Suffolk County Council

ARCHAEOLOGICAL EXCAVATION REPORT

SCCAS REPORT No. 2010/039

Puddlebrook Playing Fields, Haverhill HVH 069

M. Muldowney

www.suffolkcc.gov.uk/e-and-t/archaeology

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HER Information

Planning Application No:	Pre-planning
Date of Fieldwork:	22nd to 24th February and 26th February 2010
Grid Reference:	TL 662 447
Funding Body:	Suffolk County Council
Curatorial Officer:	Dr. Jess Tipper
Project Officer:	Mo Muldowney
Oasis Reference:	Suffolkc1_73560

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Summary

An archaeological excavation was carried out on Puddlebrook Playing Fields, Haverhill following an evaluation which revealed evidence dating from the prehistoric to the post-medieval period, and in particular a cremation burial dating to the Late Bronze Age (Stirk 2009). The excavation identified a second cremation pit also of Late Bronze Age date but no other features.

1. Introduction

On 22nd to 24th February and 26th February 2010 an excavation was undertaken on land known as Puddlebrook Playing Fields, Haverhill that was carried out in accordance with a Brief and Specification produced by Dr. Jess Tipper (SCCAS/CT) (Appendix 1). The work was commissioned by Suffolk County Council and took place in advance of the proposed construction of a new school (Clements Primary School) (Pre-planning) and after an evaluation, also carried out by SCCAS (Stirk 2009).

2. The excavation

2.1 Site location

Haverhill is located in the south-west corner of Suffolk, on the border of Cambridgeshire (west) and Essex (south). It lies 14m due south from Newmarket and 19m north from Braintree. Puddlebrook Playing Fields (TL 662 447) are situated on the south-west side of Haverhill, within the arc of the A1017 ring road and south of Cleves Road. The excavation area was centred on the location of cremation pit 0119 (in evaluation Trench 4) and encompassed a regular area of 900m sq around that point.

2.2 Geology and topography

The site is located on boulder clay (Glacial till) and lies at a height of just over 100m OD on relatively flat ground. A slight rise in ground level is visible to the east end of the site. At the time of excavation, the land was a grassy playing field, bounded on the west and south side by scrub and trees. The north side is open (as is the east side) and bounded by Cleves Road and Greenfields Way.

At the time of excavation, the land was waterlogged resulting in difficult conditions for both mechanical stripping and hand-excavation. It should be noted that as much as one quarter of the excavation area was under standing water.

2.3 Archaeological and historical background

The Historic Environment Record (HER) has a small number of entries located near to the subject site. They are presented below in Table 1.

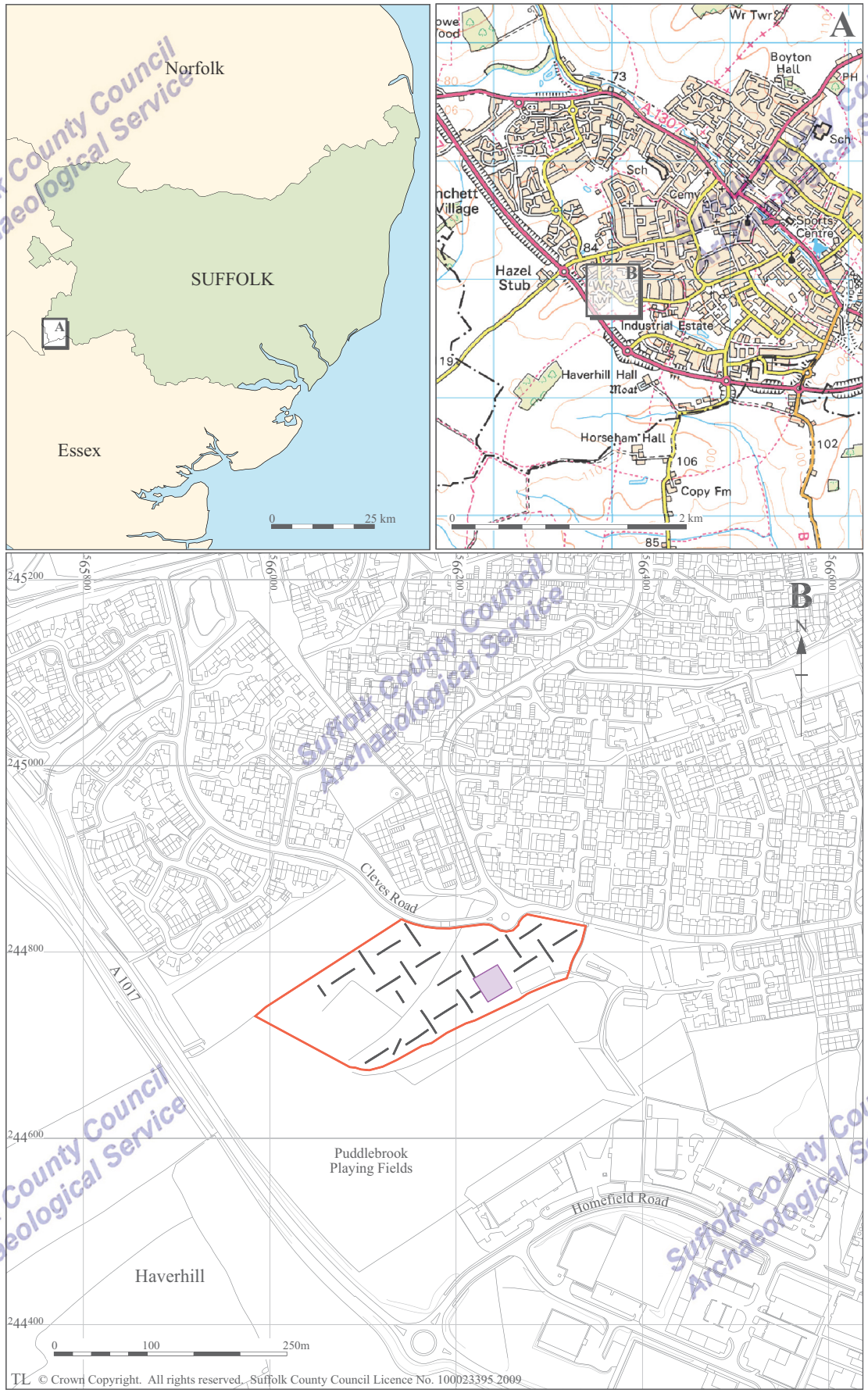

Figure 1. Site location, showing development area (red) and excavation area (purple)

HER number	Description	Location	Date
HVH 010	Pottery scatter at Haverhill Hall, found during fieldwalking	560m to S	Rom
HVH 012	Barrow, probably Bronze Age, marked on 1st edition OS map	200m to NE	Und
HVH 021	Probable rubbish pits identified whilst fieldwalking and metal-detecting	580m to NE	Rom
HVH 024	Ditches and other features found during an excavation	570m to WNW	IA/Rom
HVH 026	Ladygate and Poplar Wood, ancient woodland	1km to SW	Med
HVH 030	Silver disc/saucer brooch, found by metal detectorist	480m to NW	Sax
HVH 036	Ditches and postholes found during an excavation	380m to NW	IA
HVH 037	Cottage and garden marked on 1737 map. Also excavated	390m to WNW	PMed
HVH 039	Ditches and pits identified during an excavation	530m to WNW	IA/Rom

Table 1. Selected HER entries in proximity to Puddlebrook Playing Fields

3. Methodology

The excavation area was square in shape and measured 30m by 30m (900m sq) and was stripped using a tracked 360 mechanical excavator fitted with a toothless ditching bucket. Topsoil and subsoil were removed separately and stored at the edge of site using two 9 ton dumpers until they became unable to operate in the extremely wet conditions. At this point, the excavator was used to store the spoil. Overburden was removed to the natural horizon or archaeological deposit, whichever was encountered first. All mechanical stripping was carried out under the constant supervision of an experienced archaeologist.

A high-resolution digital colour photographic record was taken of the excavation area and all exposed deposits, supplemented by hand-drawn sections at 1:10 or 1:20, as appropriate. Written descriptions were recorded on SCCAS *pro forma* sheets. A plan of the excavation area was drawn at scale 1:50 and Ordnance Datum levels were taken using a Leica GPS.

Metal-detecting of all overburden and excavated deposits was also undertaken. Two environmental samples were taken.

The site archive is kept in the SCCAS main store at Bury St Edmunds under HER no. HVH 069 and a digital copy of the report has been submitted online to the Archaeological Data Service at: http://ads.ahds.ac.uk/catalogue/library/greylit

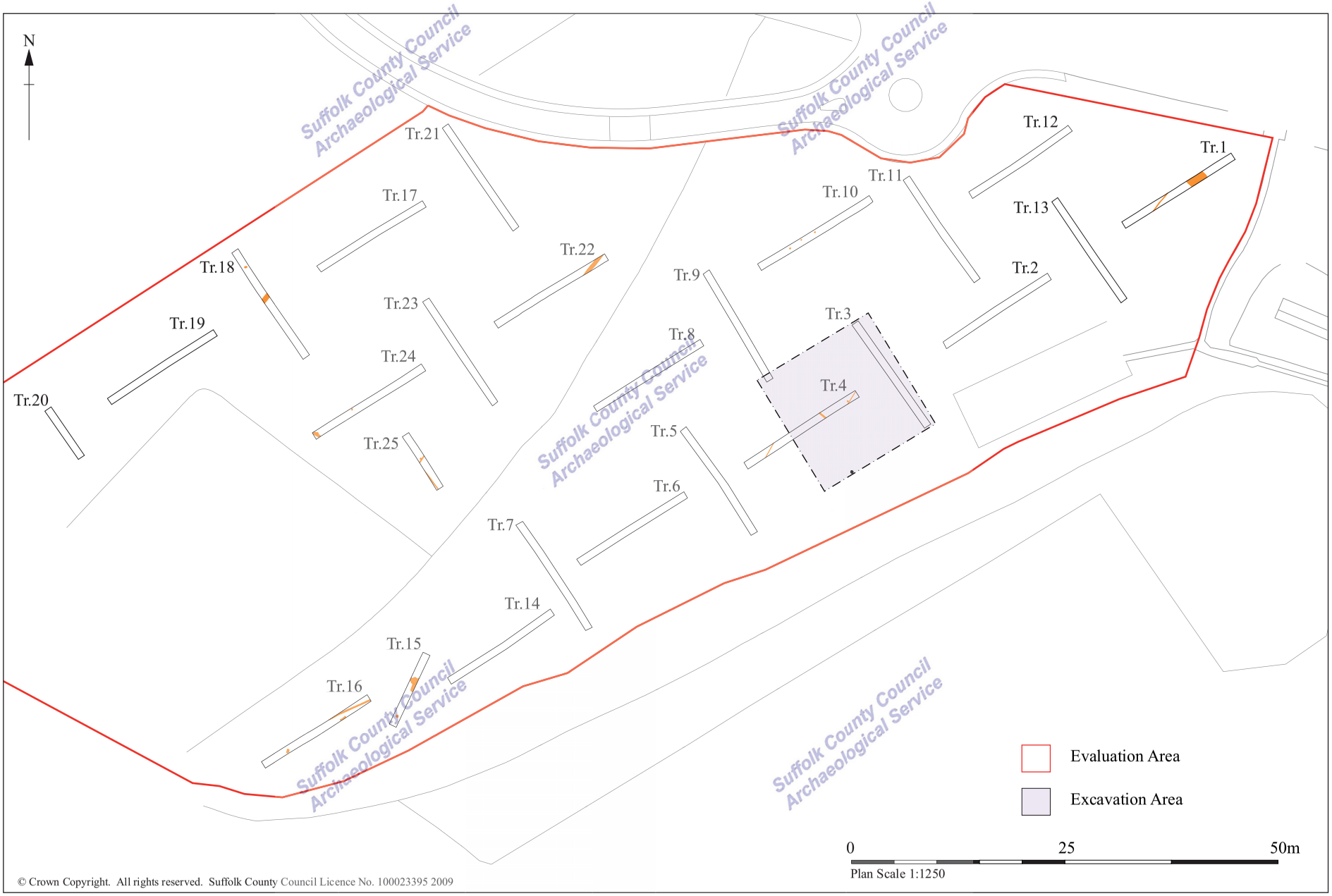

Figure 2. Excavation area (with evaluation trenches)

4. Results

4.1 Introduction

The excavation identified a single cremation pit, located at the extreme southern edge of the area (Fig. 2). Modern rutting and plough scarring was also seen.

The underlying natural 1007 comprised light yellow clay and was truncated by cremation pit 1005.

Cremation pit 1005 was located approximately 7.5m from the south-west corner of the excavation area, immediately adjacent to the south edge. It was circular in plan with a flat-based, u-shape profile and was 0.68m in diameter by 0.32m deep. Three fills were identified, the earliest of which was very dark grey clay (1004). The mid fill was light greyish yellow clay (1006), and the third, uppermost fill was mottled dark yellowish grey clay (1003). Fill 1004 contained a small quantity of small fragments of cremated bone. Both fills 1003 and 1004 were sampled for the recovery of macrofossil and burnt remains, the latter for C14 dating purposes. No finds were recovered.

Subsoil 1002 was mid brownish yellow clay and overlay the cremation pit. It extended across the excavation area and was approximately 0.21m thick. Topsoil 1001 was dark grey silty clay and overlay all deposits. It was 0.3m thick. No finds were recovered from either of these layers.

5. The environmental evidence

5.1 Introduction

Excavation produced an unurned cremation deposit of Late Bronze Age date. The deposit contained cremated human bone and charred plant macrofossils.

5.2 Cremated human remains

Sue Anderson

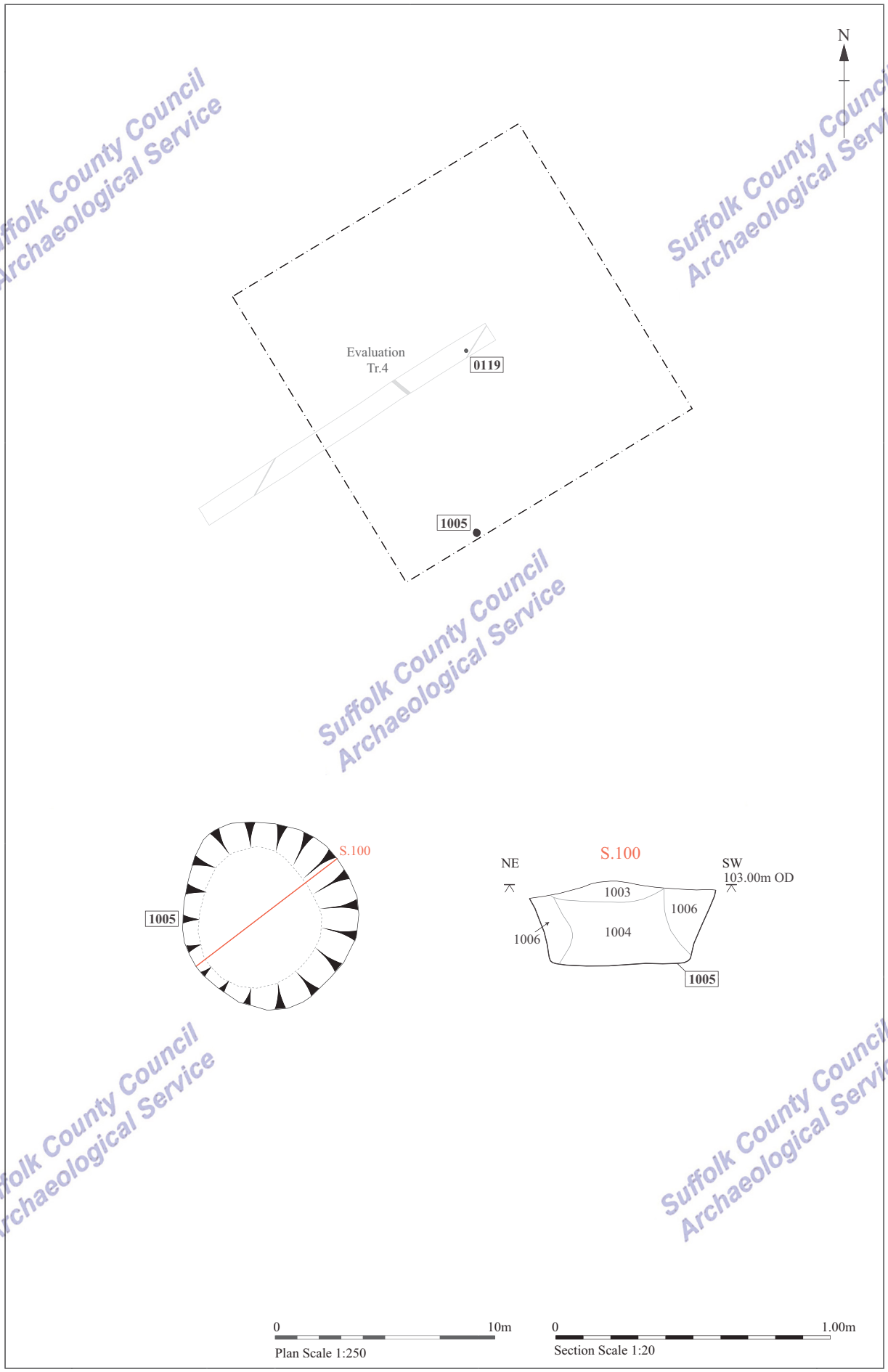

Figure 3. Cremation pit 1005, with location of cremation pit 0119

Introduction and methodology

This report examines the cremated bone collected from an unurned cremation burial of Late Bronze Age date. Another cremation burial from the same site was reported on during the evaluation (Anderson 2009, Appendix 5, No. 1).

Bone was collected under two fill numbers from pit 1005 (upper fill 1003, lower fill 1004) as bulk samples 101 and 100. The samples were bulk floated, with the entire residue from each context being retained as a single group. The bone was sorted into five categories: skull, axial, upper limb, lower limb, and unidentified. All fragment groups were weighed to the nearest tenth of a gram. Measurements of maximum skull and long bone fragment sizes were also recorded. Observations were made, where possible, concerning bone colour, age, sex, dental remains and pathology. Identifiable fragments were noted. Methods used follow the Workshop of European Anthropologists (WEA 1980) and McKinley (1994; 2004).

The cremated bone

Table 2 shows the bone weights and percentages of identified bone from the burial, and the proportions of bone identified from the four areas of the skeleton (skull, axial, upper limb, lower limb). Expected proportions are provided based on McKinley (1994, 6).

Area	Total no.	Total wt/g	% identified	% expected
Skull	85	11.7	2.9	*18.2*
Axial	4	0.6	1.0	*20.6*
Upper limb	44	17.7	30.2	*23.1*
Lower limb	109	28.6	48.8	*38.1*
Total identified	*242*	*58.6*	-	-
Unidentified	-	49.9		
Total	**-**	**108.5**	-	-

Table 2. Percentages of identified fragments out of total identified to area of skeleton

This shows that limb bone fragments were over-represented amongst the identifiable material, and that other areas of the skeleton are under-represented. It has been suggested that 'it should be possible to recognise any bias in the collection of certain areas of the body after cremation' (McKinley 1994, 6). However, there is also some bias inherent in the identification of elements. McKinley notes the ease with which even tiny fragments of skull can be recognised, and conversely the difficulty of identifying long bone fragments. These figures can therefore provide only a rough guide to what was originally collected.

Identifiable pieces in this group included cranial vault, humerus, ?ulna, femur, tibia and fibula. The fragments were adult, but there was no evidence to indicate the sex of the individual. Nor was there any evidence to suggest that the bone from this burial represented more than one individual.

The total weight is very low for a cremation burial. Mays (1998, Table 11.2) notes that the combusted weight of an adult skeleton has a mean of around 1500g for females and 2300g for males. The quantity of bone in this assemblage therefore represents only a small proportion of the combusted weight of an average adult skeleton.

The degree of fragmentation was very high. The largest fragment of skull was 18mm long and the largest piece of long bone 48mm long (4.4g), although the latter was at least double the length of any other long bone fragment in the assemblage. The average weight of the identifiable fragments was only 0.24g. However, the identification rate of 54.0% is relatively high for an unurned cremation.

Most bone in this group was fully oxidised and white in colour, although a few inner fragments of thicker long bones, particularly the femur, were black in colour. The presence of a high proportion of white bone indicates firing temperatures in excess of c.600°C (McKinley 2004, 11), although Mays (1999, 159) noted that the uniformity of colour in the surviving bone at Ardleigh in Essex may be due to poor survival of less well cremated bone.

Radiocarbon dating

A fragment of upper limb bone was selected for radiocarbon dating and submitted to SUERC (SUERC-30006 (GU-21761)). The sample returned a date of 2905 ± 35 BP (1260–990 cal BC at 2σ) (Appendix 5, No. 2).

Summary and Discussion

The burial contained the fragmented remains of one individual, an adult of indeterminate age and sex. The total weight of bone indicates that the skeleton was very incomplete. This may be due to poor collection following the cremation ritual, poor preservation of incompletely cremated material following burial, a token collection of remains for burial, or severe truncation. Later prehistoric cremations, from the Late Bronze Age onwards, are often less complete than the large urned burials of earlier Bronze Age date.

It may be of interest to note that in this group, limb bones were noticeably more frequent than skull fragments, despite the relative ease of identifying the latter. Conversely, cranial fragments were over-represented in the other burial from this site. This may suggest that selection of particular parts of the skeleton for burial was being carried out. However, despite belonging to the same broad period, the two burials have been shown by radiocarbon dating to be non-contemporaneous, with the current burial having occurred perhaps as much as 400 years earlier (and at least 60 years earlier) than the previously excavated example. If special selection for burial were taking place it may have been a long-standing practice.

5.3 Plant macrofossils and other remains

Val Fryer

Introduction and method statement

Samples for the retrieval of the plant macrofossil assemblages were taken from the main and upper fills of cremation pit 1005 (contexts 1004 and 1003 respectively), and were submitted for assessment.

The samples were bulk floated by SCCAS staff and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils and other remains noted are listed below in Table 3. All plant remains were charred. Modern fibrous roots were present within both assemblages.

Results

Although the assemblage from Sample 100 (from the main fill of the cremation pit) was relatively large (circa 0.7 litres in volume), it was very limited in composition, being almost entirely composed of highly comminuted fragments of charcoal/charred wood. Occasional pieces of charred root/stem were also noted along with very rare fragments of burnt or calcined bone. Larger pieces of charcoal/charred wood were rare, and of those noted, most had a very distinct flaked appearance, possibly indicative of combustion at very high temperatures.

The assemblage from Sample 101 (upper fill) was almost identical in composition to that from the main fill, although far less material was recorded. Fragments of black porous

'cokey' material were also noted within this assemblage, all of which were probable by-products of the cremation process.

Sample No.	100	101
Context No.	**1004**	**1003**
Cut No.	**1005**	**1005**
Charcoal <2mm	xxxx	xxxx
Charcoal >2mm	xxxx	xxxx
Charred root/stem	x	x
Black porous 'cokey' material		x
Bone	xb	
Sample volume (litres)	**35**	**5**
Volume of flot (litres)	**0.7**	**<0.1**
flot sorted%	**25%**	**100%**

Table 3. Charred plant macrofossils and other remains
Key: x = 1-10 specimens, xxxx = 100+ specimens. b = burnt.

Conclusions and recommendations for further work

In summary, the limited composition of the assemblages would appear to indicate that wood/charcoal were the principal fuels used for the pyre, although some dried plant materials may have been used as kindling. The flaked condition of the charcoal would appear to indicate that combustion occurred at a very high temperature.

As plant macrofossils other than charcoal/charred wood are so rare within these assemblages, no further analysis is recommended. However, a selection of the larger charcoal fragments, which are possibly suitable for species identification or C14 dating, have been recovered from each assemblage and placed within individual glass tubes.

5.4 Conclusions and discussion of the environmental evidence

The cremation burial contained the incomplete and highly fragmented remains of a single adult individual. The skeleton was very incomplete possibly due to poor or 'token' collection after cremation, poor preservation or truncation. A sample of the bone produced a Late Bronze Age radiocarbon date centred on 1260–990 cal BC (2905±35 BP).

The macrofossil assemblages were limited in composition consisting of charcoal/charred wood and other materials that were probably by-products of the cremation process.

6. Discussion

A single unurned cremation pit (1005) was found in the excavation area at Puddlebrook following the identification of another unurned cremation pit (0019) during the previous evaluation stage (Stirk 2009). The second cremation pit was over twice the size of the first at almost 0.70m in diameter and had two additional fills. Both contained small quantities of cremated human remains, a feature that corresponds with the general trend where later prehistoric cremations, from the Late Bronze Age onwards, are often less complete than the large urned burials of earlier Bronze Age date. This date is strongly supported by the results of the radiocarbon dating carried out by SUERC (Appendix 5) which indicate that both cremations are dated to the Late Bronze Age:

- Cremation 0119: SUERC-30005 (GU-21760) - 900-800 cal BC (2720 ± 35BP)
- Cremation 1005: SUERC-30006 (GU-21761) - 1260–990 cal BC (2905±35 BP)

No other finds were recovered from cremation 1005, but a single flint flake was recovered from cremation 0119, dated to the later prehistoric period (Pendleton 2009). However this may be intrusive and therefore later in date, i.e. Iron Age.

None of the prehistoric pottery sherds recovered during the evaluation was particularly diagnostic, but as an assemblage they were considered to be Late Bronze Age or Early to Middle Iron Age.

The lack of definitively contemporary pottery and other non-burial features, such as ditches and pits, indicate that this area was probably part of a funerary landscape that would have included the Bronze Age barrow mound (HVH 012) to the north-east.

Environmental analysis added little to the wider picture of Bronze Age activity in the development area, other than to confirm that other organic material found within the cremations displayed evidence of firing at high temperatures.

7. Conclusions and significance of the fieldwork

Although the archaeology was not extensive in either the evaluation or excavation stages, there was clear evidence for funerary activity in this area during the late Bronze

Age, with a small amount of evidence for low-level activity throughout the Iron Age and into the Roman period. The evaluation also identified evidence for post-medieval activity (Stirk 2009).

The specialist human remains report and the results of the radiocarbon dating by SUERC suggests that the cremations are both of later Bronze Age date but interestingly, not contemporary. The date of the excavation stage cremation could be anywhere between 60 and 400 years earlier than the evaluation cremation, which, given their similarities as regards the quantity of bone recovered indicates that the burial ritual applied in this area was enduring.

8. Archive deposition

Paper and photographic archive: SCCAS Bury St Edmunds
T:\Arc\ALL_site\Haverhill\HVH 069 Puddle Brook Playing Fields Excavation

Finds and environmental archive: SCCAS Bury St Edmunds L / 142 / 3

9. Contributors and acknowledgements

The project was managed by Rhodri Gardner. The excavation was directed and carried out by Mo Muldowney, assisted by a number of archaeological staff, (Andy Beverton, John Craven and John Sims) all from Suffolk County Council Archaeological Service, Field Team. Metal detecting was undertaken by Alan Smith.

Environmental samples were processed in-house by Anna West. Specialist identification and advice was provided by Sue Anderson (cremated human remains) and Val Fryer (plant macrofossils) and the radiocarbon dates were determined and calibrated by SUERC. The finds report was compiled by Cathy Tester and the report was edited by Richenda Goffin.

10. Bibliography

Stirk, D.,	2009	*Land at Puddlebrook Playing Fields (HVH 069)* SCCAS Report no. 2009/260 Unpublished client report
Mays, S.A.,	1998	*The Archaeology of Human Bones.* Routledge, London
Mays, S.A.,	1999	'Cremated bone from CEU excavations, and unpublished bone from earlier work', in Brown, N.R., *The Archaeology of Ardleigh, Essex: Excavations 1955-1980.* E. Anglian Archaeol. 90. Heritage Conservation, Essex County Council
McKinley, J.I.,	1994	*The Anglo-Saxon Cemetery at Spong Hill, North Elmham Part VIII: the cremations.* E. Anglian Archaeol. 69. Field Archaeology Division, Norfolk Museums Service
McKinley, J.I.,	2004	'Compiling a skeletal inventory: cremated human bone', in Brickley, M. and McKinley, J.I. (eds), *Guidelines to the Standards for Recording Human Remains.* IFA Paper No.7. BABAO and IFA
Pendleton, C.,	2009	'Worked flint' in Stirk (2009) *Land at Puddlebrook Playing Fields (HVH 069)* SCCAS Report no. 2009/260 Unpublished client report
WEA	1980	'Recommendations for age and sex diagnoses of skeletons', *J. Human Evolution* 9, 517-49

Plates.

Plate 1. Cremation pit 1005, facing south (1m scale)

Appendix 1. Brief and Specification

Brief and Specification for Excavation

LAND AT PUDDLE BROOK PLAYING FIELDS, HAVERHILL, SUFFOLK

Although this document is fundamental to the work of the specialist archaeological contractor the developer should be aware that certain of its requirements are likely to impinge upon the working practices of a general building contractor and may have financial implications

1. The nature of the development and archaeological requirements

1.1 Planning permission for the erection of a new school (Clements Primary School) on Land at Puddle Brook Playing Fields, Greenfields Way, Haverhill, Suffolk (TL 662 447) has been sought from Suffolk County Council.

1.2 The Planning Authority has been advised that any consent should be conditional upon an agreed programme of work taking place before development begins (PPG 16, paragraph 30 condition).

1.3 The area of the proposed development measures *c*. 3.07 ha. in size, on the south side of Greenfields Way (see accompanying plan). It is situated on chalky till (deep clay) at *c*. 100 - 105.00m AOD.

1.4 This large site lies in an area of archaeological importance, recorded in the County Historic Environment Record, to the south of an important multi-period complex with finds and features dating to the Iron Age, Roman and Anglo-Saxon periods (HER nos. HVH 024, HVH 027, HVH 030 and HVH 039), and also to the west of a ring ditch that is the remains of a probable Bronze Age barrow burial (HVH 012). An archaeological evaluation has been undertaken in 2009 by SCC Archaeological Service Contracting Team (HER no. HVH 069; SCCAS Report 2009/260). A number of features of archaeological interest were recorded across the application area: field boundary ditches dating to ranging from the prehistoric to post-medieval periods, a scatter of pits and isolated post-holes of similar dates, including a cremation burial of probable prehistoric date in Trench 4. In addition, a silted up stream was present at the eastern side of the site, which had been formalised as a ditch probably in the post-medieval period.

1.5 Any works causing significant ground disturbance have the potential to damage any archaeological deposit that exists.

1.5 In order to comply with the planning condition, the Conservation Team of the Archaeological Service of Suffolk County Council (SCCAS/CT) has been requested to provide a brief and specification for the archaeological recording of archaeological deposits that will be affected by development – archaeological mitigation in the form of preservation by record. An outline specification, which defines certain minimum criteria, is set out below.

2. Brief for Archaeological Investigation

2.1 An archaeological excavation, as specified in Section 3, is to be carried out prior to development:
An area measuring *c*. 30.00 x 30.00m in size to target the archaeological remains defined in Trench 4 of the archaeological evaluation (centred on the cremation pit [0119]). Based on the information that has been provided by the applicant, archaeological remains defined across other parts of the application site can be adequately preserved *in situ* because no topsoil stripping is required in these areas.

2.2 The excavation objective will be to provide a record of all archaeological deposits which would otherwise be damaged or removed by development, including services and landscaping permitted by the consent. Adequate time is to be allowed for archaeological recording of archaeological deposits during excavation.

2.3 This project will be carried through in a manner broadly consistent with English Heritage's *Management of Archaeological Projects,* 1991 (*MAP2*). Excavation is to be followed by the preparation of a full archive, and an assessment of potential for analysis and publication. Analysis and final report preparation will follow assessment and will be the subject of a further brief and updated project design.

2.4 In accordance with the standards and guidance produced by the Institute of Field Archaeologists this brief should not be considered sufficient to enable the total execution of the project. A Written Scheme of Investigation (WSI) based upon this brief and the accompanying outline specification of minimum requirements, is an essential requirement. This must be submitted by the developers, or their agent, to SCCAS/CT (Shire Hall, Bury St Edmunds IP33 2AR; telephone/fax: 01284 352443) for approval. The work must not commence until this office has approved both the archaeological contractor as suitable to undertake the work, and the WSI as satisfactory.

2.5 The WSI will *provide the basis for measurable standards* and will be used to establish whether the requirements of the planning condition will be adequately met; an important aspect of the WSI will be an assessment of the project in relation to the Regional Research Framework (*East Anglian Archaeology* Occasional Papers 3, 1997, 'Research and Archaeology: A Framework for the Eastern Counties, 1. resource assessment', and 8, 2000, 'Research and Archaeology: A Framework for the Eastern Counties, 2. research agenda and strategy').

2.7 Before any archaeological site work can commence it is the responsibility of the developer to provide the archaeological contractor with either the contaminated land report for the site or a written statement that there is no contamination. The developer should be aware that investigative sampling to test for contamination is likely to have an impact on any archaeological deposit which exists; proposals for sampling should be discussed with SCCAS/CT before execution.

2.8 The responsibility for identifying any restraints on archaeological field-work (e.g. Scheduled Monument status, Listed Building status, public utilities or other services, tree preservation orders, SSSIs, wildlife sites &c.) rests with the commissioning body and its archaeological contractor. The existence and content of the archaeological brief does not over-ride such restraints or imply that the target area is freely available.

2.9 All arrangements for the excavation of the site, the timing of the work, access to the site, the definition of the precise area of landholding and area for proposed development are to be defined and negotiated with the commissioning body.

2.10 The developer or his archaeologist will give SCCAS/CT ten working days notice of the commencement of ground works on the site, in order that the work of the archaeological contractor may be monitored. The method and form of development will also be monitored to ensure that it conforms to previously agreed locations and techniques upon which this brief is based.

3. Specification for the Archaeological Excavation

The excavation methodology is to be agreed in detail before the project commences. Certain minimum criteria will be required:

3.1 Topsoil and subsoil deposits must be removed to the top of the first archaeological level by an appropriate machine with a back-acting arm fitted with a toothless bucket. All machine excavation is to be under the direct control and supervision of an archaeologist.

3.2 If the machine stripping is to be undertaken by the main contractor, all machinery must keep off the stripped areas until they have been fully excavated and recorded, in accordance with this specification. Full construction work must not begin until excavation has been completed and formally confirmed by SCCAS/CT.

3.3 The top of the first archaeological deposit may be cleared by machine, but must then be cleaned off by hand. There is a presumption that excavation of all archaeological deposits will be done by hand unless it can be shown there will not be a loss of evidence by using a machine. The decision as to the proper method of further excavation will be made by the senior project archaeologist with regard to the nature of the deposit.

3.4 All features which are, or could be interpreted as, structural must be fully excavated. Post-holes and pits must be examined in section and then fully excavated. Fabricated surfaces within the excavation area (e.g. yards and floors) must be fully exposed and cleaned. Any variation from this process can only be made by agreement with SCCAS/CT, and must be confirmed in writing.

3.5 All other features must be sufficiently examined to establish, where possible, their date and function. For guidance:

a) A minimum of 50% of the fills of the general features is be excavated (in some instances 100% may be requested).
b) 10% of the fills of substantial linear features (ditches, etc) are to be excavated (min.). The samples must be representative of the available length of the feature and must take into account any variations in the shape or fill of the feature and any concentrations of artefacts. For linear features, 1.00m wide slots (min.) should be excavated across their width.

3.6 Any variation from this process can only be made by agreement [if necessary on site] with a member of SCCAS/CT, and must be confirmed in writing.

3.7 Collect and prepare environmental bulk samples (for flotation and analysis by an environmental specialist). The fills of all archaeological features should be bulk sampled for palaeoenvironmental remains and assessed by an appropriate specialist. The WSI must provide details of a comprehensive sampling strategy for retrieving and processing biological remains (for palaeoenvironmental and palaeoeconomic investigations and also for absolute dating), and samples of sediments and/or soils (for micromorphological and other pedological/sedimentological analyses. All samples should be retained until their potential has been assessed. Advice on the appropriateness of the proposed strategies will be sought from Dr Helen Chappell, English Heritage Regional Adviser in Archaeological Science (East of England). A guide to sampling archaeological deposits (Murphy, P.L. and Wiltshire, P.E.J., 1994, A guide to sampling archaeological deposits for environmental analysis) is available for viewing from SCCAS.

3.8 A finds recovery policy is to be agreed before the project commences. It should be addressed by the WSI. Sieving of occupation levels and building fills will be expected.

3.9 Use of a metal detector will form an essential part of finds recovery. Metal detector searches must take place at all stages of the excavation by an experienced metal detector user.

3.10 All finds will be collected and processed. No discard policy will be considered until the whole body of finds has been evaluated.

3.11 All ceramic, bone and stone artefacts to be cleaned and processed concurrently with the excavation to allow immediate evaluation and input into decision making.

3.12 Metal artefacts must be stored and managed on site in accordance with *UK Institute of Conservators Guidelines* and evaluated for significant dating and cultural implications before despatch to a conservation laboratory within four weeks of excavation.

3.13 Human remains are to be treated at all stages with care and respect, and are to be dealt with in accordance with the law. They must be recorded *in situ* and subsequently lifted, packed and marked to standards compatible with those described in the Institute of Field Archaeologists' *Technical Paper 13: Excavation and post-excavation treatment of Cremated and Inhumed Human Remains*, by McKinley & Roberts. Proposals for the final disposition of remains following study and analysis will be required in the WSI.

3.14 Plans of the archaeological features on the site should normally be drawn at 1:20 or 1:50, depending on the complexity of the data to be recorded. Sections should be drawn at 1:10 or 1:20 again depending on the complexity to be recorded. All levels should relate to Ordnance Datum. Any variations from this must be agreed with SCCAS/CT.

3.15 A photographic record of the work is to be made, consisting of both monochrome photographs and colour transparencies/high resolution digital images, and documented in a photographic archive.

3.16 Excavation record keeping is to be consistent with the requirements the County Historic Environment Record and compatible with its archive. Methods must be agreed with SCCAS/CT.

4. General Management

4.1 A timetable for all stages of the project must be agreed before the first stage of work commences.

4.2 Monitoring of the archaeological work will be undertaken by SCCAS/CT. A decision on the monitoring required will be made by SCCAS/CT on submission of the accepted WSI.

4.3 The composition of the project staff must be detailed and agreed (this is to include any subcontractors). For the site director and other staff likely to have a major responsibility for the post-excavation processing of this evaluation there must also be a statement of their responsibilities or a CV for post-excavation work on other archaeological sites and publication record. Ceramic specialists, in particular, must have relevant experience from this region, including knowledge of local ceramic sequences.

4.4 Provision should be included in the WSI for outreach activities, for example, in the form of an open day and/or local public lecture and/or presentation to local schools.

4.5 It is the archaeological contractor's responsibility to ensure that adequate resources are available to fulfill the Specification.

4.6 A detailed risk assessment and management strategy must be presented for this particular site.

4.7 The WSI must include proposed security measures to protect the site and both excavated and unexcavated finds from vandalism and theft.

4.8 Provision for the reinstatement of the ground and filling of dangerous holes must be detailed in the WSI. However, trenches should not be backfilled without the approval of SCCAS/CT.

4.9 No initial survey to detect public utility or other services has taken place. The responsibility for this rests with the archaeological contractor.

4.10 Detailed standards, information and advice to supplement this specification are to be found in *Standards for Field Archaeology in the East of England,* East Anglian Archaeology Occasional Papers 14, 2003. The Institute of Field Archaeologists' *Standard and Guidance for Archaeological Excavation* (revised 2001) should be used for additional guidance in the execution of the project and in drawing up the report.

5. Archive Requirements

5.1 Within four weeks of the end of field-work a written timetable for post-excavation work must be produced, which must be approved by SCCAS/CT. Following this a written statement of progress on post-excavation work whether archive, assessment, analysis or final report writing will be required at three monthly intervals.

5.2 The project manager must consult the County Historic Environment Record Officer (Dr Colin Pendleton) to obtain a Historic Environment Record number for the work. This number will be unique for the site and must be clearly marked on any documentation relating to the work.

5.3 An archive of all records and finds is to be prepared consistent with the principle of English Heritage's *Management of Archaeological Projects*, 1991 (*MAP2*), particularly Appendix 3. However, the detail of the archive is to be fuller than that implied in *MAP2* Appendix 3.2.1. The archive is to be sufficiently detailed to allow comprehension and further interpretation of the site should the project not proceed to detailed analysis and final report preparation. It must be adequate to perform the function of a final archive for lodgement in the County Historic Environment Record or museum.

5.4 A complete copy of the site record archive must be deposited with the County Historic Environment Record within 12 months of the completion of fieldwork. It will then become publicly accessible.

5.5 The data recording methods and conventions used must be consistent with, and approved by, the County Historic Environment Record. All record drawings of excavated evidence are to be presented in drawn up form, with overall site plans. All records must be on an archivally stable and suitable base.

5.6 The project manager should consult the SCCAS Archive Guidelines 2008 and also the County Historic Environment Record Officer regarding the requirements for the deposition of the archive (conservation, ordering, organisation, labelling, marking and storage) of excavated material and the archive. A clear statement of the form, intended content, and standards of the archive is to be submitted for approval as an essential requirement of the WSI.

5.7 The WSI should state proposals for the deposition of the digital archive relating to this project with the Archaeology Data Service (ADS), and allowance should be made for costs incurred to ensure proper deposition (http://ads.ahds.ac.uk/project/policy.html).

5.8 Finds must be appropriately conserved and stored in accordance with UK Institute Conservators Guidelines.

5.9 The site archive quoted at *MAP2* Appendix 3, must satisfy the standard set by the "Guideline for the preparation of site archives and assessments of all finds other than fired clay vessels" of the Roman Finds Group and the Finds Research Group AD700-1700 (1993).

5.10 Pottery should be recorded and archived to a standard comparable with 6.3 above, i.e. *The Study of Later Prehistoric Pottery: General Policies and Guidelines for Analysis and Publication,* Prehistoric Ceramics Research Group Occ Paper 1 (1991, rev 1997), the *Guidelines for the archiving of Roman Pottery*, Study Group Roman Pottery (ed M G Darling 1994) and the *Guidelines of the Medieval Pottery Group* (in draft).

5.11 All coins must be identified and listed as a minimum archive requirement.

5.12 Every effort must be made to get the agreement of the landowner/developer to the deposition of the finds with the County Historic Environment Record or a museum in Suffolk which satisfies Museum and Galleries Commission requirements, as an indissoluble part of the full site archive. If this is not achievable for all or parts of the finds archive then provision must be made for additional recording (e.g. photography, illustration, analysis) as appropriate.

5.13 Where positive conclusions are drawn from a project, a summary report in the established format, suitable for inclusion in the annual 'Archaeology in Suffolk' section of the Proceedings of the Suffolk Institute for Archaeology journal, must be prepared and included in the project report, or submitted to SCCAS/CT by the end of the calendar year in which the evaluation work takes place, whichever is the sooner.

5.14 Where appropriate, a digital vector trench plan should be included with the report, which must be compatible with MapInfo GIS software, for integration in the County Historic Environment Record. AutoCAD files should be also exported and saved into a format that can be can be imported into MapInfo (for example, as a Drawing Interchange File or .dxf) or already transferred to .TAB files.

5.15 At the start of work (immediately before fieldwork commences) an OASIS online record http://ads.ahds.ac.uk/project/oasis/ must be initiated and key fields completed on Details, Location and Creators forms.

5.16 All parts of the OASIS online form must be completed for submission to the County Historic Environment Record. This should include an uploaded .pdf version of the entire report (a paper copy should also be included with the archive).

6. Report Requirements

6.1 An assessment report on the fieldwork and archive must be provided consistent with the principle of *MAP2*, particularly Appendix 4. The report must be integrated with the archive.

6.2 The objective account of the archaeological evidence must be clearly distinguished from its archaeological interpretation.

6.3 An important element of the report will be a description of the methodology.

6.4 Reports on specific areas of specialist study must include sufficient detail to permit assessment of potential for analysis, including tabulation of data by context, and must include non-technical summaries.

6.5 Provision should be made to assess the potential of scientific dating techniques for establishing the date range of significant artefact or ecofact assemblages, features or structures.

6.6 The results should be related to the relevant known archaeological information held in the County Historic Environment Record.

6.7 The report will give an opinion as to the potential and necessity for further analysis of the excavation data beyond the archive stage, and the suggested requirement for publication; it will refer to the Regional Research Framework (see above, 2.5). Further analysis will not be embarked upon until the primary fieldwork results are assessed and the need for further work is established. Analysis and publication can

be neither developed in detail nor costed in detail until this brief and specification is satisfied. However, the developer should be aware that there is a responsibility to provide a publication of the results of the programme of work.

6.8 The assessment report must be presented within six months of the completion of fieldwork unless other arrangements are negotiated with the project sponsor and SCCAS/CT.

6.9 The involvement of SCCAS/CT should be acknowledged in any report or publication generated by this project.

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Date: 5 February 2010 Reference: / PuddlebrookPlayingFields_Haverhill2010

This brief and specification remains valid for 12 months from the above date. If work is not carried out in full within that time this document will lapse; the authority should be notified and a revised Brief and Specification may be issued.

If the work defined by this Brief forms a part of a programme of archaeological work required by a Planning Condition, the results must be considered by the Conservation Team of the Archaeological Service of Suffolk County Council, who have the responsibility for advising the appropriate Planning Authority.

Appendix 2. Context summary

Context	Fill of	Filled by	Category	Type	Description				Width (m)	Depth (m)	Interpretation
1001			Layer	Topsoil	Dark grey	Friable	Silty clay	Chalk: occasional, small rounded fragments:		0.30	Topsoil
1002			Layer	Subsoil	Mid brownish yellow	Friable	Clay	Flint: occasional, small to medium, sub-angular Chalk: occasional, small, rounded fragments		0.21	Subsoil
1003	1005		Fill	Cremation pit	Mottled dark yellowish grey	Friable	Clay	Flint: occasional, small to large heat-affected angular fragments Chalk: rare, very small fragments Charcoal: occasional, small angular fragments		0.08	Uppermost fill of cremation pit 1005
1004	1005		Fill	Cremation pit	Very dark grey	Friable	Clay	Flint: occasional, small, angular Cremated bone: occasional small fragments		0.27	Main fill of cremation pit 1005, very dark, lots of chunks of charcoal, but not vast quantities of burnt bone
1005		1003; 1004; 1006	Cut	Cremation pit	Circular	Flat-based, u-shaped			0.68	0.32	Cut of cremation pit, south from 0119 in evaluation. All fills waterlogged
1006	1005		Fill	Cremation pit	Light greyish yellow	Friable	Clay	Flint: rare, small to medium, angular		0.24	Fill around the outside edge of fill 1004
1007			Layer	Subsoil	Light yellow clay	Firm	Clay	Flint: common, small tom large nodules, sub-rounded			Natural clay

Appendix 3. Cremated human remains: quantification and measurements

Context	Skull			Axial			Upper limb			Lower limb			Unident	Totals	max skull	max l.b.
	No.	Wt/g	Ave. wt	No.	Wt/g	Ave. wt	No.	Wt/g	Ave. wt	No.	Wt/g	Ave. wt	Wt/g	Wt/g	(mm)	(mm)
1003	1	0.1	0.10							3	0.4	0.13	1.3	1.8	5	10
1004	84	11.6	0.14	4	0.6	0.15	44	17.7	0.40	106	28.2	0.27	48.6	106.7	18	48
Total	**85**	**11.7**	**0.14**	**4**	**0.6**	**0.15**	**44**	**17.7**	**0.40**	**109**	**28.6**	**0.26**	**49.9**	**108.5**		

Appendix 4. Cremated human remains: catalogue

Cremation burial 1003-4: unsexed adult

Quantification:	Total weight 108.5g: Skull 85 (11.7g), axial 4 (0.6g), upper limb 44 (17.7g), lower limb 109 (28.6g), unidentified (49.9g).
Description:	Unurned calcined bone.
Condition:	Fair, mostly very small fragments.
Determination of age:	Size of bones.
Determination of sex:	No evidence.
Identified elements:	Fragments of cranial vault, humerus, femur, tibia.
Measurements:	Max skull frag size 18mm, max long bone frag size 48mm.
Colours:	White, a few black pieces, particularly from inner surfaces of thicker bones.
Teeth:	none
Pathology:	Nothing observed.

Appendix 5. SUERC Radiocarbon certificates

1. Evaluation

Scottish Universities Environmental Research Centre
Director: Professor A B MacKenzie Director of Research: Professor R M Ellam
Rankine Avenue, Scottish Enterprise Technology Park,
East Kilbride, Glasgow G75 0QF, Scotland, UK
Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE

30 June 2010

Laboratory Code	SUERC-30005 (GU-21760)
Submitter	Cathy Tester SCC Archaeological Service 9-10 The Churchyard, Shirehall Bury St Edmunds Suffolk, IP33 2AR
Site Reference	Puddlebrook Playing Fields, Haverhill, Suffolk
Sample Reference	HVH069 0118
Material	Cremated Bone
$\delta^{13}C$ relative to VPDB	-21.2 ‰
Radiocarbon Age BP	2720 ± 35

N.B.

1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

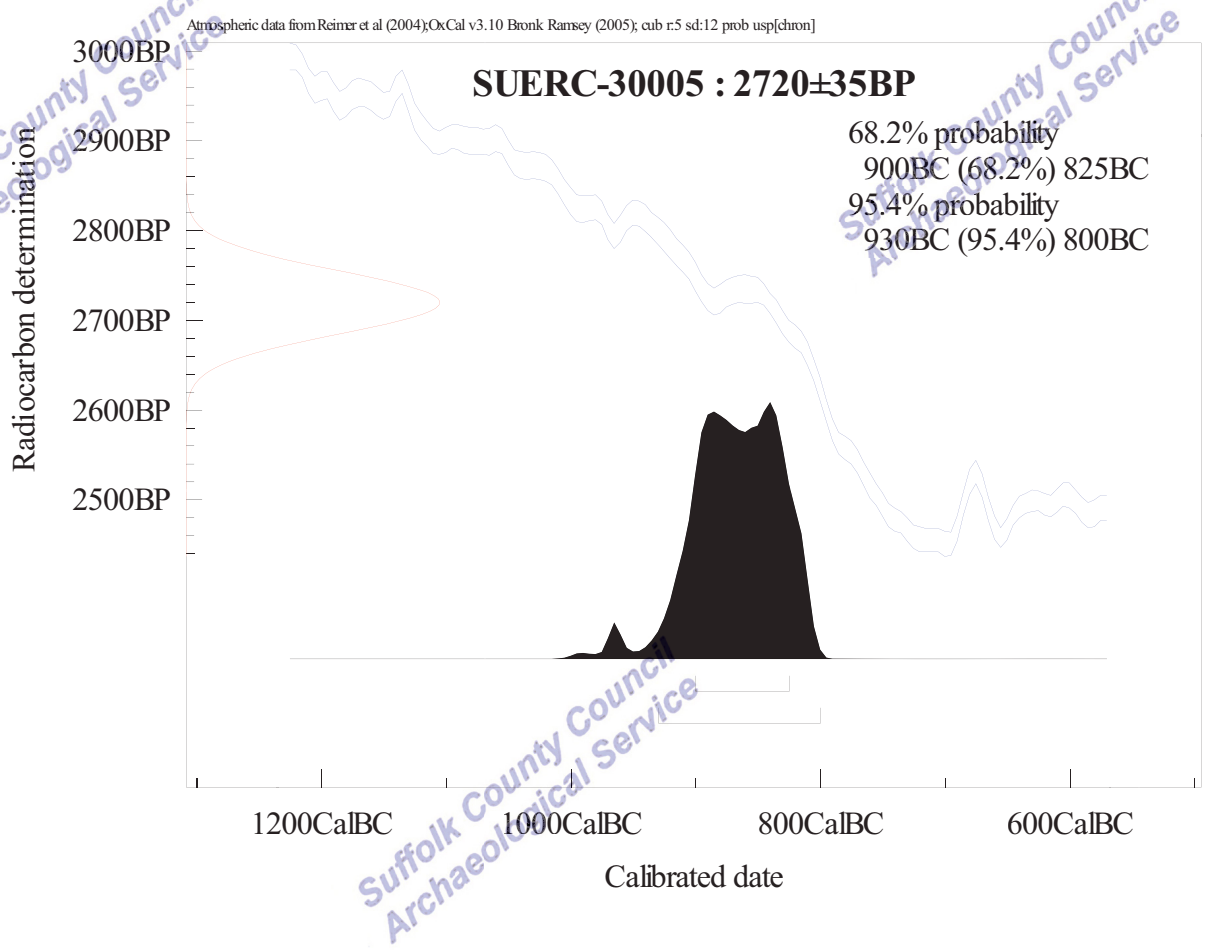
2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).

3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or Telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- Date :-

Checked and signed off by :- Date :-

Calibration Plot



2. Excavation

Scottish Universities Environmental Research Centre
Director: Professor A B MacKenzie Director of Research: Professor R M Ellam
Rankine Avenue, Scottish Enterprise Technology Park,
East Kilbride, Glasgow G75 0QF, Scotland, UK
Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE

30 June 2010

Laboratory Code	SUERC-30006 (GU-21761)
Submitter	Cathy Tester SCC Archaeological Service 9-10 The Churchyard, Shirehall Bury St Edmunds Suffolk, IP33 2AR
Site Reference	Puddlebrook Playing Fields, Haverhill, Suffolk
Sample Reference	HVH069 1004
Material	Cremated Bone
$\delta^{13}C$ relative to VPDB	-23.3 ‰
Radiocarbon Age BP	2905 ± 35

N.B.

1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).

3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or Telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- Date :-

Checked and signed off by :- Date :-

Calibration Plot