

ARCHAEOLOGICAL EVALUATION REPORT

SCCAS REPORT No. 2009/248

RAFM Waste Water Treatment Plant, Mildenhall MNL 623

R. Brooks
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HER Information

Planning Application No: 2009_Pre Waste Water (MoD reference)

Date of Fieldwork: 18/11/2009

Grid Reference: TL 685 782

Funding Body: MoD Defence Estates USF

Curatorial Officer: Jude Plouviez

Project Officer: Andrew Tester and Rob Brooks

Oasis Reference: suffolkc1-67962

Digital report submitted to Archaeological Data Service:
<http://ads.ahds.ac.uk/catalogue/library/greylit>

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Summary

An archaeological evaluation was carried out on the proposed site for a single facility building on the RAF Mildenhall Waste Water Treatment Plant, Rookery Drove, Suffolk.

This work revealed four ditches from two phases of activity, which are thought to represent fen drainage and a possible drove-way. Whilst there was no dating evidence, this activity is likely to have been post-medieval. Despite modern disturbance of the topsoil, the archaeological levels were well preserved.

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1. Introduction

An archaeological evaluation was carried out prior to the construction of a single facility building at the Waste Water Treatment Plant, associated with RAF Mildenhall, Suffolk. The work was carried out to a Brief and Specification issued by Jude Plouviez, (Suffolk County Council Archaeological Service, Conservation Team – Appendix 1) to fulfil a planning condition on MoD application 2009_Pre Waste Water. The developer, MOD Defence Estates, funded the work that was carried out on 18th November, 2009.

2. Geology and topography

The geology of the site was pale yellowish-orange silty-sand, which was below c.0.8m of overburden and topsoil. It was disturbed in places by root action, animal burrows and occasional modern features, although archaeological features could still be clearly defined within it. The proposed development area lies at grid reference TL 685 782 (Figs. 1 and 3). It was below the 5m contour and was relatively level.

3. Archaeological and historical background

The site lies very close to areas of known prehistoric activity. A prehistoric, possibly Bronze Age, bone dagger was found west of the site (MNL 145), whilst an Iron Age coin and an undated feature were located to the north-west (MNL 065 and MNL 554, respectively), as shown on Figure 1. As well as these sites, excavations in Mildenhall have revealed a complex and extensive networks of prehistoric, Roman and Saxon archaeological remains. Therefore an evaluation was required on the facility building site to investigate and record any occupation evidence prior to destruction by the development.

The First Edition Ordnance Survey map of 1885 does not show anything within the immediate location of the site, although it does reveal that it was within a field and located close to a SW-NE aligned ditch (Fig. 2).

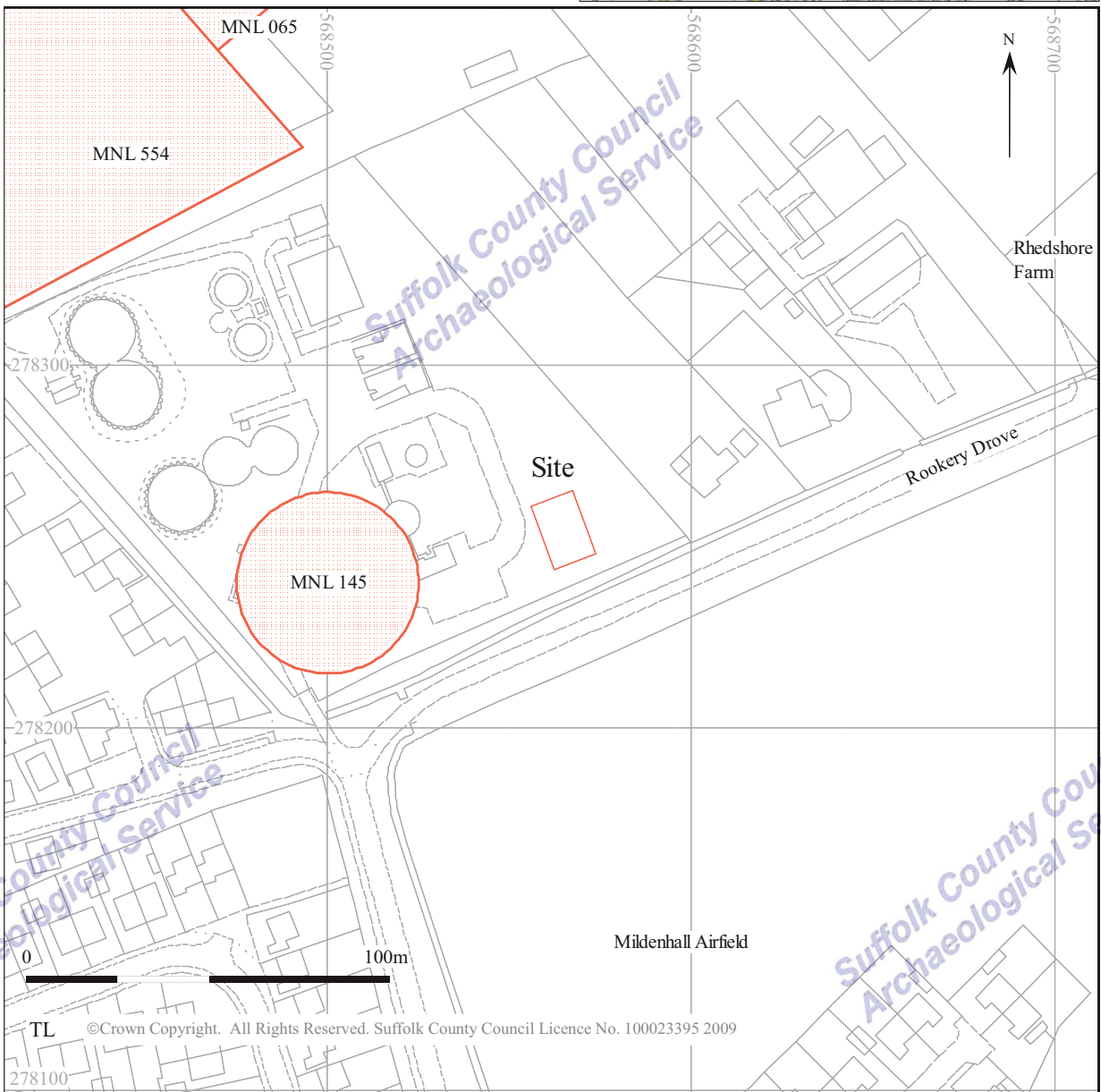


Figure 1. Site location and HER listings

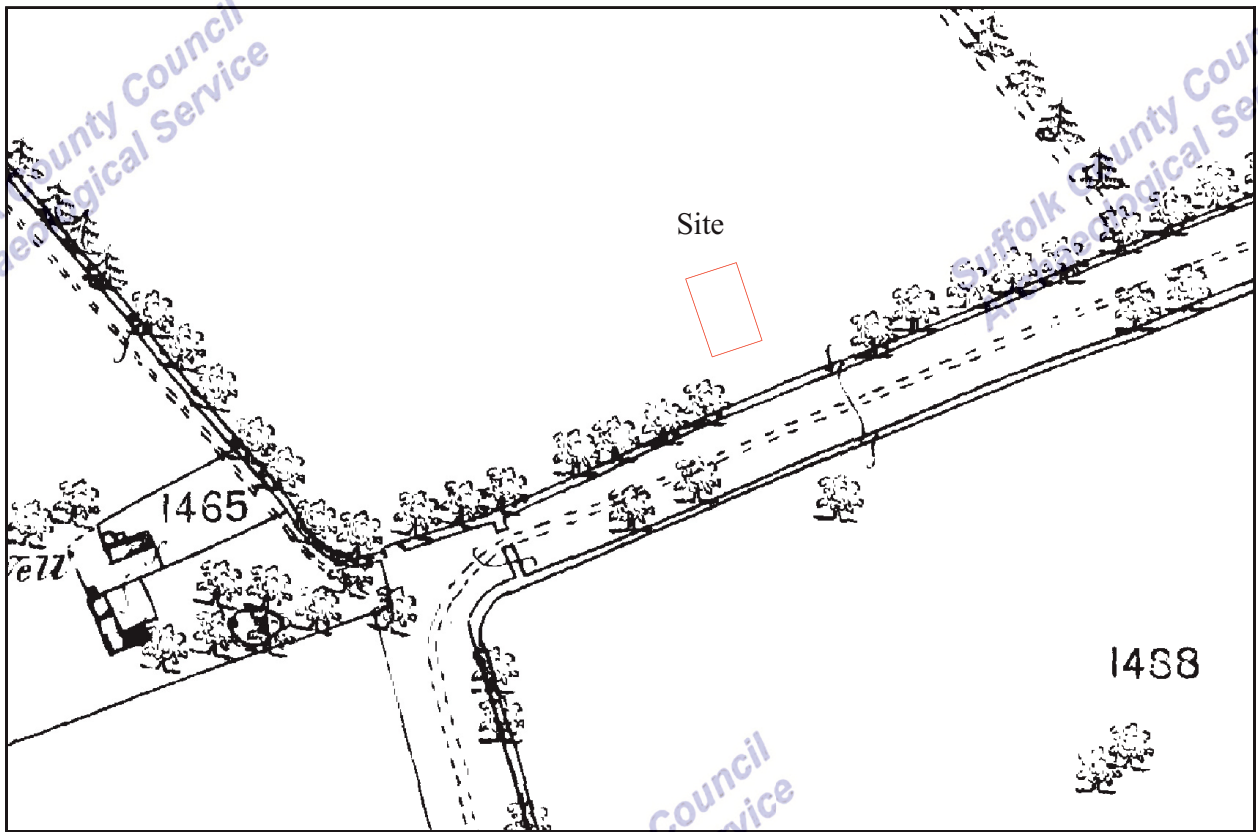


Figure 2. 1885 Ordnance Survey map

4. Methodology

The site was stripped using a JCB equipped with a ditching bucket, to the top of the archaeological levels under the supervision of an archaeologist. The site area was 226.27sq metres and two trenches were excavated in this. The first and largest measured 5.7m (SW-NE) x 18.7m (SE-NW) and Trench 2 measured 2.7m (SW-NE) x 18.7m (SE-NW), which totalled 69.4% of the total building plot. This strategy was taken rather than the monitoring condition recommended in the Brief and Specification because the client wished to avoid any delays which may otherwise have occurred with the construction process. Up to 0.8m of topsoil and overburden were removed, which overlaid the natural subsoil and archaeological deposits. The features were then individually cleaned and excavated by hand. Features were sampled to analyse their likely type and function, and this produced no finds. No environmental samples were taken for bulk flotation due to disturbance and the unsuitable nature of the features, and no fills were sieved.

The site was recorded using a single context continuous numbering system (Appendix 2) and planned by hand at 1:50. Feature sections were recorded at scales of 1:10 or 1:20. Digital colour photographs (72 x 72 dpi and 314 x 314 dpi, JPEG format) and monochrome black and white film photographs were taken of all stages of the fieldwork, and are included in the archive.

Site data has been input onto the MS Access database and recorded using the County Historic Environment Record code MNL 623. Digitised copies of section drawings and plans have also been made. An OASIS form has been completed for the project (reference no. suffolkc1-67962) and a digital copy of the report submitted for inclusion on the Archaeology Data Service database (<http://ads.ahds.ac.uk/catalogue/library/greylit>).

The site archive is kept in the main store of Suffolk County Council Archaeological Service at Bury St Edmunds under HER code MNL 623.

5. Results

5.1 Introduction

During the strip four features were clearly revealed (Fig. 3). These had a good level of preservation, despite the regular root and animal disturbance seen across the site and the levels of modern disturbance recognised in the topsoil stratigraphy. One electric cable also ran WNW-ESE across both areas, and one upstanding pipe was uncovered.

Two distinct phases were recognised within the features that were exposed, although these produced no dating evidence and as such the difference in their ages could not be ascertained.

5.2 Phase 1

This phase was defined by the presence of the two largest ditches seen running roughly NW-SE across the site, parallel to each other in Trench 1. The first ditch 0010, where excavated as cut 0004, measured 1.54m across (SW-NE) x 0.19m deep. In profile it had a gentle break of slope at the surface with c.30° slightly concave sides and a gentle break of slope to the base, which was also slightly concave. It was recorded as being

filled with two deposits, basal fill 0005 and top surviving fill 0006, which may have been distinct contexts. However, it is possible that 0005 was a disturbed mix of natural subsoil and 0006. In plan the feature was cut by Phase 2 ditches, 0011 and 0013.

Although the second ditch 0012 was only partially uncovered, its relative size, close alignment with 0010 and very similar fill suggested that it was associated with this phase of activity. It was aligned NW-SE across the site, appearing in the northern corner, where it was cut in plan by Phase 2 ditch 0013. Its visible fill was dark grey silty-sand that was identical to 0006.

5.3 Phase 2

Two further ditches ran NE-SW across the site, aligned with Rookery Drove and the field boundary and through both trenches. These were numbered as 0011 and 0013, with 0011 being excavated in cut 0007. This revealed that it measured 0.55m (NW-SE) x 0.35m deep, with an abrupt break of slope at the surface, 70-80° uneven sides and an abrupt break of slope at the base, which was almost flat. Its primary fill was deposit 0008, which was thought to be an accumulation of material which collapsed into the ditch after it was excavated. A more organic mid-dark brownish-grey upper fill, 0009, was also recorded. This feature cut ditch 0010, but was itself cut by a modern feature filled with a black burnt oil and organic residue, as well as an upstanding pipe.

Ditch 0013 cut both Phase 1 ditches 0010 and 0012. Its top visible fill was identical to 0009 and it was c.0.55m wide (NW-SE). It was not excavated as it was felt to be contemporary with ditch 0011.

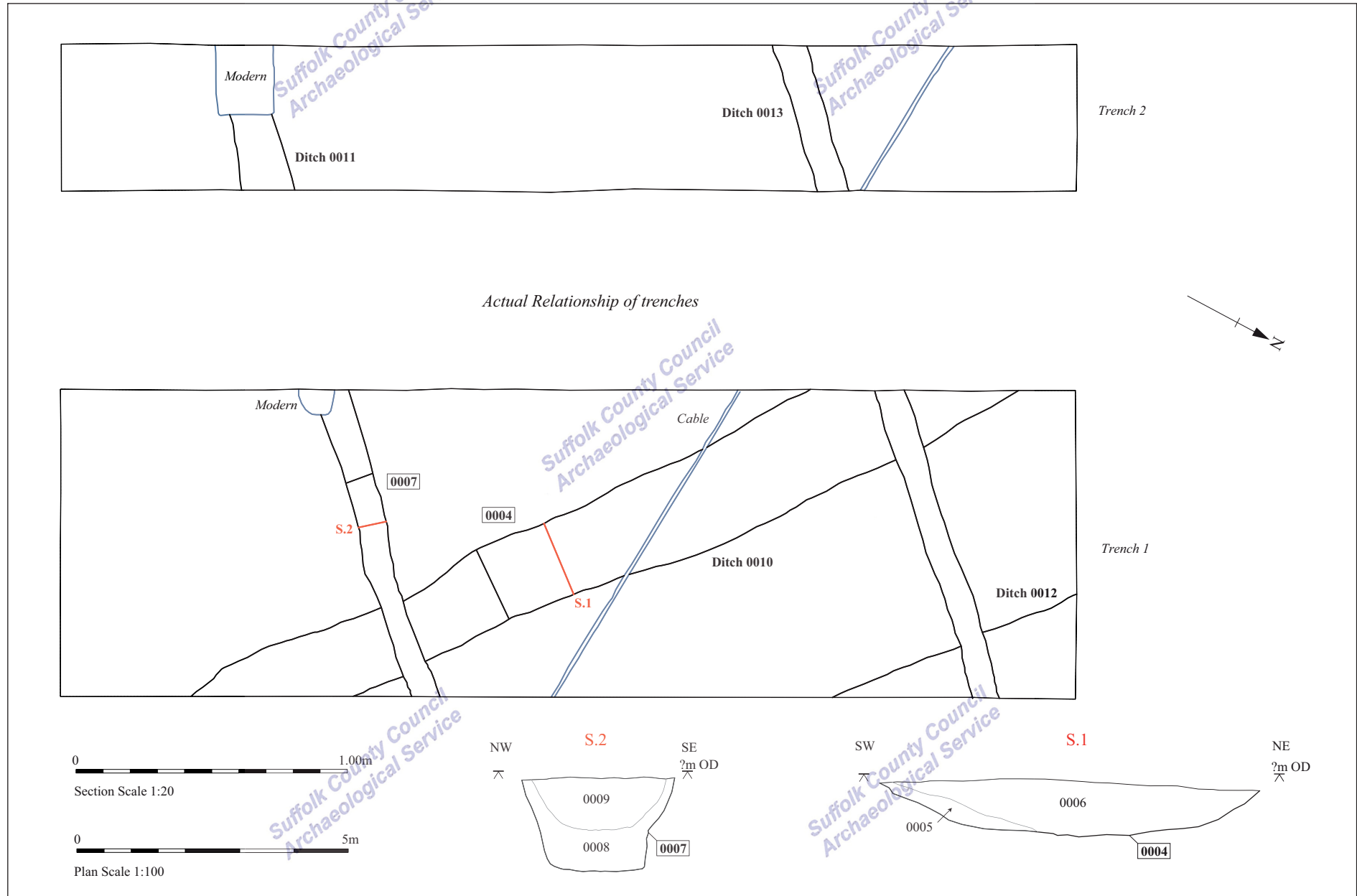


Figure 3. Site plan and sections

6. Discussion

The fieldwork revealed four ditches from two distinct phases of activity on the site. The first phase includes the two larger, NW-SE aligned features, whilst the second phase contained the two NE-SW ditches, which cut the other features in plan, whilst they were cut by modern activity.

Ditches 0010 and 0012 probably represent one of two uses. Firstly, they may be the remnants of fen drainage systems, of which the main stage of digging was started in 1759 with the Drainage Act. Ditches associated with this activity are usually perpendicular to existing droves, such as the nearby Rookery Drove (various authors, 2008). This suggests that these features may be the result of mid-18th century activity. Alternatively, they may represent an animal drove-way. This is a possibility as they are close to Rookery Drove, which is presumably a historic drove-way, and have differing profiles to those ditches usually recognised as fen drainage elsewhere (Brooks, 2009 and Tester, forthcoming). Also, at c.3.5m apart it would be likely that, based on the normal pattern of the 18th century drainage enclosures, another drainage ditch would have been seen on the site to the south-west of 0010. As such it is possible that they form a drove-way, in which case they represent a different type of farming activity and illustrate the importance of animal husbandry to the local economy in the past.

The Phase 2 ditches are probably the result of 18th century, or later, fen drainage. Whilst they are aligned with the road/field boundary and to existing ditches, they create the thin enclosure patterns typical of this phase of agriculture in the area. They are also located c.9m apart, which is the approximate distance between drainage ditches seen on nearby site MNL 532 and have the same profile as those on MNL 596 (Tester, forthcoming and Brooks, 2009, respectively).

7. Conclusions and recommendations for further work

This evaluation work has revealed two distinct phases of activity on the site of the proposed facility building. What this has shown is four ditches that are demonstrative of the farming practices in the area, typically of animal husbandry and fen drainage for crop cultivation.

Despite the extensive Iron Age and Roman activity recognised on the main airbase complex at sites such as MNL 532 and 479 (Tester, forthcoming and Caruth, 1996, respectively), or at the Smoke House Inn (Craven, forthcoming), there is no evidence that the occupation extends onto this site.

It is not recognised that further work is required on this site. The area has been extensively sampled by the work that has already taken place and it is felt that the good levels of preservation encountered have ensured that the archaeology on the site has been effectively understood. Whilst there has been little dating evidence retrieved from the features, it is doubtful that ditches of this type, which are unlikely to be the focus of intensive occupation, would provide datable artefacts from further excavation.

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8. Archive deposition

Paper and photographic archive: SCCAS Bury St Edmunds T:\Arc\Archive field
proj\Mildenhall\MNL 623 RAFM waste water treatment

9. List of contributors and acknowledgements

The evaluation was carried out by a number of archaeological staff, (Andrew Tester and Rob Brooks) all from Suffolk County Council Archaeological Service, Field Team.

The project was directed and managed by Andrew Tester, who also provided advice during the production of the report, which was written by Rob Brooks.

The post-excavation was managed by Richenda Goffin. The production of site plans and sections was carried out by Gemma Adams and Rob Brooks. The report was checked by Andrew Tester and Richenda Goffin.

10. Bibliography

Brooks, R., 2009, *MNL 596 POV Wash, RAF Mildenhall*. SCCAS Report 2008/221.

Caruth, J., 1996, *MNL 479 Catchwater Drain*. SCCAS Report 96/6.

Craven, J., forthcoming, *MNL 618 Excavation report*. SCCAS Report.

Tester, A., forthcoming, *MNL 532 Excavation report*. SCCAS Report.

Various authors, last updated 1st August, 2008, *Suffolk County Council Landscape Character Assessment - Settled Fenlands* <http://www.suffolklandscape.org.uk/landscapes/Settled-fenlands.aspx>

Disclaimer

Any opinions expressed in this report about the need for further archaeological work are those of the Field Projects Team alone. Ultimately the need for further work will be determined by the Local Planning Authority and its Archaeological Advisors when a planning application is registered. Suffolk County Council's archaeological contracting services cannot accept responsibility for inconvenience caused to the clients should the Planning Authority take a different view to that expressed in the report.

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Appendix 1. Brief and specification



The Archaeological Service

Environment and Transport Service Delivery
9-10 Churchyard, Shire Hall
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Brief and Specification for Archaeological Monitoring of Development

Waste Water Treatment Plant Storage Facility, RAF Mildenhall

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, for example see paragraphs 2.3 & 4.3. The commissioning body should also be aware that it may have Health & Safety responsibilities, see paragraph 1.5.

1. Background

- 1.1 Planning permission (as per MoD consultation system) to construct a single facility building c.24m x 12m on this site has been granted conditional upon an acceptable programme of archaeological work being carried out (ref 2009_Pre Waste Water). Assessment of the available archaeological evidence indicates that the area affected by development can be adequately recorded by archaeological monitoring of development as it occurs, coupled with provision for an archaeological record of any archaeology that is observed.
- 1.2 The application area is at TL685782, below the 5m contour in an area of undulating sand and chalk subsoils with peat overlying in lower areas on the edge of the Fens. This area has a generally high density of prehistoric and Roman activity. The specific development spot is on or adjacent to the findspot of a prehistoric bone dagger (MNL 145) which is likely to indicate Bronze Age settlement activity. It also lies about 200m south of an area of intense prehistoric and Roman activity (MNL 065) and 300m north-west of another Roman settlement (MNL 502). There is therefore a high potential for significant archaeological deposits to exist in the development area, particularly of prehistoric or Roman date, and these are likely to be severely damaged by the removal of topsoil in this area of light soils.
- 1.3 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 Project Design or Written Scheme of Investigation (PD/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 the Conservation Team of the Archaeological Service of Suffolk County Council (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 PD/WSI as satisfactory. The PD/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.

1.4 Detailed standards, information and advice to supplement this brief are to be found in "Standards for Field Archaeology in the East of England" Occasional Papers 14, East Anglian Archaeology, 2003.

1.5 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 this office before execution.

2. Brief for Archaeological Monitoring

2.1 To provide a record of archaeological deposits which are damaged or removed by any development permitted by the current planning consent.

2.2 The main academic objective will centre upon the potential of this development to produce evidence for earlier occupation of the site, particularly in the prehistoric and Roman periods.

2.3 The significant archaeologically damaging activities in this proposal are likely to be the site preparation works involving soil stripping to a depth of around 500mm for the floor slab.

The stripping process and the upcast soil are to be observed by an archaeologist whilst they are excavated by the building contractor. Adequate time is to be allowed for the recording of archaeological deposits during excavation (see 4.3).

3. Arrangements for Monitoring

3.1 To carry out the monitoring work the developer will appoint an archaeologist (the archaeological contractor) who must be approved by the Conservation Team of Suffolk County Council's Archaeological Service (SCCAS) - see 1.3 above.

3.2 The developer or his archaeologist will give the Conservation Team of SCCAS five 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.

3.3 Allowance must be made to cover archaeological costs incurred in monitoring the development works by the contract archaeologist. The size of the contingency should be estimated by the approved archaeological contractor, based upon the outline works in paragraph 2.3 of the Brief and Specification and the building contractor's programme of works and time-table.

3.4 If unexpected remains are encountered the Conservation Team of SCCAS must be informed immediately. Amendments to this specification may be made to ensure adequate provision for archaeological recording.

4. Specification

- 4.1 The developer shall afford access at all reasonable times to both the County Council Conservation Team archaeologist and the contracted 'observing archaeologist' to allow archaeological observation of building and engineering operations which disturb the ground.
- 4.2 Opportunity must be given to the 'observing archaeologist' to hand excavate any discrete archaeological features which appear during earth moving operations, retrieve finds and make measured records as necessary.
- 4.3 In the case of topsoil stripping for site preparation, access roads, hard standings and landscaping unimpeded access to the stripped area at the rate of two hours per 100 square metres must be allowed for archaeological recording at the interface between topsoil and clean sub-soil surface before the area is further deepened, traversed by machinery or sub-base deposited.
- 4.4 All archaeological features exposed must be planned at a minimum scale of 1:50.
- 4.5 All contexts must be numbered and finds recorded by context. The data recording methods and conventions used must be consistent with, and approved by, the County Historic Environment Record.
- 4.6 Archaeological contexts should, where possible, be sampled for palaeoenvironmental remains. Best practice should allow for sampling of interpretable and datable archaeological deposits and provision should be made for this. Advice on the appropriateness of the proposed strategies will be sought from J Heathcote, English Heritage Regional Adviser for 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.
- 4.7 Developers should be aware of the possibility of human burials being found. If this eventuality occurs they must comply with the provisions of Section 25 of the Burial Act 1857; and the archaeologist should be informed by '*Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England*' (English Heritage & the Church of England 2005) which includes sensible baseline standards which are likely to apply whatever the location, age or denomination of a burial.

5. Report Requirements

- 5.1 An archive of all records and finds is to be prepared consistent with the principles of *Management of Archaeological Projects (MAP2)*, particularly Appendix 3. This must be deposited with the County Historic Environment Record within 3 months of the completion of work. It will then become publicly accessible.
- 5.2 Finds must be appropriately conserved and stored in accordance with *UK Institute of Conservators Guidelines*. The finds, as an indissoluble part of the site archive, should be deposited with the County HER if the landowner can be persuaded to agree to this. If this is not possible for all or any part of the finds archive, then provision must be made for additional recording (e.g. photography, illustration, analysis) as appropriate.
- 5.3 A report on the fieldwork and archive, consistent with the principles of *MAP2*, particularly Appendix 4, must be provided. The report must summarise the methodology employed, the stratigraphic sequence, and give a period by period description of the contexts recorded, and an inventory of finds. The objective account of the archaeological

evidence must be clearly distinguished from its interpretation. The Report must include a discussion and an assessment of the archaeological evidence, including palaeoenvironmental remains recovered from palaeosols and cut features. Its conclusions must include a clear statement of the archaeological value of the results, and their significance in the context of the Regional Research Framework (*East Anglian Archaeology*, Occasional Papers 3 & 8, 1997 and 2000).

- 5.4 A summary report, in the established format, suitable for inclusion in the annual 'Archaeology in Suffolk' section of the *Proceedings of the Suffolk Institute of Archaeology*, must be prepared and included in the project report.
- 5.5 County Historic Environment Record sheets must be completed, as per the county manual, for all sites where archaeological finds and/or features are located.
- 5.6 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.
- 5.7 All parts of the OASIS online form must be completed for submission to the SMR. This should include an uploaded .pdf version of the entire report (a paper copy should also be included with the archive).

Specification by: *Judith Plouviez, Archaeological Officer, Suffolk County Council*

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email: jude.plouviez@suffolk.gov.uk

Date: 9th Oct 2009 Reference: T:\Arc\DevelopmentControl\Mildenhall\RAF
Mildenhall\2009_Waste Water\Spec Mon (JP) Oct2009.doc

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.

**SUFFOLK COUNTY COUNCIL ARCHAEOLOGICAL SERVICE
Shire Hall Bury St Edmunds IP33 2AR 01284 352443**

Appendix 2. Context list

Feature cuts and components

Context number	Feature number	Category	Type	Plan shape	Alignment	Profile	Base	Filled by	Interpretation	Context above
0004	0004	Cut	Ditch	Linear	NW-SE	Gentle break of slope at surface. C.30° slightly concave sides. Gentle break of slope to base.	Slightly concave	0005 0006	Ditch cut.	0005
0007	0007	Cut	Ditch	Linear	NE-SW	Abrupt break of slope at surface. 70-80° uneven sides. Abrupt break of slope at base.	Almost flat	0008 0009	Ditch cut	0008
0010	0004		Ditch	Linear	NW-SE			0005 0006	Component number for NNW-SSE ditch. Only excavated in cut 0004, section 001. Another ditch with similar proportions and fill on the same alignment located to the north-east, but not excavated. Probably part of a system of drainage ditches. Cut by ditch 0011.	
0011	0007		Ditch	Linear	NE-SW	0008		0009	Component number for ditch only excavated in cut 0007, section 002. Cuts ditch 0010 in plan. Another parallel ditch of similar proportions and fill found to the north, but not excavated.	
0012			Ditch	Linear	NW-SE				Ditch component number. Not excavated as only partially exposed and thought to be same phase as 0010. Same upper fill as 0006.	
0013			Ditch	Linear	NE-SW				Ditch component number. Not excavated as thought to be same phase as 0011. Same upper fill as 0009 as well as same alignment and size.	

Finds and deposits

Context number	Feature number	Category	Type	Colour	Texture	Compaction	Inclusions	Width	Depth	Fill of	Horizon clarity	Interpretation	Context above
0001			Finds									Unstratified finds. None recovered.	
0002		Layer	Topsoil	Mid brown and dark grey patches	Silty-sand	Firm	Common small-medium stones, flints and chalk flints. Frequent brick rubble and other modern material.		c.0.55		Clear	Highly disturbed topsoil.	
0003		Layer	Topsoil	Mid-dark greyish-brown with occasional pale yellow patches	Silty-sand	Firm	Occasional small stones		C.0.25		Clear	Buried topsoil with slight root and animal disturbance.	0002
0005	0004	Fill	Ditch	Pale grey and pale yellow patches	Silty-sand	Friable	Occasional small stones	0.58	0.08	0004	Diffuse	Basal ditch fill, although may just be a disturbed area of 0006.	0006
0006	0004	Fill	Ditch	Dark grey	Silty-sand	Friable	Occasional small stones and Fe staining.	1.36	0.2	0004	Diffuse	Top surviving ditch fill.	
0008	0007	Fill	Ditch	Very pale grey & pale orange patches	Silty-sand	Friable	Occasional small stones	0.55	0.16	0007	Clear	Basal ditch fill. Either quite disturbed material, or a mixture of natural subsoil and topsoil that accumulated immediately after excavation of the feature.	0009
0009	0007	Fill	Ditch	Mid-dark brownish-grey	Silty-sand	Friable	Occasional small stones.	0.48	0.2	0007	Diffuse	Top surviving ditch fill.	