County Archaeologist must be informed. If further archaeological evaluation is required on this site, then the archaeological contractor must submit a written scheme of investigation for approval by the CA before extending the size of the trenches.

APPENDICES

1 Environmental Sampling, Scientific Analysis and Scientific Dating

This is a compulsory part of the evaluation exercise.

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?

Advice on the sampling strategy for environmental samples and samples for scientific dating etc. must be sought from Jacqui Huntley, English Heritage Regional Advisor for Archaeological Science (07713 400387) **before** the evaluation begins. The sampling strategy should include a reasoned justification for selection of deposits for sampling.

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 30-40 litres volume) 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 assessment, full analysis, report production and publication per sample.

The full 30-40 litre sample must be assessed by the laboratory, not just a small sub-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. Aceramic 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

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.

Forams and diatoms

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

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).

Industrial Activity

Where there is evidence for industrial activity, macroscopic technological residues should be collected by hand. Separate samples should be collected for micro-slags (hammer-scale and spherical droplets). Guidance should be sought from the English Heritage Regional Science Adviser on the sampling strategy for metalworking features and advice on cleaning and packaging. Specialist on-site advice must be sought on identification of metalworking features. Slag and metal working debris must be assessed by a specialist. Scientific analysis (such as x-ray fluorescence, chemical analysis, metallography or scanning electron microscope) of slag can provide information on the melting temperature, chemical composition (is it iron, zinc, copper etc), microstructure (the type and shape of the crystals), physical properties (the hardness or viscosity), isotopic composition (strontium_87 or strontium_88 etc) and mineralogical composition. Guidance is available in the

English Heritage “Archaeometallurgy” guidelines, 2001; “Archaeomagnetic dating”, 2006 and “Guidelines on the X-radiography of archaeological metalwork”, 2006.

See also Historical Metallurgy Society, 2008, “Metals and metalworking: a research framework for archaeometallurgy”.

Buried soils and sediments

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.

Wood

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 wattling 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.

Suitable samples should be submitted for dendrochronological dating. See English Heritage guidelines, 2004, “Dendrochronology”.

Leather and organic materials

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.

2 Animal Bone

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

Domestic animal bone was used in prehistoric and Roman cremation rituals.

Post medieval cattle bones – small cow bones invariably represent animals which produced high quality buttermilk for cheese. Big ‘improved’ cattle with large bones were produced for large quantities of meat and poorer quality milk. Large and small cattle bones are often found together on post medieval sites, usually with less of the small bones.

Animal bone assemblages must 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, 1991and "The Assessment of a collection of animal bones", S. Davis, n.d., Ancient Monuments Laboratory.

Fish bone – there was some herring exploitation in the early medieval period. Christian fasting from around 970 allowed fish to be eaten on Fridays which led to a huge demand for fish. There was an increase in marine fishing, fish trade and fish consumption (cod, haddock, ling, herring etc) around 1000 AD. Middens provide evidence of commercial fishing. There was a decline in freshwater fish (cyprinid or carp, salmon, smelt, eel, pike) from the eleventh century.

Smoking fish is a recent practice. They were previously air dried and salted.

Newcastle was a major port. Samples should be sieved to retrieve fish and bird bones along with small parts of other animal skeletons and young infused bones.

A crane bone was recovered from excavations at Tuthill Stairs, Newcastle – a rare find.

Herring bones are so small that they can only be retrieved by 2mm sieving.

Clay soils are difficult to sieve, hot water can help.

Acidic soils mean poor preservation of bone.

See English Heritage 2002, "Environmental Archaeology – a guide to the theory and practice of methods from sampling and recovery to post excavation", Centre of Archaeology Guideline 1.

Isotope analysis can determine where the fish were coming from – North Sea, Scandinavia, Newfoundland, Iceland etc.

There is an excellent reference collection of fish bone at York.

Fish bones should be archived to museums for future dating and isotope analysis where this is not undertaken as part of the post-excavation process.

www.fishlab.org

3 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, local Environmental Health department and the County Archaeologist. If it is agreed that removal of the remains is essential, the archaeological contractor will apply for a licence from the Ministry of Justice 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.

Diseases which yield ancient DNA – leprosy, syphilis, tuberculosis, mycobacterium bovis (animal form of TB passed to humans when they shared a living space from Neolithic period onwards).

Cremation destroys the crown of the tooth so it cannot be dated (the closure of the cranium vault can be used in adults for dating instead). Cremation also fragments bone, distorts it due to lack of water, shrinks the bone, causes microstructural alteration and destroys organic components (so DNA analysis not possible).

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

4 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.

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