ArcHeritage

ARCHAEOLOGICAL INVESTIGATIONS AT WHITE ROSE WAY, DONCASTER, SOUTH YORKSHIRE

WATCHING BRIEF REPORT

Report Number 2012/16 August 2012

ArcHeritage

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NON-TECHNICAL SUMMARY

An archaeological watching brief was undertaken by ArcHeritage, on behalf of Doncaster Metropolitan Borough Council, at White Rose Way, Doncaster, South Yorkshire (NGR 458752 400042). The current carriageway was being widened requiring the removal of topsoil along the west edge of the carriageway and the construction of a new embankment. The site lay within a wider area of linear crop marks interpreted to be of Iron Age or Romano-British date. Groundworks undertaken at the base of the current embankment, along the edges of a drainage ditch were subject to archaeological monitoring.

No features or artefacts of archaeological significance were recovered during the watching brief.

KEY PROJECT INFORMATION

Project Name	White Rose Way, Doncaster, South Yorkshire
ArcHeritage Project No.	4029141
Report status	Final
Type of Project	Watching Brief
Client	Doncaster Metropolitan Borough Council
NGR	458752 400042
OASIS Identifier	archerit1-132945
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Illustrations	Marcus Abbott
Editor	Dave Aspden
Report Number and Date	2012/16 August 2012

1 INTRODUCTION

This document presents the results of an archaeological watching brief at White Rose Way, Doncaster, South Yorkshire. The watching brief was requested by Doncaster Metropolitan Borough Council (DMBC) with regard to the widening of the existing White Rose Way to form a dual carriageway.

The archaeological watching brief was undertaken in April, May and August 2012 by ArcHeritage on behalf of DMBC.

2 METHODOLOGY

The fieldwork was carried out in accordance with the methodologies set out in the Written Scheme of Investigation produced by ArcHeritage, and with national guidelines for archaeological watching briefs produced by the Institute for Archaeologists.

3 LOCATION, GEOLOGY & TOPOGRAPHY

The site (centred on NGR 458752 400042) is located at White Rose Way between junction 3 of the M18 motorway and Potteric Carr roundabout. It forms a roughly linear strip to the west of the existing roadway embankment, together with a small area to the southeast of Potteric Carr roundabout (**Illustration 1**).

The British Geological Survey records the drift geology of the Doncaster area as extremely varied glacial sand and gravel. The site itself lies in an area of flat, low-lying ground with underlying clay deposits, associated with a former glacial meltwater lake at the edge of the ice sheet during the last glaciation.

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

An extensive spread of linear crop marks is recorded on the Sites and Monument Record maintained by South Yorkshire Archaeology Service (SYAS), across Balby Carr, Loversall Carr and Potteric Carr (**Illustration 2**). A number of these were excavated prior to the construction of large retail premises to the southwest of Potteric Carr roundabout and directly adjacent to the current site. These were interpreted as being of Iron Age / Romano-British date.

Similar crop marks have been identified in the areas around the southern end of the current site, a few of which are now covered by White Rose Way and the M18. During archaeological investigations associated with groundworks at the nearby Potteric Carr, no features associated with the recorded crop marks were identified. A large palaeochannel was identified during these investigations. This was interpreted as being associated with the large glacial moraine running through Doncaster to the south of the town centre. During the last phase of glaciations, glacial meltwater formed a large lake across the area covered by Balby Carr, Loversall Carr and Potteric Carr which eventually ran off into the North Sea basin and forming the wetlands to the south of Doncaster.

During the early modern period, a number of tree plantations were established across the former wetland areas and, following the opening of local collieries to exploit the concealed coalfield, a number of railways and associated embankments were constructed.

5 RESULTS

5.1 Works along existing carriageway

The groundworks consisted of three elements: the topsoil stripping along the existing embankment; topsoil stripping along both sides of the existing drainage-ditch; and the removal of vegetation and other material from within the drainage ditch. The primary focus of the archaeological watching brief was the topsoil stripping of those areas along the ditch at the base of the embankment. Following the removal of the topsoil, the existing ditch was to be filled with hardcore and a new embankment to accommodate the widened carriageway constructed.

During the initial stages of the archaeological investigations it was observed that the area between the embankment and the existing ditch had been extensively disturbed during the construction of the original carriageway with much of the material being identical to that forming the carriageway embankment. Intermittent monitoring of this area confirmed that this disturbance continued throughout the area under investigation.

Plate 1: General view of existing drainage ditch, looking north towards Potteric Carr roundabout, following removal of topsoil along west edge of, and material from within, the ditch.

The deposits to the west of the drainage ditch were reasonably undisturbed, and the removal of material by machine-excavator from the ditch provided an opportunity to observe the stratigraphic sequence. The topsoil was very dark brown in colour, with a very high humic content and frequent root material. The thickness of the material varied from 0.05m to 0.17m. This overlay a thin layer of yellow-orange coloured clay, with occasional patches of sand and gravel. The undisturbed natural consisted of an orange-brown coloured sticky clay.

Machine-stripping of the material to the west of the drainage ditch only removed material to above the interface of the topsoil and the underlying clay. This limited the possibility of

archaeologically significant features being sufficiently exposed to be identified during the current scheme of works.

Plate 2: General view of the south-end of the site, looking southeast, showing the area formerly within Beeston Plantation and the resulting heavy tree-root disturbance.

At the south-end of the site was an area which had formerly been covered by part of Beeston Plantation. As a result, the ground to the west of the ditch had been heavily disturbed by tree-root action, and a large number of roots and stumps of recently-felled trees were present. A narrow drainage ditch and the remains of a timber-built fence marked the edge of the Beeston Plantation.

No features of archaeological significance were identified during the archaeological investigations. A modern horseshoe was recovered during the removal of material from the existing ditch. This was discarded on site.

5.2 Works along Potteric Carr Roundabout

As part of the scheme, the junction formed by Potteric Carr roundabout and Mallard Way was to be widened. This required groundworks to be undertaken within the angle formed by this junction on the southeast of the roundabout.

The groundworks consisted of the stripping of vegetation along the existing embankment; the topsoil stripping of the area between the embankment and the V-shaped drainage ditch; the removal of vegetation and other material from within the ditch, its banks and an area up to 2.5m wide along its south edge; and the removal of vegetation from an area to the south and east of the V-ditch.

The area between the embankment and the V-ditch featured a footpath, approximately 3.5m wide, which consisted of a layer of compacted wood and bark chippings. The stripped area to the south and east of the V-ditch was semi-circular in plan and had a maximum width of 7m.

These works were also monitored by an ecologist. The groundworks were undertaken in a way that enabled the material stripped from the embankment and the V-ditch to be stockpiled on the exposed surface between them. Large items of stripped vegetation were stockpiled within the cleared V-ditch.

Plate 3: General view looking southwest along the line of the footpath showing exposed natural clay underneath the footpath, and the stockpiling of material from the embankment and V-ditch on the exposed surface.

The deposits observed were seen to be very similar to those identified during the groundworks along the west side of the White Rose Way existing carriageway. The area beneath the embankment, and the area of the footpath appear to have been completely stripped prior to the construction of the original carriageway embankment. Observation of the stratigraphy exposed in the banks of the V-ditch showed that the existing vegetation and turf layer directly (c.0.07m thick) overlay the undisturbed, yellow-brown coloured clay.

The area to the south and east of the V-ditch was stripped to a depth that marked the interface between the turf and the underlying orange-brown coloured subsoil. Much of the area had been heavily disturbed by tree-root action, particularly at the northeast end. This was consistent with the wooded nature of the adjacent plots, the trees in the area of groundworks having been removed at the time of the construction of the newt-fencing around the area of proposed works. The exposed surface therefore showed a high incidence of visible root material.

Plate 4: General view, looking south, of machine-stripping in the area to the south of the V-ditch between the interior-line of newt-fencing and the south edge of the works area (marked by yellow-coloured pegs).

No features of archaeological significance were identified during the archaeological investigations to the southeast of Potteric Carr roundabout.

FIGURES

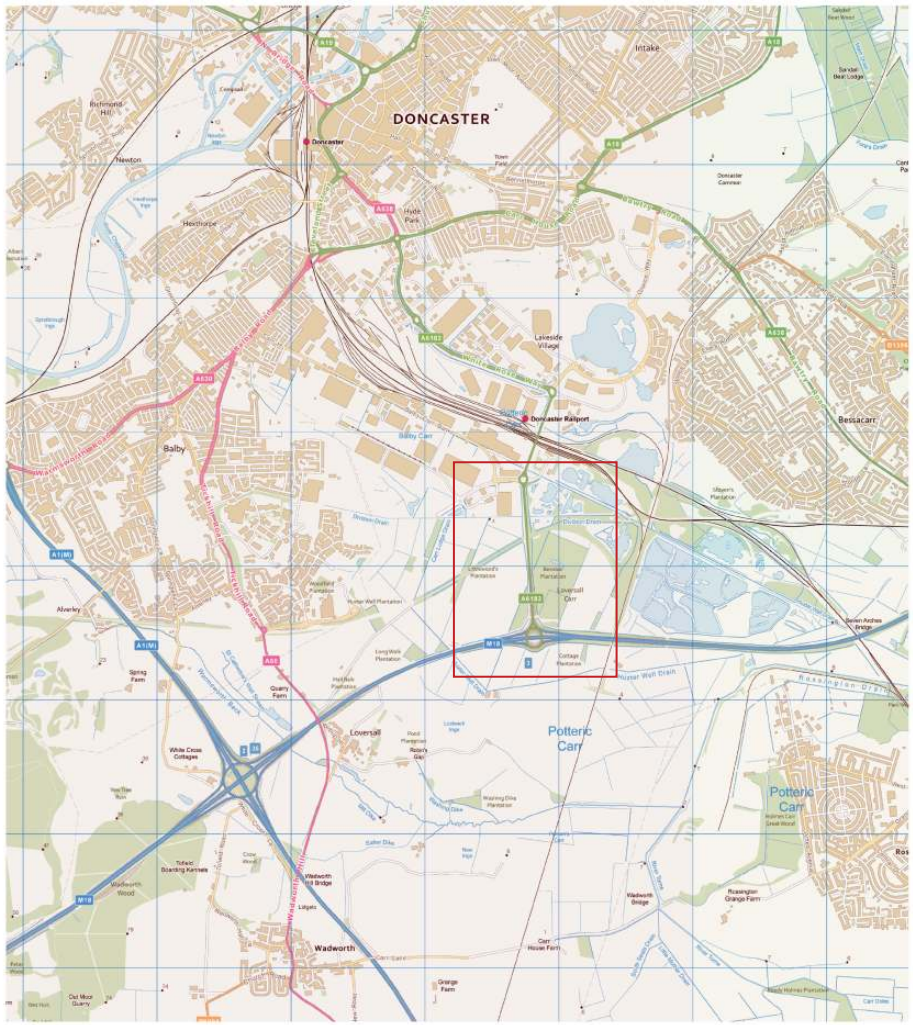

Figure 1:Site location and watching brief area

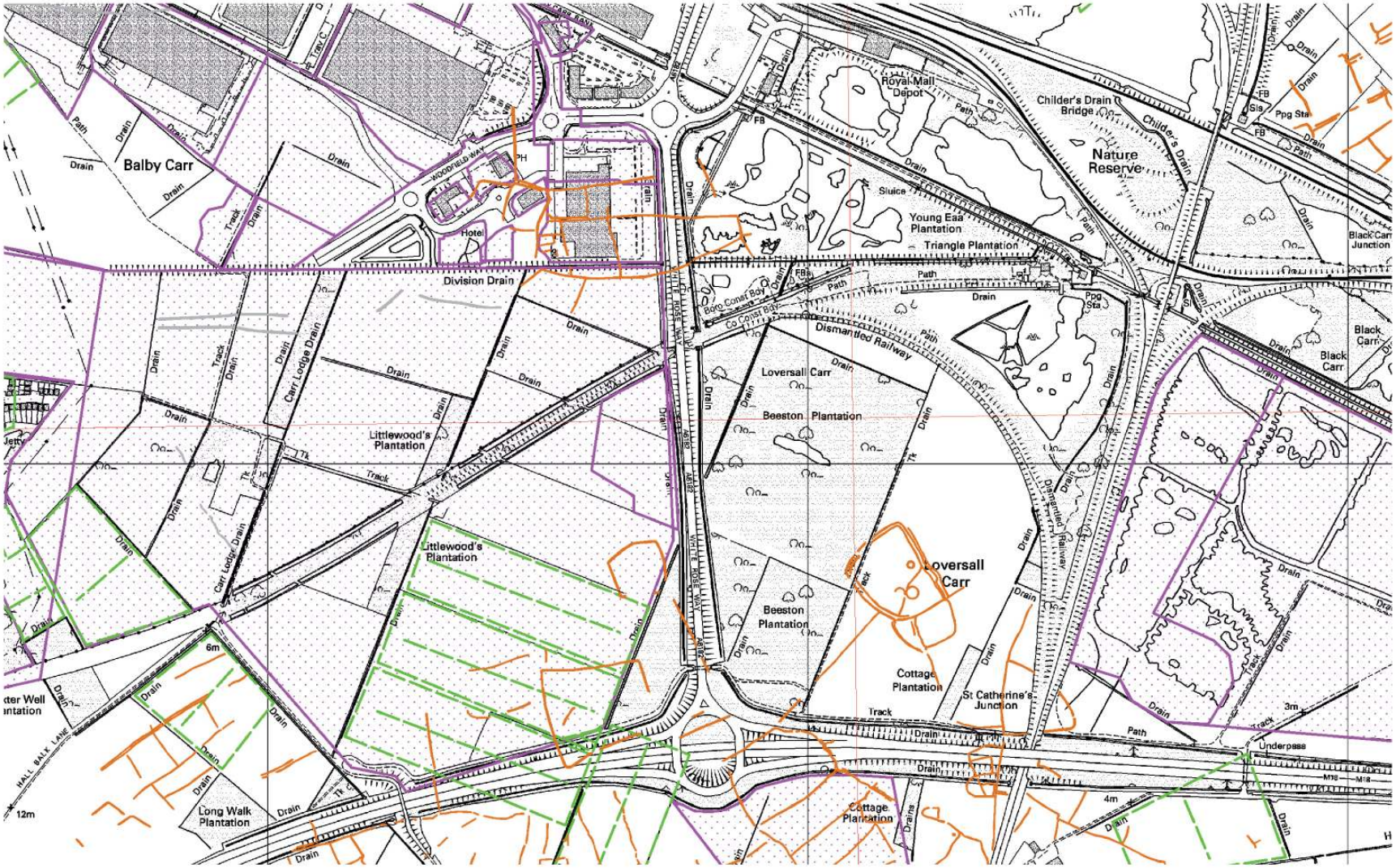

Figure 2: Cropmark Plot

APPENDIX 1 – INDEX TO ARCHIVE

Item	Number of items
WB Day / Context sheets	15
Levels register	0
Photographic register	3 pages
Drawing register	0
Original drawings	0
B/W photographs (films/contact sheets)	1/1
Colour slides (films)	0
Digital photographs	52
Written Scheme of Investigation	1
Report	1

Table 1 Index to Archive

APPENDIX 2 – WRITTEN SCHEME OF INVESTIGATION

ArcHeritage

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL WATCHING BRIEF

Site Location:	**White Rose Way, Doncaster**
NGR:	**458752, 400042**
Proposal:	**Construction of dual carriage way**
Prepared for:	**Doncaster Metropolitan Council by ArcHeritage, [17/04/12]**
Status of WSI:	**Final**

1 SUMMARY

1.1 As part of the ongoing works to upgrade White Rose Way to a dual carriageway an archaeological watching brief is required of the top soil strip.

1.2 The archaeologist will be required to undertake a watching brief of the topsoil strip the contractor needs to undertake to construct the haul road and form the new embankment for the widening to be undertaken between junction 3 of the M18 and Potteric Carr roundabout (shown on attached plan), the embankment batters are to be topsoil stripped but will not require an archaeological watching brief.

1.3 This Written Scheme of Investigation (WSI) has been prepared in response to a request from Doncaster Metropolitan Borough Council. The work will be carried out in accordance with this WSI.

2 SITE LOCATION & DESCRIPTION

2.1 The proposal site is located at White Rose Way between junction 3 of the M18 and Potteric Carr Roundabout (Figure 1). It forms a roughly linear strip to the south of the existing embankment, together with a small area to the north of Potteric Carr roundabout. Centred on National Grid Reference 458752, 400042

3 DESIGNATIONS & CONSTRAINTS

3.1 There are no designated monuments within the watching brief area.

4. GROUNDWORKS TO BE MONITORED

4.1 This work will comprise a **continuous/comprehensive** watching brief, on the removal of topsoil for the haul road and construct the new embankment. A watching brief is not required on the removal of topsoil from the embankment itself. The watching brief may be stepped down **to intermittent monitoring**, depending on the results, and following agreement from the Development Control Archaeologist.

5 DELAYS TO THE DEVELOPMENT SCHEDULE

5.1 All earth-moving machinery must be operated at an appropriate speed to allow the archaeologist to recognise, record and retrieve any archaeological deposits and material.

5.2 It is not intended that the archaeological monitoring should unduly delay site works. However, the archaeologist on site should be given the opportunity to observe, clean, assess and, where appropriate hand excavate, sample and record any exposed features and finds. In order to fulfil the requirements of this WSI, it may be necessary to halt the earth-moving activity to enable the archaeology to be recorded properly.

5.3 Plant or excavators shall not be operated in the immediate vicinity of archaeological remains until the remains have been recorded and the archaeologist on site has given explicit permission for operations to recommence at that location.

6 RECORDING METHODOLOGY

6.1 If a base plan of intervention areas is available, the areas being monitored will be determined using this information. If a plan is not available, or the watching brief work involves monitoring of long linear works, interventions which are not mapped, or large open areas, the location of the monitoring will be determined using a hand-held GPS, which will provide accuracy to c.2m.

6.2 Unique context numbers will only be assigned if artefacts are retrieved, or stratigraphic relationships between archaeological deposits are discernible. In archaeologically 'sterile' areas, soil layers will be described, but no context numbers will be assigned. Where assigned, each context will be described in full on a pro forma context record sheet in accordance with the accepted context record conventions.

6.3 Archaeological deposits will be planned at a basic scale of 1:50, with individual features requiring greater detail being planned at a scale of 1:20. Larger scales will be utilised as appropriate. Cross-sections of features will be drawn to a basic scale of 1:10 or 1:20 depending on the size of the feature. All drawings will be related to Ordnance Datum. Where it aids interpretation, structural remains will also be recorded in elevation. All drawings will be drawn on inert materials. All drawings will adhere to accepted drawing conventions

6.4 Photographs of archaeological deposits and features will be taken. This will include general views of entire features and of details such as sections as considered necessary. The photographic register will comprise 35mm format black and white prints. Digital photography and/or 35mm colour slides may be used in addition, but will not form the primary site archive. All site photography will adhere to accepted photographic record guidelines.

6.5 Areas which are inaccessible (e.g. for health and safety reasons) will be recorded as thoroughly as possible within the site constraints. In these instances, recording may be entirely photographic, with sketch drawings only.

6.6 All finds will be collected and handled following the guidance set out in the IfA guidance for archaeological materials. Unstratified material will not be kept unless it is of exceptional intrinsic interest. Material discarded as a consequence of this policy will be described and quantified in the field. Finds of particular interest or fragility will be retrieved as Small Finds, and located on plans. Other finds, finds within the topsoil, and dense/discrete deposits of finds will be collected as Bulk Finds, from discrete contexts, bagged by material type. Any dense/discrete deposits will have their limits defined on the appropriate plan.

6.7 All artefacts and ecofacts will be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication *First Aid for Finds,* and recording systems must be compatible with the recipient museum. All finds that fall within the purview of the Treasure Act (1996) will be reported to HM Coroner according to the procedures outlined in the Act, after discussion with the client and the local authority.

6.8 A soil sampling programme will be undertaken for the recovery and identification of charred and waterlogged remains where suitable deposits are identified. The collection and processing of environmental samples will be undertaken in accordance with English Heritage guidelines (English Heritage 2002). Environmental and soil specialists will be consulted during the course of the evaluation with regard to the implementation of this sampling programme. Soil samples of approximately 30 litres for flotation (or 100% of the features if less than this volume) will be removed from selected contexts, using a combination of the judgement and systematic methodologies.

- **Judgement sampling** will involve the removal of samples from secure contexts which appear to present either good conditions for preservation (e.g. burning or waterlogging) or which are significant in terms of archaeological interpretation or stratigraphy. (Given the nature of an archaeological watching brief, it is anticipated that the implementation of a systematic sampling methodology will not be possible).

6.9 Other samples will be taken, as appropriate, in consultation with ArcHeritage specialists and the English Heritage Regional Science Advisor, as appropriate (e.g. dendrochronology, soil micromorphology, monolith samples, C14, etc.). Samples will be taken for scientific dating where necessary for the development of subsequent mitigation strategies. Material removed from site will be stored in appropriate controlled environments.

6.10 In the event of human remains being discovered during the evaluation these will be left *in-situ*, covered and protected, in the first instance. The removal of human remains will only take place in compliance with environmental health regulations and following discussions with, and with the approval of, the Ministry of Justice. If human remains are identified, the Ministry of Justice and curator will be informed immediately. An osteoarchaeologist will be available to give advice on site.

- If **disarticulated** remains are encountered, these will be identified and quantified on site. If trenches are being immediately backfilled, the remains will be left in the ground. If the excavations will remain open for any length

of time, disarticulated remains will be removed and boxed, for immediate reburial by the Church.

- If **articulated** remains are encountered, these will be excavated in accordance with recognised guidelines (see 6.12) and retained for assessment.
- Any grave goods or coffin furniture will be retained for further assessment.

6.11 Where a licence is issued, all human skeletal remains must be properly removed in accordance with the terms of that licence. Where a licence is not issued, the treatment of human remains will be in accordance with the requirements of Civil Law, IfA Technical Paper 13 (1993) and English Heritage guidance (2005).

7 REPORT & ARCHIVE PREPARATION

7.1 Upon completion of the groundworks, a report will be prepared to include the following:

a) A non-technical summary of the results of the work.

b) An introduction which will include the planning reference number, grid reference and dates when the fieldwork took place.

c) An account of the methodology and results of the operation, describing structural data, associated finds and environmental data.

d) A selection of photographs and drawings, including an overall plan of the site accurately identifying the areas monitored.

e) Specialist artefact and environmental reports as necessary.

f) Details of archive location and destination (with accession number, where known), together with a catalogue of what is contained in that archive.

g) A copy of the key OASIS form details

h) Copies of the Brief and WSI

i) Additional photographic images may be supplied on a CDROM appended to the report

7.2 Copies of the report will be submitted to the commissioning body and the HER/SMR (also in PDF format).

7.3 The requirements for archive preparation and deposition will be addressed and undertaken in a manner agreed with the recipient museum. In this instance Doncaster Museum is recommended and an agreed allowance should be made for the curation and storage of this material.

7.4 Provision for the publication of results, as outlined in the Brief, will be made.

7.5 The owner of the Intellectual Property Rights (IPR) in the information and documentation arising from the work, would grant a licence to the County Council and the museum accepting the archive to use such documentation for their statutory functions and provide copies to third parties as an incidental to such functions. Under the Environmental

Information Regulations (EIR), such documentation is required to be made available to enquirers if it meets the test of public interest. Any information disclosure issues would be resolved between the client and the archaeological contractor before completion of the work. EIR requirements do not affect IPR.

8 HEALTH AND SAFETY

8.1 Health and safety issues will take priority over archaeological matters and all archaeologists will comply with relevant Health and Safety Legislation.

8.2 A Risk Assessment will be prepared prior to the start of site works.

9 TIMETABLE & STAFFING

9.1 The timetable for the works is expected to last 35 days commencing on the 23rd April 2012.

9.2 Specialist staff available for this work are as follows:

- Head of Artefact Research - Dr Ailsa Mainman
- Human Remains - Malin Holst (York Osteoarchaeology Ltd) & Rebecca Storm (University of Bradford)
- Palaeoenvironemtal remains - Palaeoecology Research Services Ltd
- Head of Curatorial Services - Christine McDonnell
- Finds Researcher - Nicky Rogers
- Medieval Pottery Researcher - Anne Jenner
- Finds Officers - Geoffrey Krause & Rachel Cubitt
- Archaeometallurgy & Industrial Residues – Dr Rod Mackenzie & Dr Roger Doonan
- Conservation – Dr Ian Panter

10 MONITORING OF ARCHAEOLOGICAL FIELDWORK

10.1 As a minimum requirement, South Yorkshire Archaeology Service (SYAS) will be given a minimum of one week's notice of work commencing on site, and will be afforded the opportunity to visit the site during and prior to completion of the on-site works so that the general stratigraphy of the site can be assessed. ArcHeritage will notify SYAS of any discoveries of archaeological significance so that site visits can be made, as necessary. Any changes to this agreed WSI will only be made in consultation with SYAS.

11 COPYRIGHT

11.1 ArcHeritage retain the copyright on this document. It has been prepared expressly for the named client, and may not be passed to third parties for use or for the purpose of gathering quotations.

12 KEY REFERENCES

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See also the **HELM** website for a full list of English Heritage Guidance documents.

http://www.helm.org.uk/server/show/nav.19701

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