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ARCHAEOLOGICAL MONITORING REPORT

Planning Application No. E/98/2937/P

Ixworth Repeater Station, Mill Road, Pakenham
for
Bechtel Ltd.

PKM 024

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SCCAS Report no.99/11

Ixworth Repeater Station, Mill Road, Pakenham

Archaeological Monitoring

1. Summary

Archaeological monitoring of construction work south-east of Ixworth in Pakenham parish has revealed a probable 2nd century Roman ditch and two small pits beneath a Roman occupation soil. These features and deposits undoubtedly relate to the Roman small town centred to the immediate Southwest of the site. The monitoring has extended the confirmed area of Roman activity associated with the small town.

2. Introduction

Archaeological monitoring was carried out in respect of application E/98/2937/P during construction of a fibre optic cable repeater station by Bechtel Ltd. at TL 9328 6987, east of Nosredna, Mill Road, Pakenham. This construction lies within an area of known activity/occupation associated with a late first century Roman small town and a preceding triple-ditched fort located immediately to the Southwest, which is a Scheduled Ancient Monument. The site of the repeater station lies some 25m beyond the outer ditch of the fort. A large area to the south of Mill road was excavated in 1984/85 (site ref. PKM 005) which indicated major activity and occupation within the fort area. However, the level activity beyond the eastern margin of the fort ditches was considered to be low. The location of the construction work provided an opportunity to investigate the area immediately outside the ditches about which information was previously very limited.

The monitoring was commissioned by CgMs and funded by Bechtel Ltd. Data from this monitoring was recorded under the SMR code PKM 027 and the site archive deposited in the county SMR in Bury St Edmunds.

3. Methodology

Monitoring of the construction project consisted of 4 visits involving observation of topsoil stripping by a 5 tonne mini-digger using a toothless bucket, and trenching by JCB. An area of approximately 20m x 10m was stripped in two phases, allowing observation at intermediate and final surface levels. The stripped area was planned at 1:50 scale. A single trench measuring approx. 6m x 0.6m was excavated by hand at the western end of the stripped area in order to sample identified archaeological features. Two service trenches c. 0.6m deep x 2m long were also excavated by machine, extending southwards from the southern edge of the stripped area.

4. Results

Stripping of the building footprint revealed substantial modern disturbance over approx. 2/3 of the site. The disturbed area showed evidence of modern excavations back-filled with clay, brick rubble and pipework. The remaining undisturbed portion of the site showed an area of dark brown sandy loam (layer 0053) which produced 18 1st to 4th century Roman coins and Roman pottery, including fragments of locally produced fine ware (details in section 5). The hand excavated trench at the western end of the site sampled a darker area within this dark soil layer. This trench revealed the presence of a ditch approx. 3m wide and 1m deep, a shallow pit adjacent to the ditch, and small hollow which may represent the base of a posthole (Figure 2).

Ditch 0060

Ditch 0060 consisted of a broadly U-shaped cut orientated NE - SW, with a shoulder on the north-western side, and was filled by stratified deposits separated into three layers. The basal layer (0058) was composed of dark grey-brown, waterlogged organic-rich silt with a layer of flint cobbles at the base. The middle layer (0055) comprised a pale to dark grey quartz-rich sand with flint pebbles, becoming darker and waterlogged towards the base. This layer produced abundant finds of both pottery and animal bone. The uppermost fill (0054) consisted of green-brown sand with flint pebbles and rare flint cobbles. The colour of this fill appears to be related to probable reducing conditions within the underlying waterlogged layers. Finds within layer 054 were mainly of animal bone. This layer maybe contemporary with layer 0059 (see below). The pottery recovered from this ditch suggests that it was infilled during the 2nd century or later (see below).

Pit 0061

The true shape this feature was unclear as it was not fully exposed. However, it appeared to be roughly circular in plan and U-shape in cross section. The exposed portion showed a diameter of 1.2m and a depth of c. 0.40m. The infill consisted of two layers, a lower fill (0056) of pale grey sand with flints, and an upper fill (0059) of mid-brown silty sand. Finds from this pit were concentrated in the upper layer which maybe contemporary with 0054. Layer 0059 also overlies the fill of feature 0062.

Pit 0062

Pit 0062 formed a shallow (20cm) v-shaped depression approx. 40cm in diameter. A single fill (0057) of pale grey sand produced no finds and was overlain by layer 0059. This feature may represent the truncated base of posthole.

0063 service trench

One of two service trenches on the southern edge on the site exposed the top of a layer of dark brown sandy loam. This dark layer produced small quantities of Roman pottery and a 4th century coin. This deposit is almost certainly equivalent to the dark layer 0053, encountered in the NW corner of the site.

5. Finds

Land adjacent to Nosredna (Ixworth repeater station), Pakenham (PKM 027): the finds

Sue Anderson, January 1999.

Introduction

A summary of finds quantities from this excavation is presented in the table below. The full quantification is available in the appendix.

Find type	No.	Wt/kg
Pottery	95	1.392
Tile	7	0.464
Animal bone	85	1.515
Flint	3	0.067
Burnt flint/stone	2	0.018
Slag	3	0.091
Fired clay	6	0.172
Iron	1	0.010

Table 1: Finds quantities.

Roman Pottery by Cathy Tester

0053 Layer (27 sherds, 378g)

This extensive layer contains little close dating evidence. The Central Gaulish samian cup (Dr33) is Antonine but possibly residual. The Pakenham Colour coated beaker is 3rd century and the presence of Nar Valley reduced ware also suggests a broad 3rd century date in the absence of anything that is characteristically later.

0060 Ditch

Context 0054 top fill (8 sherds 76g)

The latest sherd in the top layer of this feature is a BB2 dish form (type 6.18) dated from the early/mid to late 2nd century. Other identified forms are a globular beaker (type 3.7) and a cordoned jar (type 5.1) both in GM fabric and dated from the late 1st to the early 2nd century.

Context 0055 intermediate fill (30 sherds, 464g)

This context produced a well-dated group of forms with a consistent late 1st to early 2nd century date. Included were a South Gaulish samian platter and dish form (Dr 15/17 and Dr 35) with Flavian dates; a globular beaker (type 3.7), a jar (type 4.1), and cordoned jars (type 5.1) all dating from the late 1st to the early 2nd century.

Context 0058 basal fill (1 sherd, 25g)

The basal fill contained a lid (type 8.1) which is not closely datable.

0061 Pit

Context 0059 upper fill (12 sherds, 296g)

The upper fill of this pit can be dated by a globular beaker (type 3.7) that belongs to the late 1st or early 2nd century, and a South Gaulish samian dish that is Flavian.

Context 0056 lower fill (2 sherds, 9g)

The lower fill of this feature contained a sherd from a late 1st to early 2nd globular beaker.

Tile and fired clay

Seven pieces of tile were collected. All were Roman, with the possible exception of one small fragment from 0063 which may be a post-medieval peg tile. The Roman material included one flanged tegula and one imbrex, both indicating a building with tiled roof.

Six pieces of daub were collected, all in a coarse chalky fabric and most with wattle impressions. This indicates the presence of a timber-framed structure in the vicinity, probably of Roman date.

Animal bone by Alexis Willett

A total of 83 animal bone fragments weighing 1526 grams was recovered from five contexts. The bone is slightly cracked and fragmentary and some articular surfaces have deteriorated thus identification is largely general rather than specific. The taxa evident are cow, large mammal (an animal the size of a cow, horse or large deer), sheep/goat and medium mammal (an animal the size of a sheep/goat, pig or small deer). Two fragments, weighing 4 grams, were unidentifiable.

0053 - layer (3 fragments, 18g)

This context yielded three medium mammal longbone shaft fragments.

0060 - ditch

Context 0054 top fill (22 fragments, 341g)

Six cow and nine large mammal fragments of skull and lower hind leg bones were retrieved. Cut marks are evident on the rib bone. Sheep/goat and medium mammal account for the rest of the fragments, again from the skull and longbones.

Context 0055 intermediate fill (44 fragments, 999g)

This context produced the largest amount of bone. All five categories of taxa are represented. 26 fragments, totalling 817 grams, of cow and large mammal and 16 fragments, weighing 178 grams, of sheep/goat and medium mammal were found. Of the larger animals, fragments of the skull, jaw, vertebrae, ribs and lower leg bones are evident whereas of the smaller animals it is the upper leg bones along with the skull, jaw, vertebrae and ribs that are seen. Cut marks are apparent on the medium mammal longbone shaft fragments and cow metapodials and gnaw marks are also apparent on a few of the other medium mammal and sheep/goat bones.

Context 0058 basal fill (5 fragments, 96g)

One cow tarsal and four medium mammal bones, one classed as unidentifiable, came from this context. The three remaining medium mammal bones are from the torso part of the skeleton. Cut marks are evident on the cow tarsal.

0061 - pit

Context 0059 upper fill (9 fragments, 72g)

Seven cow fragments, six of which are horn, and two medium mammal fragments, one tibia and one scapula, constitute this assemblage.

The majority of the animal bone appears to be food waste. Although only a few cut marks can be seen, probably due to the deterioration of the bone surfaces, the skeletal elements present in the overall assemblage suggest butchery and meat selection. No great differences can be seen between the various features in the taxa or elements present, only that ditch 0060 has the largest quantity.

Flint

Two worked flint cores (0051) and one small flake (0055) were residual in Roman contexts.

Burnt flint

Two fragments of burnt flint were collected from 0053 and 0059.

Slag

Three pieces of metalworking slag, probably from iron smithing, were found in 0051.

Metalwork by Jude Plouviez

Eighteen Roman coins were found, all but one of which were from the dark layer 0053/0063. These were identified as follows:

- 1001 (0053) Ae, dup., obv. IM]PCAES DOMIT AVG GERM, rev. ?adv. l. V. worn. Domitian, 81-96 AD.
- 1002 (0053) Ae, ant., obv. illeg. radiate (youthful), rev. stg. l. Worn, corroded. 3rd c.
- 1003 (0053) Ae, Ae3, obv. Valens, rev. Securitas Reipublicae, mintmark ?TRP?. Worn. 364-78 AD.
- 1004 (0053) Ae, Ae4, obv. DN MAG... Magnus Maximus, rev. Spes Romanorum two-tower gateway. Worn, corroded. 383-88 AD.
- 1005 (0053) Ae, Ae3, obv. CII IVNNOBC, rev. Gloria Exercitus 1. Worn. 335-37 AD.
- 1006 (0053) Ae, Ae3, obv. Valens, rev. Securitas [Reipublicae, mintmark OF/I/CONST. Worn, damaged. 364-78 AD.
- 1007 (0053) Ae, Ae3/4, obv. DN THEODOSIVS P, rev. [Victori]AAVG... Victory l. V. worn. 379-95 AD.
- 1008 (0053) Ae, Ae3-4?, obv. illeg., prob. laureate sun (11mm diam. fragment), rev. prob. top of fallen horseman type. V. worn, ?cut down. ?348-60 AD.
- 1009 (0053) Ae, Ae3, obv. illeg. Theodora, rev. Pictas] ROMANA. V. worn, corroded. 337-41 AD.
- 1011 (0053) Ae, Ae3, obv. Valens, rev. Gloria Romanorum. V. worn. 364-78 AD.
- 1012 (0053) Ae, Ae3, obv. Const. I, rev. Gloria Exercitus 2, mintmark □/PCON-. Worn. 330-35 AD.
- 1013 (0053) Ae, Ae3?, obv. illeg. (broken frag.), rev. two Victories, mintmark D/TRP. V. worn. 343-48 AD.
- 1014 (0053) Ae, min?, obv. illeg. (fragment, surviving diameter 9mm), rev. falling horseman. Worn, broken. 348-60 AD.
- 1015 (0053) Ae, Ae3, obv. Valentinian, rev. SECVRITAS REIPVBLICAE, mintmark OF/I. V. worn. 364-378 AD.
- 1017 (0053) Ae, ant., obv. radiate (fragment), rev. illeg. Worn, damaged. 3rd c.
- 1018 (0053) Ae, as, obv./AVGVSTVS Hadrian, rev. stg. fig. V. corroded. 117-138 AD.

1020 (0063) Ae, min?, obv. illeg. ?laureate (?cut down to 8mm diam.), rev. unclear, poss. fallen horseman. Worn. ?348-60 AD.

1021 (0051) Ae, Ae3, obv. Valentinian I, rev. GLORIA ROMANORVM, mintmark S... V. worn, damaged. 364-78 AD.

Other finds from 0053 included a folded and worn 17th century farthing (1010) and a corroded possible medieval or post-medieval coin weight (1016). There was also one small fragment of an unidentified iron object with a square section, possibly a nail (0055).

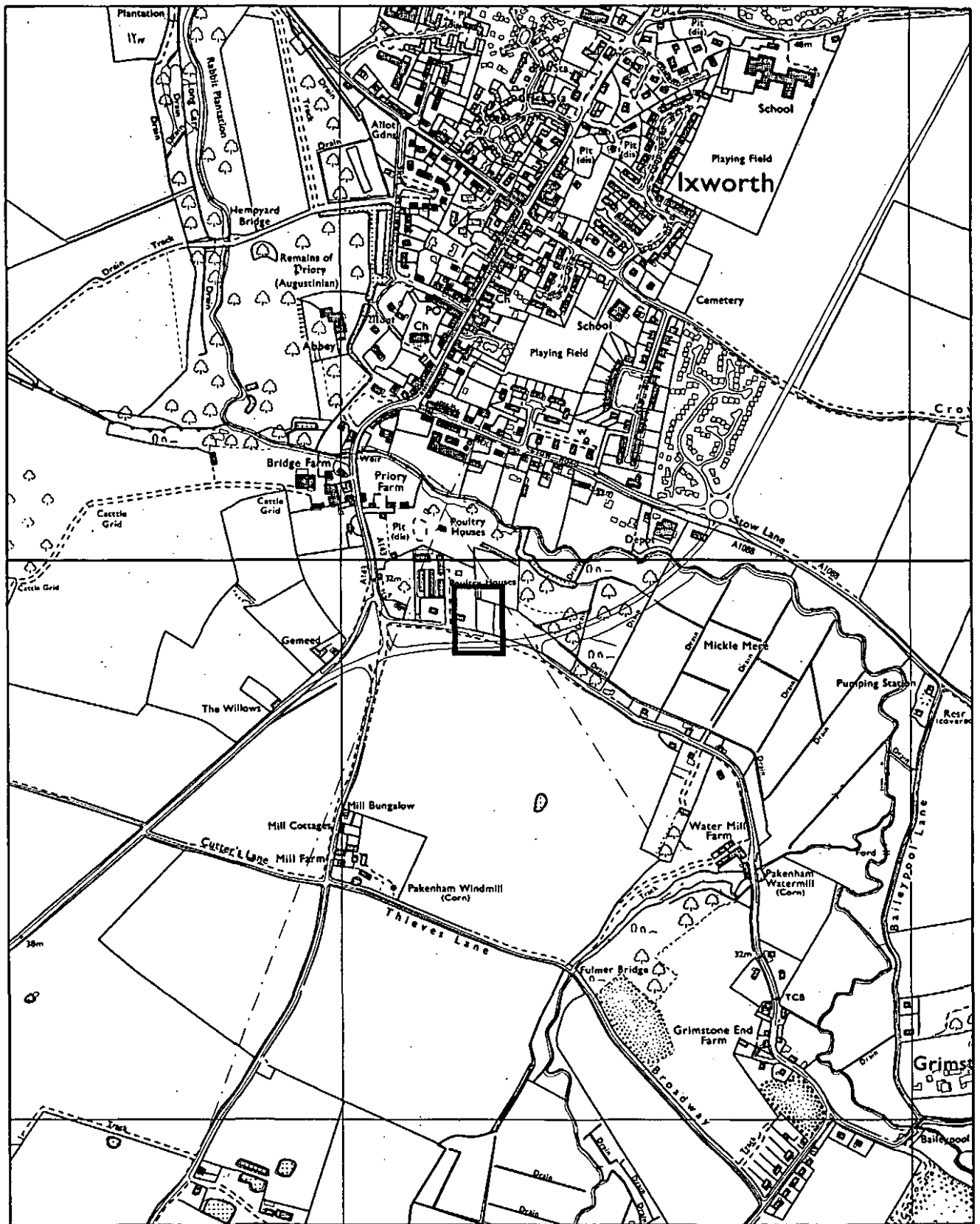
Finds Discussion

The quantity and type of material culture excavated from this small watching brief is not unexpected for a known Roman site of this nature. There is a spread of datable finds from the earliest to the latest phase of occupation, and a final abandonment is suggested by the presence of late 4th century coins in the 'dark earth' layer 0053. Pottery is all domestic in nature and typical of the larger excavated area to the south. The only evidence for industrial use was in the form of three slag fragments in an unstratified layer. These are not certainly Roman, but very little later material occurred on the site.

6. Conclusions

Given the limited extent of the work only broad conclusions can be drawn. However, the presence of Roman deposits and features indicates that settlement activity extended into this area north of the A143. The occurrence of the layer of dark earth (0053) within the area of this site is also notable, as this almost certainly correlates with a similar deposit found during excavations of PKM 005.

S. Davison March 1999



TITLE Ixworth Repeater Station. Site Location



Suffolk County Council
Environment and Transport

P. J. Thompson, MSc. CEng FICE
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Scale 1:10000



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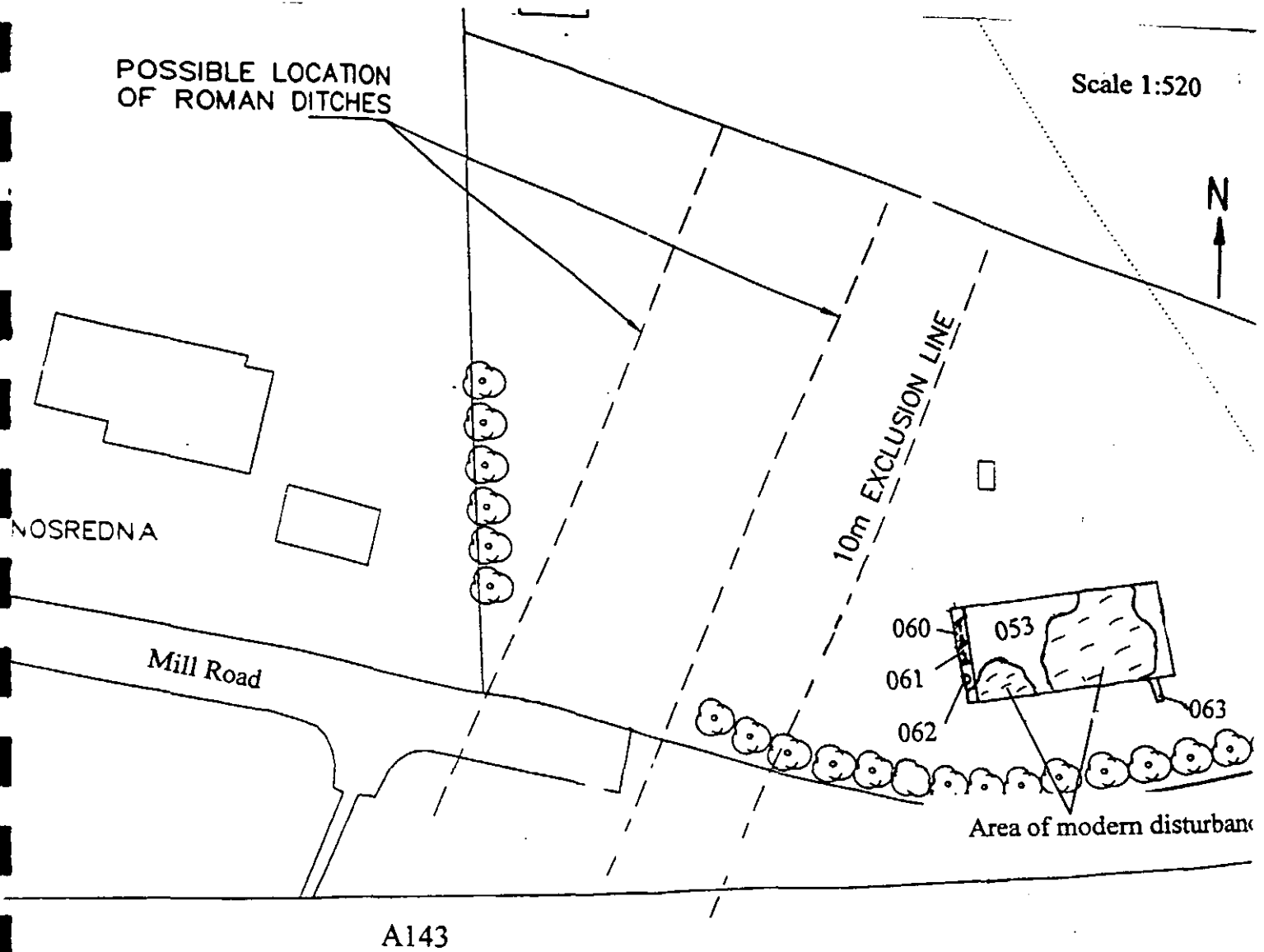
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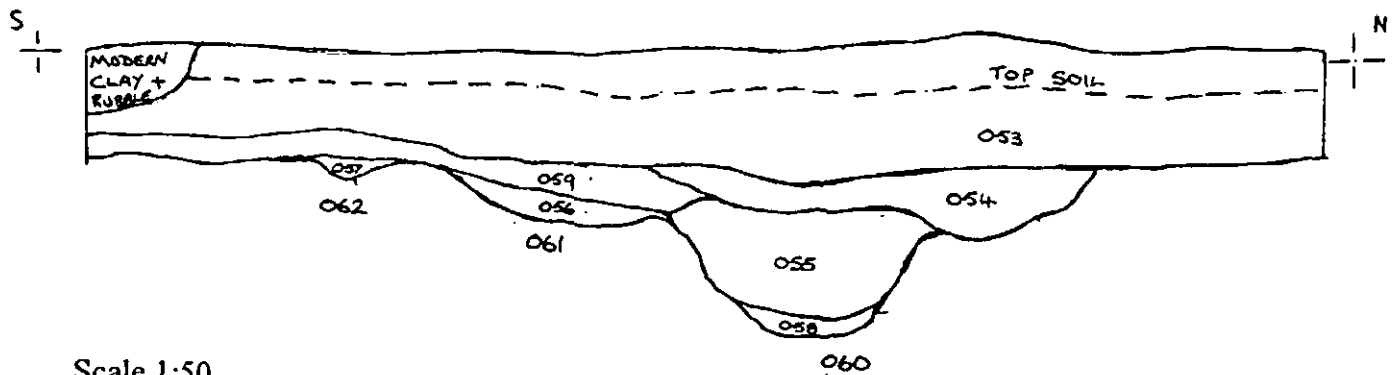
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Fig. 1

Location of Archaeological Features



Cross Section of Archaeological Features



Scale 1:50

Fig. 2

Appendix 1

Pakenham Repeater Station Context list PKM 027

No.		Description
0051	unstrat. finds	unstratified finds
0052	surface finds	finds from stripped surface
0053	Layer	Layer of dark brown sandy loam
0054	Upper fill of ditch 0060	Green-brown sand with flints
0055	Middle fill of ditch 0060	Grey sand with flints
0056	Lower fill of pit 0061	Pale grey sand
0057	Fill of pit 0062	Pale grey sand
0058	Basal fill of ditch 0060	Dark grey-brown peaty silt with flints
0059	Layer	Mid-brown silty sand with flint pebbles
0060	Ditch	U-shape ditch, NE-SW orientation
0061	Pit	Shallow sub-circular pit
0062	Pit	Shallow small pit or posthole base.
0063	Layer	dark brown sandy loam deposit at base of service trench

Appendix 2

SUFFOLK COUNTY COUNCIL

ARCHAEOLOGICAL SERVICE - CONSERVATION TEAM

Brief and Specification for Archaeological Monitoring of Development

EAST OF NOSREDNA, MILL ROAD PAKENHAM

1. Background

- 1.1 Following an application (E/98/2937/P) to install a repeater station and access in the western half of a field east of Nosredna, Mill Road, Pakenham, it has been agreed that a location to the east of the application area would be more appropriate as it would avoid potentially well preserved features of national importance. SCCAS has advised that in this new location archaeological monitoring of all groundworks will be necessary.
- 1.2 The repeater station location is at TL 9328 6987. This is within the Roman small town area, which developed in the later first century; this was preceded by a triple ditched post-Boudican fort, the north-east corner of which lies in the western half of this field. The outer line of the defences was re-used in the later Roman period. The site is of high significance and the area to the south of Mill Road is a Scheduled Ancient Monument. Excavations in 1984-1985 relating to the construction of the A134 Ixworth bypass showed that activity outside the eastern edge of the fort was relatively low, particularly as the land drops down into Mickle Mere. However, all features affected by the development should be recorded as an integral part of the archive for this area of the settlement. Related works (i.e. access road) in the western half of the field should not disturb the ground below 300mm in order to protect deposits related to the fort defences; one cable trench may cut deeper through this area.

2. Brief for Archaeological Monitoring

- 2.1 To provide a record of archaeological deposits which are damaged or removed by any groundworks relating to the forthcoming planning application.
- 2.2 The main academic objective will centre upon the potential of this development to produce evidence related to Roman activity in this area.
- 2.3 All groundworks in this field should be archaeologically monitored. Significant damage to deposits is only likely in the area of the repeater station platform (c.18.5m by 9m) where soil stripping should take place using a toothless bucket machine under archaeological supervision. Time should be allowed for recording in plan any archaeological features exposed during this process.

3. Arrangements for Monitoring

- 3.1 To carry out the monitoring work the developer will appoint an archaeologist (the observing archaeologist) who must be approved by the Planning Authority's archaeological adviser (the Suffolk County Council Archaeological Service).
- 3.2 The developer or his archaeologist will give the Suffolk County Archaeological Service (Suffolk County Council, Shire Hall, Bury St Edmunds IP33 2AR. Telephone/Fax: 01284 352443) at least 48 hours notice of the commencement of ground works on the site, in order that examination of both the ground-works and the archaeological works by the Archaeological Conservation Team can be arranged.
- 3.3 Allowance should 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 timetable.

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 should 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 The 'observing archaeologist' will not be entitled to enforce specific delays and hold ups to the work of the building contractor. If delays prove desirable to the archaeological recording process they should be arranged by mutual agreement with the contractor; the developer's consultant archaeologist may be approached as an arbitrator.
- 4.4 All archaeological features exposed should be planned at a scale of 1:50 on a plan showing the proposed layout of the development.
- 4.5 All contexts should be numbered and finds recorded by context as far as possible.
- 4.6 The data recording methods and conventions used must be consistent with, and approved by, the County Sites and Monuments Record.

5. Report Requirements

- 5.1 An archive of all archaeological records and finds is to be prepared and be deposited with the County Sites and Monuments Record within 12 months of the completion of work. It will then become publicly accessible.
- 5.2 Finds should 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 SMR 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 project report should also be prepared summarising the methodology employed, the stratigraphic sequence, a period by period description of contexts recorded, and an inventory of finds. The objective account of the archaeological evidence must be clearly distinguished from its interpretation.
- 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*, should be prepared and included in the project report.
- 5.5 County Sites and Monuments Record sheets should be completed, as per the county SMR manual, for all sites where archaeological finds and/or features are located.

Specification by: J Plouviez

Suffolk County Council
Archaeological Service Conservation Team
Environment and Transport Department
Shire Hall
Bury St Edmunds
Suffolk IP33 2AR

Date: 18 December 1998

Reference: /nosred12.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.