New Museum Store
West Stow Country Park
WSW 076

Post-Excavation Assessment Report

SCCAS Report No. 2010/184

Client:St Edmundsbury Borough Council

Authors:David Gill and Ian Riddler

October 2012

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HER Information

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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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Date:	
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Summary

This report is an assessment of the evidence gathered from the archaeological excavations completed in advance of the construction of St Edmundsbury Borough Council's new Museum Store at West Stow Country Park. The site lies to the east of the reconstructed Anglo-Saxon village, which is situated on the site of a nationally important Early Anglo-Saxon settlement excavated between 1965 and 1972. The report provides a summary of the results and considers the significance of the site data, its potential for analysis and the scope to answer specific research questions. It makes recommendations for further work and the ultimate dissemination of the results.

An area of 650sqm was investigated by open area excavation in December 2007 and January 2008; in addition all interventions during the construction of the building that fell outside the limits of the excavation were archaeologically monitored.

The main occupation on the site dates to the Early Anglo-Saxon period, although worked flints and undated pale sand filled features may date as early as the Neolithic period. Roman finds recovered from later or unstratified contexts were probably reused by the Anglo-Saxon population.

Evidence of six Anglo-Saxon buildings was found; five of these were sunken featured buildings (SFB's), based upon a large rectangular sunken feature dug into the ground, and one was constructed around closely-spaced earth-fast posts. The largest of the SFB pits measured 5.4m x 3.5m and was in excess of 0.7m deep. Postholes for the timber superstructure that would have supported the building and roof were found at the base of the pits. Three variations of ground plan were found with six, two and no post forms.

Once the buildings had been abandoned and demolished the pits were backfilled with domestic rubbish. Evidence of windblown/eroded sands between the basal fills and final rubbish deposits suggests a hiatus before the final fills were deposited. Finds from all these deposits (sheep, pig and cattle bones, over 500 sherds of pottery, bone combs, spindle whorls, loom weights and pin beaters) reflect the domestic and craft activities of daily life and burnt daub, the structure of the huts themselves.

The close proximity of some of the buildings to each other suggests that the buildings were not contemporary and the provisional dating of the small finds and pottery suggests a date range from the mid-late 6th century for the occupation of this part of the site.

The existence of the Early Anglo-Saxon buildings attests to a sequence of settlement east of the suggested limits of the original settlement, WSW 002, which, along with evidence of other groups of buildings west of the main site, suggest small settlements in the Early Anglo-Saxon period all along this part of the Lark Valley. The excavation and publication of the WSW002 settlement is still one of the most important studies of this period and the opportunity to examine another settlement area so close to the original buildings is highly significant, particularly because some of the new evidence challenges the assumptions of that original report. The finds assemblage is largely from well stratified contexts and the potential for spatial analysis and the refinement of the dating may provide evidence for patterns of use and disposal that can be compared with WSW 002. Environmental analysis has advanced considerably in the twenty seven years since West Stow was published, in particular the development of soil micromorphological techniques. Such analysis offers the opportunity to examine how the deposits within and beyond the buildings have accumulated, with the potential to provide information about the use and abandonment of this settlement, and which may provide the basis for re-examination of the original evidence in the future.

The importance of the original excavations to the development of Early Anglo-Saxon settlement archaeology makes it necessary to present this new evidence to the wider Anglo-Saxon specialist network via an appropriate national publication. It is therefore recommended that the evidence from the site is published as a paper in Medieval Archaeology, with a summary of the results in the Proceedings of the Suffolk Institute of Archaeology and History, to ensure that those locals to whom the West Stow site continues to be of interest are also informed of the new evidence. This post-excavation assessment should be made available through the OASIS archaeological database as a ‘grey literature’ report. Ideally a selection of finds and information from the excavation should be displayed in the new building.

1. Introduction

1.1 Site location

Archaeological excavation was undertaken in advance of the development of St Edmundsbury Borough Council's new museum store alongside the Visitor Centre at West Stow Country Park. The site lies at TL 7994 7140 (Fig. 1) just below the 20m contour on the floor of the Lark Valley on the north side of the river. The Lark Valley is a focus for multi-period settlement along much of its length and the site lies within an area of 'high archaeological importance' as recorded in the County's Historic Environment Record (HER). The site lies c.100m east of the nationally important Anglo-Saxon settlement site WSW 002 uncovered during excavations in the 1960's and 70's (West 1985).

1.2 The scope of the project

This report was commissioned by St Edmundsbury Borough Council and produced by Suffolk County Council Archaeological Service (SCCAS). It has been prepared in accordance with the relevant Brief and Specification documents (Carr, 2007, Appendix 1) and is consistent with the principles of Management of Research Projects in the Historic Environment (MORPHE), notably Project Planning Note 3 Archaeological Excavations (English Heritage, 2008). The principal aims of the project are as follows:

- Summarise the results of the archaeological fieldwork
- Quantify the site archive and review the post-excavation work that has been undertaken to date
- Assess the potential of the site archive to answer research aims defined in the Brief and Specification documents
- Assess the potential of the site archive to answer new research aims defined in this report
- Assess the significance of the data in relation to the relevant Regional Research Framework (Brown & Glazebrook, 1997; Glazebrook, 2000)
- Make recommendations for further analysis and publication of the results of the fieldwork

Figure 1. Site location plan including location of sites from Suffolk HER

1.3 Circumstances and dates of fieldwork

An archaeological investigation of the site was a condition of the consent on planning application SE/07/0481 to construct a museum store. An evaluation by trial trench was conducted during October 2007 (Gill, 2007) over the northern part of the site. This demonstrated that the archaeological levels were intact across the site and the potential existed for archaeological deposits to be present. As a result of this work a requirement was made for an open-area excavation of the entire development footprint; initially an area of c.320m^2. However once work was underway it was apparent that an additional area to the south of the evaluated part would also require excavation to allow development of an access road and associated hard-standing. Eventually a total area of 650m^2 was opened up. The excavation was completed by members of the SCCAS Field Team during December 2007 and January 2008. The excavation of service trenches which ran out side the area excavated (Fig. 2) was subject to archaeological monitoring during the period from January to June 2008. All work was completed in accordance with the Brief and Specification (Appendix 1) set by R.D.Carr of Suffolk County Council Archaeological Service (SCCAS), Conservation Team.

1.4 Fieldwork methodology

In all phases of fieldwork, mechanical excavators were used to remove topsoil. At the north end of the site this revealed the vestiges of a buried topsoil. This did not extend to the south side of the site which was machined to the top of the surface geology, at which level the archaeological features were identified.

The features were excavated and recorded in accordance with the SCCAS Manual (SCCAS, 2002) and the Standards for Field Archaeology in the East of England (Gurney, 2003). Buildings and structural features were 100% excavated, and the pits of the Sunken Featured Buildings (SFB) were carefully excavated in quadrants and sections maintained until all quadrants were excavated. The fills of one quadrant of buildings 0023, 1078 and 0179 were sieved using a 5mm mesh for finds recovery comparisons.

An exception to this was a single probable SFB Building 0317 which was bisected by the south edge of site and was only partly uncovered by the excavation. It was possible to protect it from any adverse impact of development and exposing the building further

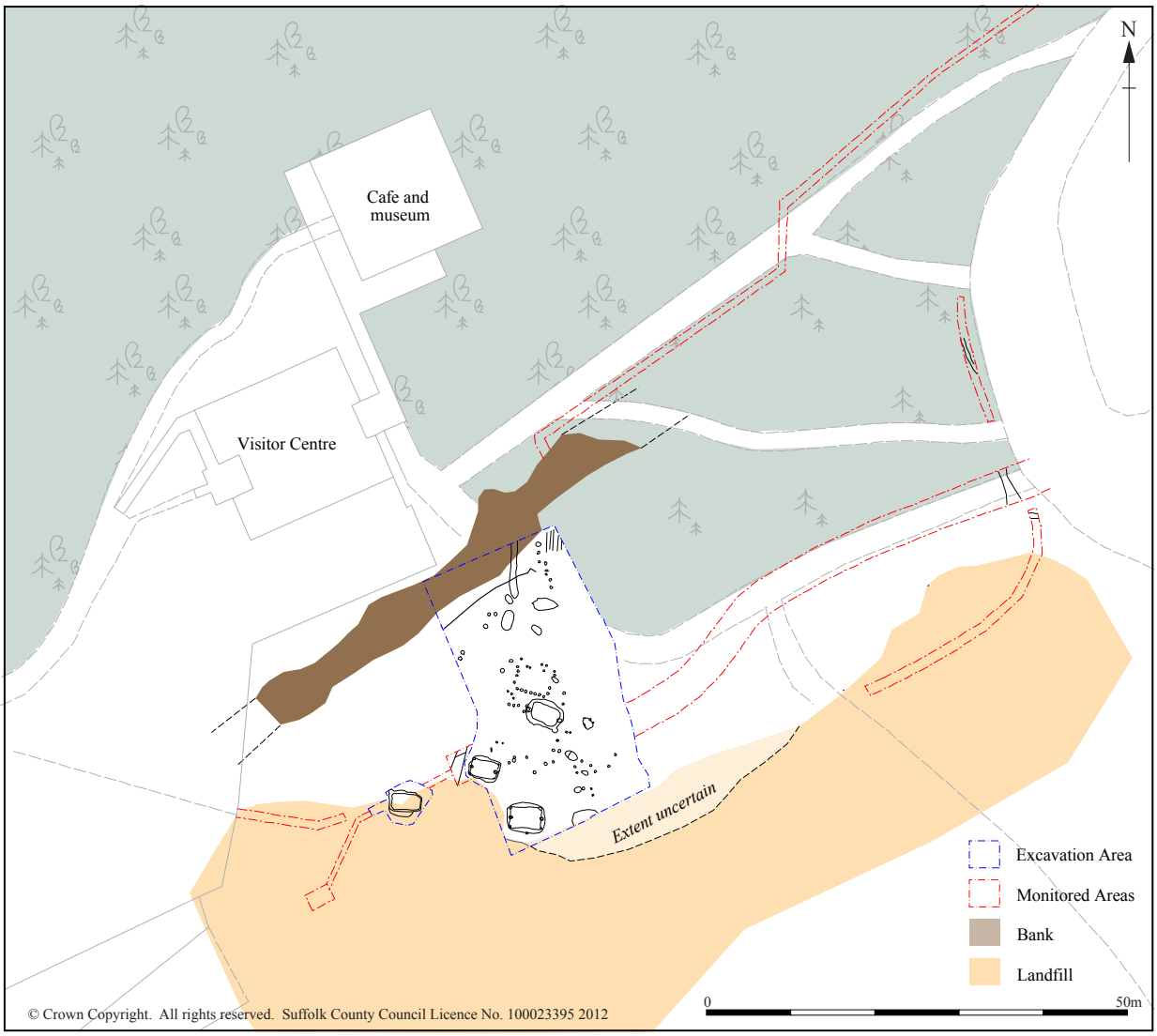

Figure 2. Location of excavated and monitored areas

would both encroach on the neighbouring field and risk initiating a chase for archaeology, therefore, in consultation with SCCAS Conservation Team staff, the decision was made to plot the building, cover it with a membrane and rebury.

Features were recorded digitally by Total Station Theodolite (TST), and by hand drawn plans at a scale of 1:20 and in section at 1:10 or 1:20, as appropriate. Survey stations were recorded by GPS in order to tie the survey data into the Ordnance Survey grid and datum.

Written descriptions of archaeological features and deposits were made on *pro-forma* context sheets and a photographic record was made consisting of high-resolution digital images and monochrome prints. Bulk soil samples (20 litres) for environmental analysis were routinely taken from the SFB pit fills. Column samples for soil micromorphology were taken from both the fills of the SFB pits and the soil profile through a buried occupation horizon beyond the buildings. The sampling strategy was informed by on-site consultation with a soil specialist.

Metal detectors were used extensively throughout all stages of the excavation. All pre-modern finds were kept.

The paper archive for the site is currently located in the Bury St Edmunds office of SCCAS. The finds are stored at the same location on Finds Store shelves I/92/2-I/94/2 and in the Small finds store. The total number of finds boxes is shown below:

Material	No of boxes	Details
Animal bone	14	
Pottery	1	
Burnt flint	1	
CBM/Stone	1	
Fired clay, slag, misc bulk	1	
Small finds	4	1 large Stewart box, 2 medium, 1 small
Plant macro flots	1	
Total	23	

Table 1. Breakdown of finds archive

Following analysis, the whole archive (stratigraphic, finds and environmental) will be curated at the SCC Store in Bury St Edmunds, or at the West Stow Museum.

2 Geological, topographic and archaeological background

2.1 Geology, topography and recent land use

The superficial geology at West Stow is sand and gravel, which overlies chalk bedrock. The site lies on the north side of the River Lark valley on the south edge of the Breckland Environmentally Sensitive Area, in a landscape described in the Suffolk Landscape Character Assessment as rolling estate sandlands (http://www.suffolklandscape.org.uk/landscape_map.aspx). The site is located on level ground at c. 19.5m OD, the ground drops into a hollow to the west of the site before rising again to the WSW 002 settlement area.

The first edition Ordnance Survey 1884 shows the site as part of West Stow Heath. The site was purchased by St Edmundsbury Borough Council in 1886 to construct a sewage farm and the 2nd edition map printed 1904 shows the area bordering the south edge of the excavation as large settling beds, with the area of excavation within a cultivated field. The sewage works was re-sited in 1962 and the settling beds were used for landfill until the mid-1970's. The edge of the landfill could be seen at the south and west edges of the excavation area (Fig. 2).

At the start of the project the site was part covered by a copse of mature mixed trees and part under grassland. Within the trees there was a low earth bank which ran NE-SW along the north edge of the site (Fig. 2).

2.2 Archaeology

The site lies in an area of high archaeological importance, as defined in the County Historic Environment Record (HER). The known sites within the immediate vicinity of the excavation are shown in Figure 1 and the HER summary in Table 2.

Site code	Period	Summary description
WSW 001	Sax	Mislocation of Anglo Saxon cemetery WSW 003.
WSW 002	Mes-Rom	Multi-period site, with evidence from Mesolithic flint industry, Neolithic ring ditch with central inhumation and 47 cremations, Bronze Age finds, Iron Age settlement and Roman pottery industry.
WSW 002	Sax	Anglo-Saxon settlement, dating from circa AD 380 to circa AD 650.
WSW 003	BA	1968: Thumbnail scraper, found in garden.
WSW 003	Sax	Inhumation cemetery.
WSW 018	Neo	1968: A finely worked leaf shaped arrowhead and tranchet derivative arrowheads, all found on ground disturbed by motor-cycle scramble track.
WSW 022	Neo	Fifty arrowheads, transverse and lopsided types, one leaf shaped.

WSW 024	Sax	`A small plain blue glass bead found amount a surface scatter of fragmentary sherd scatter.
WSW 025	Sax	Decorated antler knife handle, found near cemetery WSW 003 (S1)(R1).
WSW 027	BA	Layer burnt flint and charcoal.
WSW 030	Neo	Pottery:- 3 grooved ware sherds (ornamented in the Woodlands style).
WSW 030	Sax	Settlement Site.
WSW 031	Mes	Flint tranchet axe.
WSW 032	Neo	Flint flaked axe (fragment of).
WSW 003	Sax	Anglo Saxon inhumation cemetery, found in 1849 by men raising ballast.
WSW 040	Rom	Dark soil layer beneath blown sand observed in small pipe trench
WSW 044	Un	Excavation on site of extension to West Stow Visitor Centre.

Table 2. HER summary

The site lies within 100m of the excavation area of a nationally important Anglo-Saxon settlement site dug between 1965 and 1972 (WSW 002) which recorded sixty-seven Sunken Featured Buildings, seven post-built Halls, eighty-seven pits and over two thousand postholes lying on a low knoll of sand covering about 4.5ha (West 1985). The publication resulting from this work is still a key reference text for Early Anglo-Saxon settlement archaeology in England.

Two further buildings were found in 1977 (recorded under the WSW 002 site code) to the east of the knoll between the main settlement and the current excavation. These had survived levelling for the construction of sewage filter beds, but the presence of a hearth (not within an SFB) within the same area demonstrates that the ancient ground surface survived in tact and that the reduction in building density was probably genuine.

SFB's, pits and ditches were subsequently excavated at WSW 030, west of the main site demonstrating that the spread of settlement was extensive, although not necessarily continuous. Excavation in advance of an extension to the visitor centre in 1997 (WSW 044) found no Anglo-Saxon features (although some prehistoric ditches), and evaluation on the proposed site of the new Museum building in the northern half of this current excavation also found only prehistoric features.

A 5th-7th century Anglo-Saxon cemetery was discovered 100m to the north of the northern part of the settlement zone (WSW 003) during the 19th century by workman raising ballast and it is reported (Suffolk HER) that about 100 burials were found. The evidence so far suggests a gap in settlement activity between the cemetery and WSW 002.

3 Original research aims

The original research aims of the project were defined in the Brief and Specification for the archaeological evaluation (Carr, 2007). The research aims were as follows:

- To provide a record of all archaeological deposits which would otherwise be damaged or removed by development, including services and landscaping
- To place the site into a context with relation to the prehistoric, Roman and early Anglo Saxon occupation of the area.
- To address regional research topics concerning
    - the characterisation of Anglo-Saxon settlement forms and functions (in particular the evidence from this settlement area against that of WSW 002, the main settlement).
    - the early Anglo-Saxon economy, agriculture and craft production.
- To prepare an archive of the excavation results, including an assessment of the potential for analysis and possible publication

4 Site sequence: results of the fieldwork

4.1 Introduction

The following is a chronological summary of the results of the fieldwork and a description of the key features from each phase. A plan of the site is shown in Figure 3 and the full context list included as Appendix 2.

4.2 Late Neolithic 2600-1800BC

An assemblage of struck flint was the earliest evidence of activity on the site, but this represents largely residual material collected from later features. Datable material included an oblique arrowhead of late Neolithic date.

Pit 0038 produced a concentration of flint working debitage including refitting flakes; this is a primary deposit and the feature is therefore likely to date to this period. The bottom of pit was filled with charcoal and it was surrounded by postholes suggesting that the pit was the focus of an encircling structure. Intercutting pits 0122 and 0129 also produced only flint flakes but were otherwise undated.

There was a group of pale sand-filled features, including pits 0068, 0099 and ditch 0061 at the northern end of the site; these were not dated, but are phased from spatial relationships and fill characteristics. Ditch 0061 was sealed by a dark soil horizon believed to be the ploughed out remains of the Anglo Saxon occupation soil, 0022 and had been severely truncated and survived only as a shallow and insubstantial feature. Its alignment did not correspond with the general orientation of the later features and buildings which suggests that it not part of the Early Saxon settlement. Ditch 0330 recorded during the monitoring phase lay on the same alignment as ditch 0061 and may have been a continuation of it.

4.3 Roman 43-410AD

Roman finds including pottery, coins and dress accessories were found but all of the material was recovered from later or unstratified contexts. No features dating to the Roman period were recorded on the site and the finds were thought to have been either curated, or re-worked for reuse, by the Anglo-Saxon population.

4.4 Early Anglo-Saxon 410–650AD

Evidence of six Anglo-Saxon structures was found; four of which, 0023, 0178, 0179, 0318, (Fig. 3) were Sunken Featured Buildings (SFBs), each based around a large rectangular pit dug into the ground, whilst a fifth probable SFB remained unexcavated. There was a single wall-post building, 0357, constructed from closely-spaced earth fast posts. Apart from a slight variation in orientation, the buildings were all aligned NE-SW, consistent with the layout of the buildings recorded in the WSW 002 settlement (West 1985).

The proximity of the buildings to each other suggests that they were unlikely to have all been standing at the same time, but the clustering of these buildings to the south of a possibly associated hall follows a pattern of distribution exhibited on the WSW 002 settlement. The concentration of buildings over the southern half of the site and the complete absence of any in the northern half is consistent with evidence from evidence obtained in advance of the extension to the visitor centre (West 1997) and suggests that these buildings represent the northern edge of the settlement spread. The provisional dating of the finds and pottery suggests a mid to late 6th century date for the occupation of this part of the site. A relatively large assemblage of pottery (534 sherds from four SFB's) was recovered for the size for the site (for example, in contrast, to EYE 083

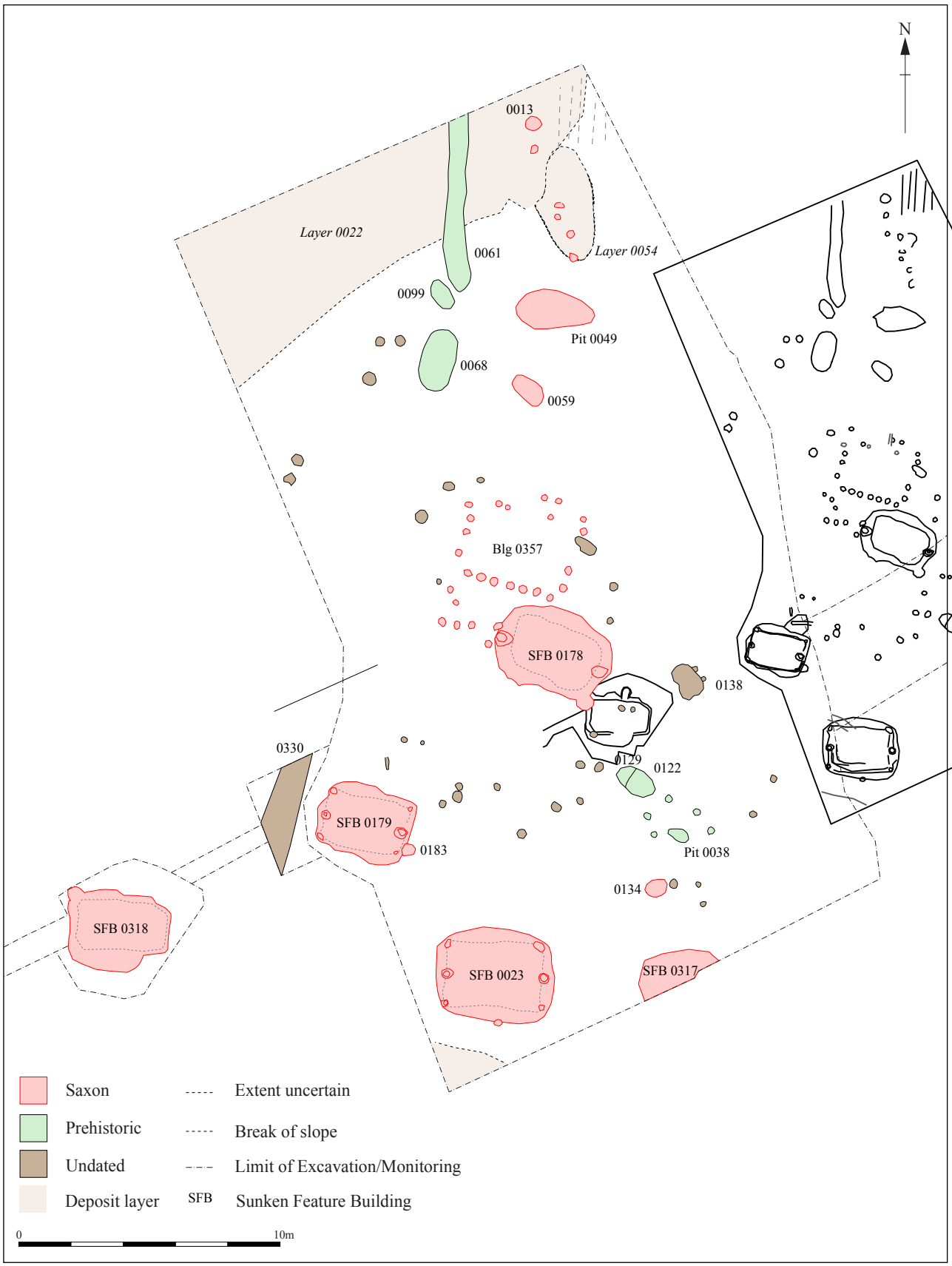

Figure 3. Phased site plan

(Caruth and Goffin, 2012), where approximately 1800 sherds were recovered from eighteen sunken featured buildings) which may be as a result of the sunken features being significantly deeper than often found on other sites (0.6-0.85m as opposed to 0.12m to 0.32m at EYE 083). This greater depth also produced more detailed evidence of the infilling process and the time span in which it took place.

4.4.1 'SFB' type Buildings

Three variations, according to West's classification (West 1985), of this type of building were found representing six, two and no post ground plans. All of the associated postholes were identified at the base of the pits, from where they were deeply cut, with no structural evidence of postholes visible within the pit fills.

Building 0023

The largest of the sunken features was 0023; the pit measured 5.4m x 3.5m and was in excess of 0.7m deep. It was a classic six posthole SFB with the principle posts at the mid-point of the short side (the central axis) being both deeper set and of a larger diameter than those in the four corners; which were raked towards the centre line of the building (Pl. 1). There was no clear indication of timbers or timber stains within the postholes but also no evidence to suggest that posts had been pulled or dug out. The upper part of the pit cut was sloped but the lower part of the sides was vertical with a right angle corner to the broadly flat base. The postholes were set tight against the sides and all were between 0.2 and 0.35 m in diameter and between 1.2 and 1.3m apart. All were between 0.55 and 0.7m deeper than the base of the pit, except 0162, in the NE corner which was c.0.3m deeper. A line of stakes was found along the pit edge, particularly on the south and east sides suggesting that the pit may have been lined.

Three periods of infilling were identified with banded mottled sands (0350) at the base of the pit, up to c.0.1m thick, underlying an up to 0.5m thick deposit of banded yellow and grey sands which is almost certainly a natural accumulation (0349), either eroded or windblown. The final fill was a deposit of domestic rubbish (0348); a dump of dark charcoal rich occupation soil from which the largest group of finds was recovered. There was evidence of *in situ* burning in this upper fill and a deposit of charcoal. The interface between the upper two layers is irregular, but often sharp, despite evidence of extensive animal disturbance.

Examination of the finds distribution (Table 3) shows that the majority of finds were recovered from the upper fills, and that relatively little was recovered from the naturally infilled layers. Interestingly quite a high proportion of finds was also recovered from the thinner base layer, and all but one of the small finds, (which are predominantly bone comb fragments and textile working implements) was also recovered from this layer. The provisional dating of the small finds suggest a date of AD525-600 for the infilling of the pit which probably suggests a 6th century date for its use.

Context	Description	Pottery No	Animal bone Wt in kg	W flint No
0348	Group no for the top fill of SFB 0023. The layers grouped together under this number are all part of the final backfilling of the pit and post date the abandonment of the building. The number were issued to collect finds from excavated quadrants and a number of barely distinguishable layers which all represent the same backfilling event. Recorded under context nos. 0057. 0058, 0072, 0073, 0097, 0098, 0107, 0131, 0135 and 0137	64	18.854	16
0349	Group no for the sand layers at mid depth of SFB 0023. These were interpreted as representing possibly natural infilling of the pit and a hiatus period between the primary and final backfill. Recorded under context nos. 0144, 0145, 0146 and 0149.	14	1.933	4
0350	Group no for layers associated with the primary infilling of SFB 0023. Recorded under layers 0134, 0147, -148, 0151, 0152, 0157 and 0160.	55	6.698	17

Table 3. Finds from SFB 0023

Ten bulk soil samples taken from fills throughout the pit were assessed for macrofossils, six (0057, 0058, 0072, 0073, 0136 and 0137) were from the top fill 0348, one (0149) from the windblown layers and four (0147, 0148, 0151, 0157) from the basal fill. Initial assessment does not show a significant difference in the contents of the fills, although the basal fill appears to contain material derived from domestic hearth debris, whilst the others are assumed to be the result of scattered and windblown refuse. Column samples for soil micomorphological analysis were taken through the soil profile of the pit. Evidence for the presence of former building materials was recovered from the upper fills.

Building 0179

Building 0179 was a similar six post form to 0023 (Pl. 3). The pit measured 3.2m x 2.15m x 0.85m, smaller than SFB 0023, but with the same proportions as the larger building although the size and depth of the postholes, 0.35m in diameter and 0.5-0.6m deeper than the base of the pit, suggests similar diameter posts.

This again had three distinct periods of infilling, with a thin basal fill (0362) under blown and eroded sands (0361) which had accumulated to half the pits depth (Pl. 4) and which also filled the postholes. The final upper fills comprised dumped domestic debris (0360).

The building produced in total ninety-nine sherds of early Anglo-Saxon pottery and 8kg of animal bone, most of which was recovered from the upper fill, although as with 0023, a reasonable quantity of animal bone was recovered from the lower layers, particularly from the blown sand. There were fewer small finds from this building and the provisional dating is less certain, only a copper alloy pin from layer 0360 may be datable.

context	description	Pottery No	Animal bone Wt in kg	W flint No
0360	Upper fill, dense occupation deposit incl bands of charcoal, band of slightly paler greyer sand at base, but with charcoal trampled in and probably all representing the same dumped deposit	63	6390	6
0361	Blown yellow banded sands between bass of pit and 0360	4	1868	2
0362	A thin mid dark grey sand flecked with charcoal on the base of the pit associated with either the occupation or immediate abandonment of the building	8	540	

Table 4. Finds from SFB 0179

Examination of the macrofossil evidence appears to mirror the comparatively lower finds evidence, with even the upper backfill deposit containing only a low level of macrofossils. A column sample for soil micromorphology showed a similar pattern to that of building 0023, with possible building material represented in the upper fills.

Pottery sherd links were identified between the fills of this building and those within building 0178; sherds found in the bottom fill of building 0178 were found in the bottom and top of building 0179.

Building 0178

The pit of building 0178 was shallower than buildings 0023 and 0179, and the sides less steep. It measured 4.3m x 2.8m x 0.6m and was a two-poster type (Pl. 6) with the postholes positioned at the mid point of the short-axis at either end of the pit. These were cut into the sloping sides of the pit and the western one extended beyond the pit edge. A shallow posthole adjacent to the western post may be an indication of a former post, possibly the reason that the other posthole extends beyond the pit.

context	description	Pottery No	Animal bone Wt in kg	W flint No
0358	Dark grey/black sand. Very fine and compact. Frequent inclusions of charcoal and daub. Slumps into centre of SFB, where it was 0.3m deep max.	49	5184	6
0359	Mottled mixed grey and grey brown sand. Very patchy and disturbed with lots of roots and animal disturbance.	85	7742	6

Table 5. Finds from SFB 0178

The fill of the pit could be separated into two distinct layers (0358, upper and 0359, lower) but unlike the other buildings there was no indication of naturally accumulated deposits. 145 sherds of pottery were recovered from the building along with 13.4 kg of animal bone. The small finds assemblage included loomweights, a spindlewhorl and a pin beater as well as personal items. The deposits all included evidence of domestic hearth waste.

Building 0318

Building 0318 was discovered whilst monitoring the excavations for a service trench (Fig. 2); the trench was expanded and the building excavated following the same methodology as the buildings on the main excavation. The pit had been severely truncated by the actions associated with the former landfill site which had almost completely removed the SE corner (Pl. 7), but the base of the pit was intact and the soil profile suggests that the fill within the western half at least was almost complete.

There was no evidence of postholes within the bottom of the pit, which measured 3.7m x 2.3m x 0.95m. The pattern of backfilling was similar to that seen in the pits of buildings 0023 and 0179 with a central deposit of windblown/eroded sands (0364). The material representing the initial filling of the pit (0365) is however up to 18cm deep and resembles the rubbish deposits of the tertiary fills; more so than the other buildings. Macrofossil assessment from the upper and lowest fills suggests that both represent rubbish disposal. Two of the samples from the upper fill appear to derive from floor or bedding material, although the excavator notes that one of these samples is assumed to be the dispersed contents of a pot (of which only the base survived) dumped in the pit. The final backfilling layer of dumped debris is not all the result of secondary re-deposition as it included an articulated sheep torso. All the small finds from this building were recovered from the upper fill, 0363, and again included objects associated with textile working and a coin as well as a Roman brooch and Saxon bead.

Context	Description	Pottery No	Animal bone Wt in kg	W flint No
0363	Dark brown, occupation deposits, charcoal, fired clay etc	84	20941	28
0364	Mixed mid-yellow grey-brown sand with charcoal	10	3175	7
0365	Darker grey sand with charcoal at base of pit.	11	4695	12

Table 6. Finds from SFB 0318

Building 0317

This was unexcavated but was seen to have a dark soil upper fill and minimum dimensions of 1.4m x 3.1m were recorded.

Discussion of SFB fills

The presence of naturally accumulated deposits in sunken features 0023, 0179 and 0318 shows that these pits were already half full before being finally filled with rubbish deposits. In each building the windblown and/or eroded deposits contained a reasonable quantity of finds; finds which could not have blown into the pit but were the result of activity in and around it. It has been assumed that this material accumulated after the buildings were abandoned and that the pit was left open, however the presence of these finds *could* indicate that this material accumulated during the life of the building, when it was still being used. It is notable that the sides of the pit, where filled with these sands, are vertical and not worn. The sand that the pits are cut into are very soft and would erode rapidly once exposed either to the elements or human activity, for example during the physical dismantling of a structure.Further examination of the stratigraphic and finds evidence will need to consider this possibility, as such work could provide significantly different alternative interpretations of the use and abandonment sequence.

If the sands represent natural accumulation into open, exposed pits, why were the pits left open and not utilised for rubbish deposition as soon as they were abandoned? It could be argued that this represents a period when there was little occupation in the immediate vicinity, possibly a hiatus in the use of this part of the site, but if so that would indicate that these buildings were broadly contemporary. In the case of building 0179 the blown/eroded sand filled the postholes as well. Does this suggest that these were also open when the building was abandoned, rather than that posts rotted *in situ*? What evidence is there for deliberate dismantling of structures?
If the argument is to be made that the sands originated during the use of the building, then how would such a substantial deposit accumulate? Could it be a reason for

abandonment? What are the implications for the presence/absence of suspended floors and the use of the gap underneath? Careful examination of the relationship of the fills to the postholes will be critical. Further examination of the stratigraphy of the central layer may help establish how drawn out the accumulation was, although, if open to the elements, the time these layers take to accumulate would depend greatly on the time of year, weather patterns (i.e. dry and windy rather than wet and still) and the nature of the ground cover in the area.

There was no evidence of eroded/windblown sand in building 0178, why not? Was that to do with its function, its size, or its position in the site sequence, was it earlier, later or perhaps during the most active period of occupation when open pits were used immediately, either through necessity (space at a premium), or convenience (the nuisance value of having an open pit), or an indication that rubbish was being stored or generated very close by at the time of its abandonment?

These three buildings also had thin basal layers that *could* have accumulated during the use of the building. The finds and environmental evidence from these layers varies across the buildings, in the case of 0023 a considerable quantity of finds was recovered, whereas from 0179 and 0318 the finds recovered were much fewer than those from the upper fill. The lower fills generally contained a lower density of macrofossil evidence than the upper, but again the contents vary with hearth debris recovered from 0023, but not from 0179 and that from building 0318 seemed to represent general refuse. Do these layers represent the same deposits in each case, and if so, did they accumulate during the life of the building? Is there evidence of trample in the base of the pits? Do the differences indicate different functions within the buildings? Does the presence of what appears to be refuse in the basal fill of 0318 suggest that this building differs from the others either in its structure or in its treatment after abandonment? Column samples taken through these have identified sufficient soil micromorphological evidence to suggest that it will be possible to establish if these lowest deposits are trample or the result of silting and inwash which may address questions about whether the buildings had floors or not.

The upper fills in all three buildings, and apparently both fills of building 0178 represent mixed rubbish deposits. Where do these originate? Are they redeposited midden rubbish, primary deposits (as indicated by the articulated sheep bones in 0318) or

slumped occupation debris, surviving because it fills hollows? The presence of humic turf and other materials in the upper fills of both 0179 and 0023 may represent building debris, presumably from buildings other than the one in which it was deposited and may help determine what the buildings were made off and from where the building material was sourced. The presence of burnt thatch, floor or bedding material in sunken feature 0318 will also contribute to this discussion. Could these in fact represent the clearance of a burnt down structure and if so does this have a bearing on the apparent presence of rubbish in the basal layer from this building?

Building 0179 has a relatively low level of finds and macrofossil evidence, in contrast to building 0023, and may provide evidence to enable some sequencing of the buildings. Does this mean that it is an early structure which was abandoned when fewer buildings were around, or later and abandoned as occupation was diminishing?

Pottery sherd links were identified between the fills of 0179 and those within building 0178; sherds found in the bottom fill of building 0178 were found in the bottom and top of building 0179. This poses questions about how the finds move about across the site, whether these two buildings were contemporary and how the finds reach their final destination, addressing research questions about the function of the buildings and the process of abandonment as well as wider issues about the use of space within a settlement.

More detailed examination of any differences in the environmental contents of the fills alongside comparisons of the finds contents should make a significant contribution to discussions about the function and structural details of the pits and building floors, as well as activities taking place in the wider area. The artefacts recovered from the basal fills pose questions about what these finds represent and to what extent they indicate activity going on in the buildings during their use.

Evidence of structure

Three different structural types were identified here, but it is interesting to note that the number (or not) of postholes does not seem to relate to the size or depth of the pit, and the size of the timber used for the posts seems to be roughly the same regardless of the pit size. Does this tell us something about woodland management in the Early Anglo-Saxon period? What does the number/arrangement of postholes or size of the pit tell us

about the superstructure? Can this suggest anything about the functions of the buildings?

Evidence from the reconstructions in the village shows that posts rot quite rapidly below ground and therefore it is more likely that the posts rotted *in situ* here (Tipper pers comm.) but the presence of sand in the postholes of building 0179 may suggest otherwise, at least in this case. The posthole evidence from the west end of 0178 may suggest that some posts were being replaced, and if so does this suggest that the building stayed in use for longer? If the posthole arrangement at the west end of 0178 is not an indication of post-construction activity then it may inform discussion about the relationship between the position of the external walls and the pit - e.g. how far from the pit were they?

It is unclear whether the buildings were deconstructed at the end of their life or simply abandoned to fall down, examination of the soil micromorphology of the fills of each of the pits, as well as careful examination of the structural details may be able to address these questions.

4.4.2 Wall post building 0357

Building 0357 measured 4.15m x 2.9m and consisted of seventeen closely spaced postholes (Pl. 8). There is a particular concentration of postholes on the south long wall which contrasted with the opposing north wall where far fewer postholes were recorded. Possible associated posts outlying the main wall lines were also recorded; these do not fall readily into a recognisable plan and it is not known if these are part of adjoining structures or unrelated to the building. All of the postholes fell within a narrow size range and were shallow, all being less than 0.2m deep and 0.2-0.30m in diameter. Only posthole 0236 along the short east wall was deeper at 0.4m. All were filled with mid or darker grey sand and no artefactual material was recovered from them. Any evidence of surface or ground levels was lost and no occupation material was observed within the fills.

4.4.3 Layout and interrelationships of the buildings

All the buildings were orientated the same way and lay on a broadly similar alignment. Hall 0357 and SFB 0179 were in very close proximity suggesting that they are unlikely to be contemporary. The sunken featured buildings, however, lay between 3.2 and 10m

apart and therefore could all be contemporary, however this is unlikely as that would mean that none was contemporary with the hall-type building. As well as questions of contemporaneity amongst this small group, there is the question of how they relate to the two eastern outliers from the main settlement.

4.4.4 Non-Building features

Pit 0049

A large, steep sided, oval pit 0049 measuring 3m x 0.7 m and 0.74m deep lay to the north of and set slightly away from the buildings. It was filled with dark soil containing occupation debris over dark silt sands silts and produced six sherds of early Anglo-Saxon pottery and 0.8kg of animal bone.

Soil layer 0054

A spread of dense charcoal rich sand, 0054, which produced 5 sherds of pottery was recorded at the north corner of the site. This lay within a shallow depression, surviving in discrete patches/hollows and overlay and filled an alignment of small postholes (group 0080) with no discernable difference between it and the fill of the postholes.

This material was similar in composition to the upper SFB pit fills, with charcoal and fired clay fragments but without the discrete deposits seen in the pit fills. The environmental assessment showed that it contained very few plant macrofossils but was otherwise consistent with assemblages derived from domestic hearth waste and other sources of domestic rubbish. This material is interpreted as the vestiges of an occupation horizon, surviving plough truncation in natural hollows. The presence of similar although more content rich material in the tops of the sunken featured buildings poses the question of whether that material could be the result of the same process, i.e. slump and/or natural accumulation of a formerly more ubiquitous material into the pits, or whether it is rubbish (albeit the same rubbish) deliberately deposited in the pits.

4.5 Medieval

This phase was represented by three sherds of medieval coarseware and part of a decorative mount recovered from soil layer 0022, and a buckle fragment and a coin found by metal detector in the machine spoil. Layer 0022 was worked dark soil which overlay 0054 and was sealed beneath a layer of re-deposited pale, stony sand. It produced no material that post-dated the medieval period. This soil profile was

preserved beneath a bank and did not survive beyond the extent of the earthwork. The dark soil had been ploughed and the lines of furrows, 0092, were recorded, cutting into the natural subsoil below. The plough-lines were 35-50cm apart and 60–80mm wide and the furrows cut the ground at an angle. The date of the ploughing is unknown, early Ordnance Survey maps show that modern cultivation did not occur on the site until the start of the turn of 20th century. The trees on the bank are approximately 30-50 years old.

4.6 Modern

The first edition Ordnance Survey (1884) shows the site as part of West Stow Heath. The site was purchased by St Edmundsbury Borough Council in 1863 to construct a sewage farm and the 2nd edition which was printed in 1904 shows the area bordering the south edge of the excavation as large settling beds, with the area of excavation within a cultivated field.

The Sewage Works was re-sited in 1962 and the settling beds were used for landfill site until the mid-1970's. The age of the trees within the belt to the north of the site and over the bank suggest that the site was bunded and screened when it became landfill, although a scan of appropriate aerial photographs may help confirm this. Modern rubbish layers were encountered within the top of the soil profile overlying the south edge of the site, in the construction trenches and soak-away to the west of the excavation and in the footing for the security fence to the east (Fig. 2). Building 0318 was truncated by the landfill pit and the depth of truncation at the site of the soak-away was over 1.5m. During the excavations an unknown visiting member of the public remarking on an unexcavated SFB said he had seen similar dark soil marks in the sand 'the size of cars' over the area to the south of the site when he worked on one of the landfill sites as a bulldozer operator. This suggests further Sunken Featured Buildings to the south of the site.

4.7 Unphased

A number of features were not dated either by finds or other means (Fig. 3). These include extraneous postholes between the buildings which are probably related to the Saxon occupation but are currently unphased. Another undated ditch alignment was recorded adjacent to the carpark in the security fence footing trench and access road to the east of the site.

Plate 1. Building 0023 fully excavated (facing south, 2m scales)

Plate 2. Section through fills of Building 0023 (facing west, 1m and 2m scales)

Plate 3. Building 0179 excavated (facing south, 2m and 1m scales)

Plate 4. Section of northeast quadrant of Building 0179 (2m and 30cm scales)

Plate 5. Building 0178, (facing SE, 2m scales)

Plate 6. Building 0178, section (facing southwest, 2m scale)

Plate 7. Building 0318 before excavation. The uneven appearance is as a result of the removal of modern deposits which have truncated it. (facing west, 2m scales)

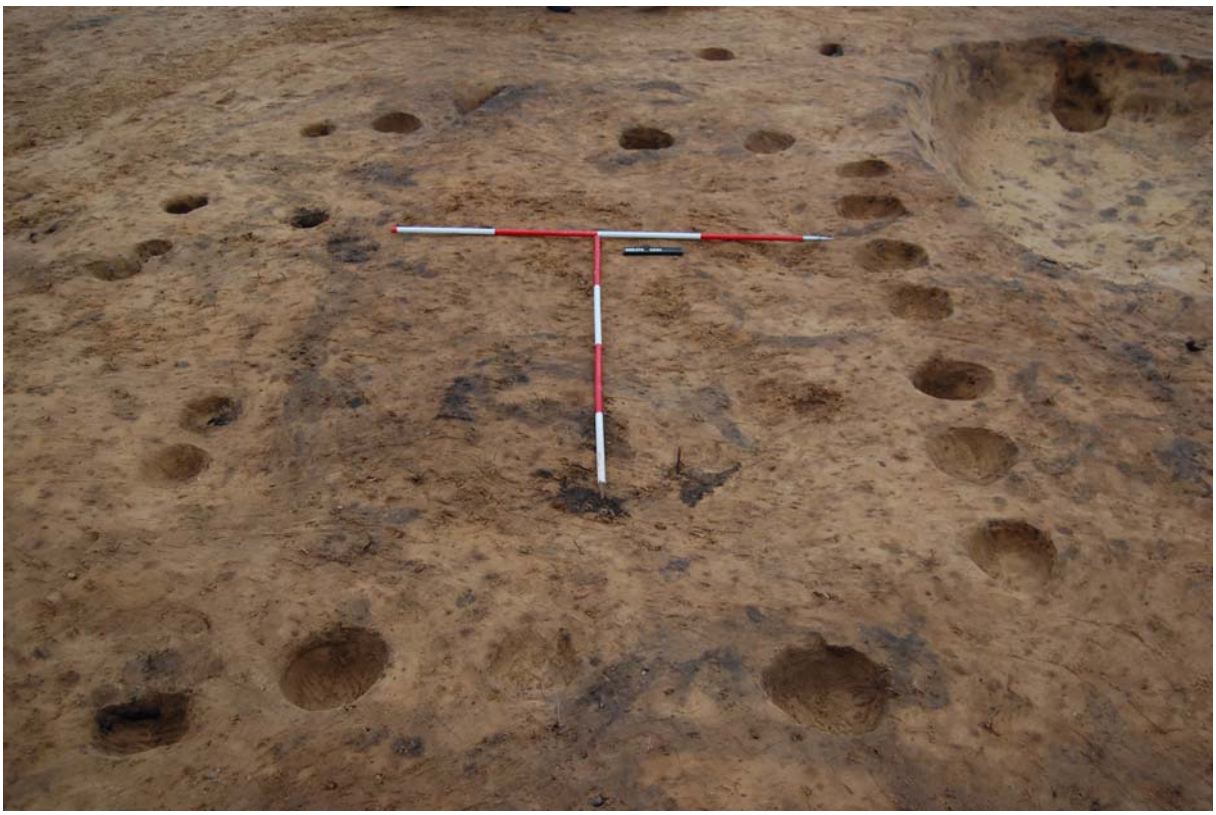

Plate 8. Building 0357 (facing east, 2m scales)

Plate 9. SFB 0023 under excavation (2m scale

5 Quantification and assessment

5.1 Post-excavation review

The following post-excavation tasks have been completed for the stratigraphic, finds and environmental archives:

- Completion and checking of the primary (paper and digital) archive
- Production of site matrix
- Microsoft Access database of the stratigraphic archive
- Microsoft Access database of the finds archive
- Microsoft Access database of the environmental archive
- Catalogue and archiving of digital colour images
- Catalogue and archiving of monochrome print images
- Contexts allocated to Groups
- Survey data uploaded and converted to MapInfo format
- Processing, dating and assessment of finds
- Radiography of small finds
- Processing and assessment of environmental samples
- Assessment of soil micromorphological samples

5.2 Quantification of the stratigraphic archive

The stratigraphic archive is quantified in Table 7.

Type	Quantity	Format
Context register sheets	6	A4 paper
Context recording sheets	347	A4 paper
Environmental sample sheets	43	A4 paper
Small find register sheets	6	A4 paper
Plan and Section drawing sheets 1:20	11	A1 film
Photographic register	1	A6 notebook
Digital images (catalogued in site file)	185	2048 x 1536 pixel .jpg
B/W images (FYC27-28; FYF1-36; FYH1-36, FYK1-17)	91	Negatives and contact sheets
Evaluation Report (SCCAS report no. 2007/133	1	A4 wire-bound
This PXA Report (SCCAS report no. 2010/184)	1	A4 wire-bound

Table 7. Quantification of the stratigraphic archive

5.3 Quantification and assessment of the bulk finds archive

Compiled and edited by Richenda Goffin

5.3.1 Introduction

This section of the assessment covers the bulk artefact types recovered from the excavation. These have been initially quantified by count and weight by context. Table 8 shows a breakdown of the quantities of bulk material types, and a full catalogue by context can be found in Appendix 3.

Find type	No.	Wt/g
Pottery	534	7978
CBM	26	1911
Fired clay	314	3429
Mortar	5	391
Lava quern	36	514
Worked flint	163	46672
Burnt flint/stone	102	4308
Slag	10	690
Iron nails	2	12

Table 8. Finds quantities.

5.3.2 Pottery

Introduction

A total of 534 fragments of pottery was recovered from the excavation weighing 7978g. The assemblage dates for the most part to the early Anglo-Saxon period, but small quantities of Roman and medieval pottery were also identified. The pottery will be discussed by the main periods.

Period	No of sherds	Weight (g)	% by sd count	% by weight
Roman	31	818	5.80	10.2
Early Anglo-Saxon	500	7151	93.6	89.6
Medieval	3	9	0.56	0.11
Total	534	7978	99.96	99.91

Table 9. Breakdown of pottery by period

Roman pottery

Andy Fawcett

Introduction

A total of thirty-one sherds of Roman pottery with a combined weight of 818g was recovered from sixteen contexts (Table 10).

Context	Fabric	No	Weight (g)	Date
0072	OXRC, NVC	3	69	4th C
0073	SARZ	1	4	Mid/late 2nd to mid 3rd C
0134	SACG	1	4	Early to later 2nd C
0147	OXRC	2	11	4th C
0149	GMG	1	113	Roman
0151	OXRC	3	162	4th C
0157	NVC	2	49	Late 3rd to 4th C
0199	NVC	1	89	Late 3rd to 4th C
0203	OXWSM	1	7	4th C
0262	LSH	1	22	Late 3rd to 4th C
0319	SASG	6	86	Mid 1st to early 2nd C
0320	SACG	3	13	Early to later 2nd C
0326	UCC	1	4	Roman
0332	NVC	1	14	Late 3rd to 4th C
0334	LSH, NVC	2	79	Late 3rd to 4th C
0338	NVC	1	55	Late 3rd to 4th C
Total		**31**	**818**	

Table 10. Roman pottery quantities

Methodology

The pottery was catalogued by count and weight and divided into fabric groups, after examination at x20 vision. Due to the lack of datable diagnostic features on the ceramics, date ranges were assigned using fabric types. A full breakdown of fabrics by context is shown in Appendix 4.

Discussion

The overall condition of the pottery may be described as abraded. The average sherd weight is just over 25g, but this figure includes a high proportion of complete bases. There is no difference in terms of abrasion, between the earlier and later Roman pottery. All of the pottery has been recorded in fills that relate to the SFB's and is therefore not considered to be in its original place of deposition. None of the SFB fills contain large numbers of Roman pottery. The largest collection occurs in SFB layer 0319, but these fragments all belong to the same shattered samian base.

The assemblage is made up primarily of Romano-British finewares, such as central Gaulish samian from Lezoux (SACG) and Nene Valley colour coats (NVC) from Cambridgeshire. The pottery spans most of the Roman period, although it is predominantly sherds from the late 3rd to 4th century that dominate. The only two truly diagnostic rim fragments are one Drg33 cup from central Gaul (SACG) in SFB pit fill 0134 and an Oxford red colour coated ware bowl (OXRC) in SFB pit fill 0151. There is no correlation in the distribution of early and late Roman pottery between individual SFB's, in fact SFB 0023 fills contained ceramics from both of these Roman phases.

Conclusion

The nature and composition of the Roman pottery assemblage suggests that it has deliberately been selected and salvaged from nearby Roman occupation, as a practical material for reuse within the Anglo-Saxon domestic environment. Indeed this was the conclusion of West (1985, 167) who pointed to the preponderance of bases within that excavation's assemblage as a good indicator, a trait repeated in this current small grouping. In fact several of the bases within this set appear to have been cut down, similar to the Nene Valley example highlighted by Plouviez (1985, 84; Fig 279 NV 10.3). A high proportion of bases were also noted at Godmanchester (Fawcett 1999) and a similar percentage of coloured and oxidised sherds recorded at Gamlingay (Fawcett 2005, 208). Another shared attribute of this assemblage with the 1985 West Stow material is the high showing of NVC and OXRC fabrics, as well as other finewares and oxidised pottery (Plouviez 1985, 84).

Post-Roman pottery

Sue Anderson

Introduction

A total of 503 sherds weighing 7160g was collected during the excavation. Table 11 provides a summary of the quantification. A more detailed list by context is available in Appendix 5.

The post-Roman assemblage is dominated by early Anglo-Saxon material, although a few sherds of medieval date were also collected.

Description	Fabric	Code	No	Wt/g	MNV	eve
Early Saxon grass-tempered	ESO1	2.01	24	429	17	0.25
Early Saxon grass and sand-tempered	ESO2	2.02	29	394	24	0.36
Early Saxon coarse quartz	ESCQ	2.03	24	286	20	0.20
Early Saxon fine sand	ESFS	2.04	51	597	44	0.46
Early Saxon grog	ESGS	2.05	7	106	3	0.08
Early Saxon sparse shelly	ESSS	2.07	17	136	12	
Early Saxon fine sand and mica	ESSM	2.08	5	72	4	
Early Saxon coarse shelly	ESCS	2.09	7	66	6	0.19
Early Saxon granitic	ESCF	2.10	208	2968	145	1.35
Early Saxon grass-tempered and granitic	ESOM	2.11	10	119	10	0.09
Early Saxon sparse chalk	ESSC	2.141	15	189	11	0.24
Early Saxon sandstone	ESSA	2.18	1	4	1	
Early Saxon grog and granite	ESGG	2.19	3	38	3	0.07
Early Saxon calcareous and granitic	ESCM	2.21	18	405	13	0.09
Early Saxon medium sandy	ESMS	2.22	77	1274	58	0.47
Early Saxon fine abundant quartz	ESFQ	2.24	4	68	4	0.14
Total Early Saxon			*500*	*7151*	*375*	*3.99*
Early medieval ware	EMW	3.10	1	4	1	
Medieval coarseware	MCW	3.20	2	5	2	
Total medieval			*3*	*9*	*3*	*0*
Total			**503**	**7160**	**378**	**3.99**

Table 11. Summary of Post-Roman pottery quantification.

Methodology

Quantification was carried out using sherd count, weight and estimated vessel equivalent (eve). The minimum number of vessels (MNV) within each context was also recorded, but cross-fitting was not attempted unless particularly distinctive vessels were observed in more than one context. A full quantification by fabric, context and feature is available in archive. Early Saxon fabric groups have been characterised by major inclusions. Form terminology and dating for Early Saxon pottery follows Myres (1977) and Hamerow (1993). Recording uses a system of letters for fabric codes together with number codes for ease of sorting in database format, and the results were input directly onto an MS Access table.

Pottery by period

Early Anglo-Saxon wares

Sixteen basic fabric groups were distinguished on the basis of major inclusions. However, it should be noted that, as with all handmade pottery, fabrics were extremely variable even within single vessels and categorisation was often difficult. Background scatters of calcareous material, unburnt flint, grog, white mica and other less common inclusions, such as felspar and ferrous pieces, were present in many of the fabrics. All Saxon wares were handmade, and colours varied throughout from black through grey, buff and brown to red, often within single vessels.

General fabric descriptions are listed below.

Organic tempered

ESO1: Heavily grass tempered with few other inclusions.

ESO2: Grass tempered but containing a much greater proportion of sand than ESO1.

ESOM: Abundant organic tempering in association with granitic inclusions.

Quartz tempered

ESCQ: Coarse quartz tempering; generally moderate or abundant large grains of sub-rounded quartz in a finer sandy matrix, often poorly sorted.

ESMS: Medium sand tempering with few other inclusions, sand grains generally well-sorted.

ESFS: Fine sand tempering with few other inclusions.

ESSM: Very fine sand and abundant white mica.

ESFQ: Fine abundant 'sparkly' quartz (greensand?).

Grog tempered

ESGS: Grog and sand tempering. Grog was usually red and very coarse, but may also be grey.

ESGG: Grog and granitic inclusions.

Calcareous tempered

ESSS: Sparse to moderate fine shell and sand tempering, shell generally leached out.

ESCS: Coarse shell tempering with few other inclusions.

ESSC: Sparse, rounded chalk in a fine to medium sandy matrix, sometimes leached out.

Granitic tempered

ESCF: **'**Charnwood Forest' type, containing granitic tempering (dark mica, feldspar).

ESCM: Mixed calcareous and granitic inclusions.

Sandstone

ESSA: Medium sandy with sparse angular sandstone fragments.

Many sites in East Anglia and the Midlands have produced similar fabric groups, although they occur in different proportions. There is scope for comparison with a number of recently excavated assemblages from Norfolk, Suffolk, Essex and Cambridgeshire, all studied by the author using the same generic fabric groupings as well as recently published assemblages such as at Carlton Colville (Tipper 2009).

In general, fine, medium and coarse quartz-tempered pottery tend to be the most common fabric groups at sites in East Anglia, although in the later Early Saxon period these appear to have been replaced to some extent by grass-tempered pottery. Organic-tempering is thought to be a late Early Saxon development in Essex (Hamerow 1993, 31) and Suffolk (K. Wade, pers. comm.).

At this site, granite-tempered fabrics dominated, but there were also fairly high proportions of fine and medium sandy fabrics. All other fabric types produced less than 30 sherds each.

The estimated vessel equivalent of 3.99 is based on 48 measurable rims, but there were a further ten rims which could not be measured. Measurements of handmade vessels are always approximate unless a large proportion of the rim is present. For this reason, the minimum number of vessels (MNV), based on sherd families, was estimated for each context, producing a total MNV of 375 vessels.

Rim and base types were classified following Hamerow (1993, fig. 26). This produced a total of seven vessels with flaring rims, thirty-nine vessels with vertical (‘upright’) rims, seven with everted rims, three with incurving rims, and one beaded rim. Fourteen vessels had flat-rounded bases, five had rounded or saggy bases, and nine were flat-angled.

No vessels were complete, but it was sometimes possible to suggest the vessel type on the basis of rim or base form, where enough of the body was present. It was also possible to get an idea of shape from some of the larger body sherds, and carinated vessels were especially identifiable from even small pieces. Eleven vessels were identified as bowls, two as possible lamps, one as a hanging vessel with lugs, and forty-five as jars. Those for which more detailed shape descriptions could be applied are shown in Table 12.

Form	MNV
sub-biconical	1
sloping neck	10
sloping rim, high shoulder	1
slight shoulder	5
round-bellied (globular)	9
flaring bowl	3
hemispherical bowl	2
incurving bowl	2
straight-sided bowl	4
lugged hanging vessel	1
side-lugged vessel	1
lamp? (or small hemispherical bowl)	2
thumb pot	1

Table 12. Identifiable forms/shapes of Saxon vessels.

Surface treatment was recorded on a minimum of 282 vessels, and at least thirty-six had some form of decoration. Table 13 shows the main types found. Most showed some signs of smoothing, but sometimes the surface had worn away through use. Stamps were not common (thirteen examples, some duplicates), and consisted of types such as rosettes, ring-and-dot, triangular grids, crosses and cross-in-circles, and S-shapes. Where decorative schemes could be identified, most consisted of incised lines or chevrons on the upper half of the vessel, finger-pinching, and there were a few examples of bossed vessels.

Surface treatment	with decoration	MNV
Burnishing	None	30
	Incised lines and stamps	1
	Incised lines and cordon	1
Smoothing	None	202
	Incised lines and stamps	10
	Incised lines	5
	Deep groove	1
	Stamps	2
	Stab marks	2
	Finger-pinched rustication	4
	Bossed	2
	Cordon on shoulder	1
Grass wiping	None	6
Roughened	None	1
None	Finger-pinched rustication	9

Table 13. Surface treatment and decoration of Saxon pottery.

Whilst many pots showed signs of sooting and/or burnt food residues, there was no evidence that any of the vessels had been used for industrial processes.

This assemblage shows elements which place it almost entirely within the 6th century. Very little organic-tempered pottery is present and there are no ‘baggy’ vessels typical

of the later part of the period; 5th-century characteristics such as *Schlickung* and sharply-carinated biconical vessels are also absent.

Medieval and later pottery

The post-Saxon part of this assemblage comprised only three sherds. These were two small body sherds (EMW, MCW) from layer 0022, and a very abraded body sherd from the upper fill (0195) of SFB 0178, where it is presumed intrusive.

Pottery by context type

Table 14 shows the distribution of pottery by context type and spotdate.

Identifier	ESax	EMed	Med
SFB 0023	120		1
SFB 0178	145		
SFB 0179	99		
SFB 0318	94		
?SFB 0328	2		
post-hole	12		
pit	7		
layer	20	1	1
surface finds	1		

Table 14. Saxon pottery quantification (sherd count) by context type and spotdate.

Of the stratified material, the largest groups were from SFBs, with very little from other contexts; post-holes with pottery were generally those within the SFBs. Further analysis of the distribution of the Saxon pottery will be required for the final report, in particular with regard to the layering within the SFBs, and pits and other features associated with Saxon structures.

A brief assessment of the pottery within each of the SFB pits suggests that the overall make-up of each group is very similar, most of the SFBs containing at least one pinched rusticated sherd and one stamped vessel for example. Sherd links were identified between SFBs 0178 and 0179, as well as many within the fills of individual structures – these relationships will be examined in detail during analysis.

5.3.3 Ceramic building material

Andy Fawcett

Introduction

A total of thirty-nine pieces of ceramic building material (CBM) with a total weight of 3301g was recovered from the archaeological work at the New Museum site in West Stow. All was either Roman or unidentifiable. A breakdown of the various form types, their relevant number and weight can be seen in Table 15. Overall the condition of the CBM may be described as being between abraded and slightly abraded as well as being quite fragmented.

Form	Number	Weight (g)
Brick	12	1311
Cbm (unident)	5	94
Flat	19	1462
Imbrex	1	302
Keyed	2	132
Total	**39**	**3301**

Table 15. CBM form types

Methodology

All the CBM has been examined at x20 binocular vision and has been divided into nine basic fabric types, as listed in Table 16. A full contextual breakdown of fabric, form, numbers and weights can be found in Appendix 6.

Fabric	Number	Weight (g)
Fine sand (fs)	1	51
Fine sand + clay pellets (fscp)	1	59
Medium sand (ms)	12	863
Medium sand + calcite (msc)	6	241
Medium sand + clay pellets (mscp)	8	764
Medium sand + flint (msf)	2	372
Medium sand + ferrous (msfe)	7	752
Coarse sand + clay pellets (csfe)	1	63
Coarse sand + ferrous (csfe)	1	136
Total	**39**	**3301**

Table 16. CBM fabric types

Discussion

Without exception all of the CBM has been recovered from fills which are directly related to the SFB's. The majority of fills contain only one or two pieces, and the largest assemblage stands at only six fragments weighing 916g, noted in SFB fill 0334.

The form range is restricted, the two dominant categories being brick and miscellaneous flat tile or RBT, a generic term for unspecified brick/tile (see Table 15). However, it is possible that some of the flat tile fragments could be *tegula* mid-sections. The only clear roof tile form is a single *imbrex* fragment located in SFB post-hole fill 0224. The depth of this piece stands at 15mm which is in keeping with the average depth for this type (Fawcett unpub; Brodribb 1987, 26). Fragments assigned to the brick group are done so on the basis of average depth, a range that can start from a depth of around 33mm plus (Brodribb 1987). Finally, two examples of keyed tile have been noted, one in SFB fill 0334 and the other in SFB pit fill 0347. The first instance appears to have a roller stamp pattern on one side, though it is too small to make any further comment with regard to form. The second is certainly some type of box tile, and traces of mortar can be detected on top of the keying.

Although nine fabrics have been identified, the majority are in medium sand alongside, calcite, ferrous inclusions or clay pellets (see Table 16). None of the fabrics are linked solely to individual tile groups.

Several of the CBM fragments display the effects of heat, such as a brick with sooting in SFB pit fill 0201, or one tile in SFB fill 0334 which is also affected. However, examples such as these are not the norm, unlike the tile assemblage from Bloodmoor Hill where fire affected pieces were common, which although not proven, possibly indicated they were being recycled for hearths, (Anderson 2009, 35).

Another trend, based upon the diverse fabric collection at Bloodmoor Hill, indicated the CBM was salvaged from several different sources (Anderson 2009, 34). The New Museum assemblage is too small to make such conclusions.

Conclusion

The condition, form assemblage and general spread of the CBM across the SFB's, all suggest that it was deliberately collected during the Anglo-Saxon period.

5.3.4 Fired clay

Andy Fawcett

Introduction

A total of 314 fragments of baked daub with a weight of 3429g was recovered from the excavation.

Fabric	Number	Weight (g)
Fine sandy (fs)	1	15
Fine sandy with calcite (fsc)	84	7 64
Fine sand with organics (fso)	4	48
Fine sand silty bands (fssb)	169	1688
Medium sandy (ms)	12	143
Medium sandy with calcite (msc)	37	686
Medium sandy with chalk (msch)	5	80
Medium sand with flint (msf)	1	1
Medium sand with silty bands (mssb)	1	4
Total	**314**	**3429**

Table 17. Fired clay fabric quantities

The material is both variable in the overall size of fragments (average weight 11g) and in the amount of wear recorded. Initial examination has shown the latter to be between abraded and slightly abraded. However, it should be remembered that the fabrics encountered here are often fine, as well as being very soft and therefore degrade easily.

Methodology

The assemblage has been subjected to a basic fabric analysis (at x20 binocular vision) and as a result of this, nine fabric groups have been created (see Table 17).

Quite clearly it can be seen that two fabric types completely dominate the collection. Those with silty bands (fssb/mssb) account for 54% by number and 49% by weight, the figures pertaining to the calcitic types (fsc/msc), are 39% and 42% respectively. A full contextual breakdown of fabric types, numbers and weights can be found in Appendix 7.

Discussion

With the exception of two very small pieces (9g) in pit fill 0050, all of the baked clay occurs in contexts that relate to features within the identified SFB's. By far the largest assemblage is noted in pit fill 0198 (94 pieces weighing 698g). The contents of this context offer a fairly representative selection of the baked clay encountered as a whole, in its range of fabrics, condition and impressions. After that, only fills 0185 and 0210

contain fragments that number up to twenty, subsequently most other fills only hold single figure numbers.

The majority of the daub recorded has no obvious surface and has therefore been deemed ‘irregular’ (see Appendix 7). Those pieces which display some form of uneven surface (regardless of the surface colour) are classed as ‘irregular-flat’. This category occurs intermittently across the assemblage, for instance in pit fills 0144, 0192 and layer 0344.

The final group has been called ‘flat’, although this does not imply a totally level surface, it relates to pieces that display more of an even surface than irregular. Often these fragments display a coloured surface too (pit fill 0137). The distribution of flat fragments is again a little alternating however, a good selection can be observed in pit fill 0198, thereafter other fills, like pit 0160 contain only one or two instances.

Although impressions of a variable nature were encountered, there are few marks that actually appear to belong to wattle. Those impressions which survive, are either very partial (from which no measurement may be undertaken), with a further small collection being described as partial. From this latter group a number of single width calculations (see fills 0194, 0197, 0198 & 0210) were undertaken and the range fell between 6 and 14mm. Finally two possible finger prints were recorded in fills 0198 and 0338.

Virtually all of the daub has been subjected to some form of heat and is often variably oxidised. None of the examples are over fired or display external burning or sooting.

Conclusion

The overall condition of the fired clay, and the nature of the deposits from which it was taken, all suggest that it is close to its original place of deposition. Interestingly, the fired clay from the Anglo-Saxon features at Carlton Colville amounted to some 26,921 pieces (144,682g) and had an average weight of 5g (Anderson 2009, 246), which is fifty percent less than this current assemblage.

The collection as a whole is at the finer end of the fabric scale, indicating its likely use in oven domes or hearth/oven floors. Indeed the assemblage from Lackford Bridge, West Stow contained finer fabrics and certainly Anderson concludes, that these fabric types

on early to middle Anglo-Saxon sites in the county, generally relate to the lining of fire related features (Tipper, 2007). However at this stage it is unproven as to what exactly this assemblage represents.

5.3.5 Mortar

Two soft silty buff coloured lumps were identified in SFB fills 0329 and 0338. Although superficially they resemble mortar, closer examination shows that they may be biological rather than artefactual.

5.3.6 Lava quern

Richenda Goffin

Introduction

A total of forty-four fragments of Rhenish lavastone was recovered, weighing 433g, from a total of eight contexts.

Discussion

The assemblage is made up almost entirely of small and abraded pieces of lavastone, few of which have any diagnostic features. The largest fragment which was recovered from SFB fill 0201 has only the remains of one likely original surface, which shows some possible dressing marks, but is otherwise devoid of any identifiable characteristics. It is likely that the fragments are the remains of small domestic hand-querns. The dating of this material is uncertain as they could be Roman querns, which were redeposited into Early Anglo-Saxon features or were even re-used during the Early-Anglo-Saxon period.

The condition of the material suggests that they have undergone a long cycle of deposition, and that also perhaps fluctuating water levels on site may have accelerated their deterioration.

5.3.7 Worked flint

Sarah Bates

Introduction

A total of 163 pieces of struck or shattered flint and seven fragments of burnt flint was recovered from forty-eight contexts, many of which were associated with sunken-featured buildings of Saxon date. Some of the flint represents activity in the area of the

site during the prehistoric period and may be associated with other excavated features. Other material is very sharp and fresh; its origin is uncertain at assessment.

Methodology

Each piece of flint was examined and recorded by context in an ACCESS database table. The material was classified by *category* and *type* (see archive) with numbers of pieces and numbers of complete, corticated, patinated and hinge fractured pieces being recorded and the condition of the flint being commented on. Additional descriptive comments were made as necessary. Non-struck flint was included in a separate column (*Non struck*) in the database but has now been discarded. It is not included below. The flint and archive are curated by SCCAS.

The assemblage

The flint is summarised by type in Table 18 and listed by context in Appendix 8. A full catalogue is included as part of the archive.

Type	Number
core fragment	1
core/hammerstone	1
struck fragment	4
shatter	20
flake	117
blade-like flake	5
spall	3
chip	1
oblique arrowhead	1
denticulate	1
retouched flake	6
retouched fragment	1
utilised blade	1
utilised flake	1

Table 18. Summary of flint by type

A fragment, with irregular 'ventral' face has been struck and possibly used as a core from SFB fill 0335 (a large flake from the same context refits to its 'dorsal' face).

Another moderately large fragment with cortex on both ends and much of one face has flakes struck from it (from the basal fill 0340 of SFB 0318). Its edges are battered and pitted in places and it may also have been used as a hammerstone.

Twenty shatter pieces are almost all very sharp and fresh in nature. Some of them have off–white or patinated white cortex. One hundred and seventeen pieces have been classified as flakes. A few quite small flakes are slightly glossy and have some edge

damage but it is notable that many of the flakes (probably the majority) are relatively large, and are sharp and fresh in condition. Although a few of these are very irregular and often quite thick shattered pieces, they all have percussion bulbs and have been struck, by hard hammer, from larger lumps or cores. Many pieces have chalky off-white or patinated white cortex and it is notable that this is often only, or mainly, present on the flake platforms. Some of the sharp flakes and shatter pieces have tiny patches or specks of a sandy adherent on their surfaces which could possibly be mortar residues or might be of natural origin.

Five flakes have been classified as blade-like and a chip and three spalls are also present.

Very few retouched or utilised pieces are present. There is an oblique arrowhead or late Neolithic date in SFB fill 0147 and a possible denticulate 0002. There are also totals of seven and two miscellaneous retouched and utilised pieces respectively. One of these is a thin flake with retouched scraper-like distal part from SFB fill 0207. Some others of the pieces are edge damaged to a degree and it is possible that some of the edge modification is in fact accidental.

Flint by context

Worked flint was recovered from the fills of a pit, layers and from deposits which filled, or were associated with, sunken featured buildings (Table 19).

Feature	Context type	Number of flints
0318	SFB	62
0053	Layer	47
0023	SFB pit	33
0178	SFB pit	11
0179	SFB pit	10
0049	Pit	2
0319	SFB	2
0328	SFB?	1
0022	Layer	1
0054	Layer	1

Table 19. Flint by feature

By far the majority of the flint came from deposits associated with SFBs. This material comprised sharp fresh-looking irregular flint flakes and fragments and smaller amounts of more weathered and slightly edge damaged material. The latter represents prehistoric activity in the vicinity of the site and is residual in the Saxon deposits. The

irregular sharp flint seems to be too fresh in nature to be redeposited prehistoric material and it is noted that at least two pieces of flint from one SFB refit together. It may be that this flint is of much later date and the presence of the sandy residues adhered to some surfaces suggests that it might possibly be debris from building flint of a later date.

Layer 9953 contained a significant amount of sharp flint some of it very similar in type to that from the SFB (above). A few pieces have flecks of the same sandy residue on their surfaces. Several flakes refit together and others are also likely to do so.

5.3.8 Burnt flint and heat altered stone

One hundred and two fragments of burnt flint and heat altered stone were recovered from the excavation (4.308kg). Some of this was associated with fragments of worked flint and were collected from features which are likely to be of prehistoric date. Apart from the flint, the assemblage consists of a mixture of rounded and angular stones which have been heat-affected. For the most part these are fragments of discoloured sandstone and quartzite. In addition, a fragment of granite (a glacial erratic?) was present in 0136, the bottom of the final backfilling layer of SFB 0023, whilst fragments of broken up chalk were identified in the different fills 0197, 0198, and 0199 of SFB 0178.

5.3.9 Slag

Small quantities of slag were recovered from the excavation (10 fragments @ 690g). It is likely that some of this material is fuel ash slag rather than smithing slag. All the slag came from SFB fills. No hammerscale was recovered from the environmental samples.

5.3.10 Iron nails

Twelve iron nails, eight of which were from stratified contexts (the fills of 3 SFB's) were recovered.

5.4 Quantification and assessment of the small finds archive

5.4.1 Introduction

This section of the assessment covers the small finds recovered from the excavation. A total of 101 small finds was recovered altogether. These are listed below by material type (Table 20). Table 21 shows a breakdown of the quantities of small finds by period where known. The full small find catalogue is shown in Appendix 9.

Material	No.
Iron	19
Copper alloy	52
Silver	3
Lead	3
Bone/antler	13
Stone	2
Ceramic	7
Wood/copper alloy	1
Glass	1

Table 20. Small finds quantities by material.

Period	No.
Roman	36
Anglo-Saxon	52
Medieval	1
Post-medieval	1
Undated	11

Table 21. Breakdown of small find types by period

5.4.1 Date, range and context

A small component of the assemblage is Roman but the majority of the small finds date to the early Anglo-Saxon period. No prehistoric or medieval objects were identified, but a single post-medieval small find was recovered, and some artefacts remain undated.

A total of twenty-nine small finds was recovered from metal detecting, whilst the remaining seventy-two were collected through hand-retrieval during the course of the excavation. Fifty-two of the small finds come from stratified contexts, most of which are backfills of sunken-featured buildings (SFBs). A single medieval coin (SF 1036) was identified, and a post-medieval mount (SF1003) was recovered from the plough soil.

5.4.2 Condition

The bone and antler small finds are in good condition, although the artefacts themselves are fragmentary. The iron and copper alloy are in variable condition. Some of the copper alloy coins are very encrusted, whilst the lead spindlewhorl has deteriorated and has lost most of its original surface. The ceramic loomweights are abraded and fragmentary. The wooden bowl is only fragmentary.

5.4.3 Methodology

The small finds were initially listed by individual number and small find sheets were filled out for each artefact. All the metalwork apart from the coins was x-rayed and the x-ray

numbers were added to the small finds labels and the digital record. The small finds were viewed under low magnification and the x-rays of the ironwork were studied for the assessment.

At this stage the site records have not been analysed in detail but the contexts of some of the more significant objects have been examined and the original site publications have also been consulted (West 1985; 1990; Crabtree 1990).

5.4.4 Small finds by period

Roman

A total of thirty-four Roman finds was recovered, thirty-one of which are coins which are assessed separately. The other finds consist of a plate brooch of second to third century date and two fragments from copper alloy bracelets, both of which were unstratified. In addition twelve iron nails of possible Roman date were recovered, eight of which come from the fills of three SFBs.

Coins

Jude Plouviez

Factual data

The thirty-one Roman coins have been provisionally identified but a high percentage of them are too corroded for precise identification. All are copper alloy and none appear to be any earlier than the later 3rd century. The breakdown by Reece coin period is as follows:

Reece Period	Date range	No of coins
Periods 1 to 12	43-260	0
Period 13	260-270	2
Period 14	270-294	1
Periods 15-16	294-330	0
Period 17	330-348	9
Period 18	348-364	1
Period 19	364-378	1
Period 20	378-388	1
Period 22	388-402	1

Table 22. Breakdown of number of coins by Reece period

Discussion

Although a small group, the predominance of 4th century coins suggests that this is the main period of coin loss represented, and is similar to the normal pattern for a rural site in west Suffolk occupied until the end of the Roman period. However, as noted in the

previous excavations at West Stow where a large group was recovered (Curnow in West 1985), there are strong indications of Anglo-Saxon re-use of Roman coinage, including one coin (SF1082) which was recovered from SFB fill 0326 and has been nicked on one edge. At least eleven of the present assemblage were found in the SFB's; the proportion previously was 119 of 289 coins. The coin assemblage requires a full and detailed catalogue so that further study can be undertaken.

Early Anglo-Saxon

Introduction

Sixty-one small finds can be assigned to the early Anglo-Saxon period, and within this period, some of these can be more closely dated. The objects are briefly described by broad category, and are listed below by material and object type.

Category	Material	Object	Quantity
Dress Accessories	Bone or Antler	Bead	1
	Copper Alloy	Brooch	1
	Copper Alloy	?Lace Tag	1
	Iron	Lozenge	1
	Antler	Pin	1
	Copper Alloy	Strap-End	1
	Silver	Ring	1
	Copper Alloy	Suspension Ring	1
	Iron	Suspension Ring	2
Personal Possessions	Antler	Comb	4
	Iron	Knife	2
Household Items	Copper Alloy	Vessel Repair Clip	1
	Wood	Bowl	1
	Iron	?Bucket Mount	1
	Iron	Binding Strip	1
	Glass	Vessel	1
Structural Fittings	Iron	Nail	12
Textile Manufacturing Implements	Ceramic	Loomweight	8
	Bone	Needle	1
	Antler or Bone	Pin-beater	3
	Lead Alloy	Spindle Whorl	1
	Stone	Spindle Whorl	1
Craft working Waste and Implements	Lead Alloy	Waste	3
	Copper Alloy	Sheet	1
	Copper Alloy	Wire	2
	Iron	Wire	1
	Silver	Wire	1
	Iron	Metallurgical Residue	1
	Bone	Awl	1
Miscellaneous	Copper Alloy	Unidentified Object	2
	Iron	Fitting	1
	Bone	Rib	1

Table 23. Early Anglo-Saxon small finds by major category

Dress accessories and personal possessions

The dress accessories include the lower part of a cruciform brooch, recovered from metal-detecting, as well as a complete antler or bone square bead, an object type thought to be largely of fifth-century date, although there is not enough evidence to fully confirm this dating as yet (Riddler forthcoming). An iron lozenge from an SFB fill is accreted to another iron object. Lozenges are generally of sixth-century date (with a few belonging to the seventh century) and most examples have come from graves (Evison 1987, 118). One of the most intriguing objects from the site is an antler pin in the shape of an axe. Pins with axe-shaped heads occur in the late Roman period and are likely to have had a religious significance, and they reappear in Anglo-Saxon contexts of the seventh to eighth century (Cool 1990, 168; Roes 1963, 67-9; Riddler *et al* forthcoming). A copper alloy miniature axe came from SFB 12 in the earlier excavations (West 1985, 122 and fig 60.3). An unstratified silver fitting in the shape of a washer could be of Roman or Anglo-Saxon date, whilst a complete strap-end is certainly of early Anglo-Saxon date. Several suspension rings of copper alloy and iron may have been used on belts, although they could be domestic items. The copper alloy example is unstratified.

Fragments of four antler combs (Pl. 10) include three double-sided composites and a single-sided elongated triangular comb. Three combs can be identified to specific types and dated to within a century or so, whilst one example of a double-sided composite with undecorated cylindrical connecting plates belongs to a type that spans most of the early Anglo-Saxon period. The two remaining double-sided composites can both be dated to *c* AD 525 – 625 and a complete profile can be reconstructed for one of the pair. The triangular comb belongs to the elongated form which, once again, is not closely dated, and although the serrations along the end segments could be indicative of a date in the mid to late fifth century it was found in the same context as a double-sided composite dating to *c* AD 525 - 625. Elongated triangular combs continued in use during the sixth century, at least until *c* AD 550, but one of the difficulties of West Stow in general is the quantity of triangular combs from ‘late’ contexts. Did the comb type continue in use for a long period here, or are these combs residual; or are their dating issues to be resolved?

Plate 10. Two bone combs

Two iron knives include one of type A, which cannot be closely dated, and one of type D, a form that occurs towards the end of the sixth century and is common in the seventh to eighth centuries.

Household items

These include a sherd from the rim of a glass vessel, probably a cone beaker, which can be placed in Evison's Period I of c AD 400 – 550, although the type continues up to the end of the sixth century (Evison 2000, 58-66). An unusual and rare find is the lower part of a turned wood bowl, surviving in poor condition but still recognisable as a vessel. An unstratified vessel repair clip would also have been attached to a wooden vessel originally, whilst a fragmentary iron mount is possibly from an iron-bound wooden bucket, an object type that is not commonly found before the late sixth century. A copper alloy mount is also likely to have been a vessel repair or rim mount and it includes traces of wood on the inner surface.

Textile working

Inevitably, one of the largest object categories consists of textile manufacturing implements. Fragments of ceramic loomweights were found in two of the SFB fills, as well as a post-hole fill. Some are annular in form whilst others are intermediate, the latter type occurring as early as the sixth century at Mucking, although conceivably not until well into that century (Hamerow 1993, 66; Walton Rogers 2007, 30). Whilst some loomweights have been fired to an orange to red colour, others are yellow and appear to have been fired at low temperature. The three pin-beaters are all of the double-pointed form and two of them are complete (Pl.11). Each was found in a separate SFB fill. An oval implement of lead alloy can be identified as a spindle whorl and resembles

examples from Mucking, dated to the earlier part of the settlement there (Hamerow 1993, 70-1), whilst a stone spindle whorl came from a different SFB fill.

Plate 11. Textile and craft working implements

Craft and metalworking

Evidence for metalworking occurs in the form of a small quantity of lead alloy waste, a commodity seen also at Mucking, as well as copper alloy, iron and silver wire, found in three SFB fills. A bone awl (Pl. 11), fashioned from a horse tarsal, is an implement type seen in earlier excavations at West Stow, as well as at Sutton Courtenay (West 1985, fig 76.6; Leeds 1947, pl XXIIf).

Medieval and post-medieval

A single bent silver coin (SF 1036) was recovered as a metal detected find, and a copper alloy post-medieval mount (SD1003) was recovered from the ploughsoil.

5.5 Quantification and assessment of the environmental evidence

5.5.1 Introduction

This section of the assessment covers the environmental material recovered from the excavation. These have been initially quantified by context. A full catalogue by context can be found in the archive and Table 24 shows a breakdown by main type. The plant macrofossils and other remains recovered from the samples are also described below, and tables of this material by individual SFB are presented as appendices.

Type	No.	Wt/g
Animal bone	7742	8960
Coprolite	1	21
Shell	13	146
Charcoal	6	7
Environmental samples	32	-

Table 24. Ecofact quantities.

5.5.2 Animal bone

Pam Crabtree and Douglas Campana

Introduction and methodology

The recent excavation yielded a total of 7742 animal bones and fragments. The faunal remains will be recorded using the new ANIMALS program called FAUNA (Campana and Crabtree 1987; Campana 2010) which will be updated to work with the most recent versions of Windows (Vista and 7.0). The following types of data will be recorded for each bone fragment: species (or higher order taxon such as sheep/goat), body part, side, portion, degree of fragmentation, ageing data (based on both epiphyseal fusion and dental eruption and wear), bone measurements, butchery marks, evidence for pathology, and taphonomic evidence (burning, weathering, etc.). Sheep bones will be distinguished from goat remains following Boessneck et al. 1964) and Halstead et al. (2002). Bone measurements will be taken following von den Driesch (1976), and withers heights will be estimated following von den Driesch and Boessneck (1974).

Composition of the faunal assemblage

Initial recording shows that most of the 7742 remains came from domestic mammals including cattle *(Bos taurus*), sheep (*Ovis aries*) and sheep/goat (*Ovis*/*Capra*), and pig (*Sus scrofa*), along with smaller numbers of horse (*Equus caballus*), dog (*Canis familiaris*), cat (*Felis catus*), domestic fowl (*Gallus gallus*), and goose *(Anser anser*) bones. Wild animals were rare in this assemblage, as they were in the faunal assemblage recovered from Stanley West's 1965-72 excavations at West Stow (West 1985, Crabtree 1990). The species identified from the West Stow West collection included red deer (*Cervus elaphus*), badger (*Meles meles*), and the East Anglian crane (*Grus grus*), plus a single bone that may be either mallard or domestic duck (*Anas platyrhynchos*).

Species ratios based on NISP or fragments counts (following Lyman 2008: 81) show a predominance of caprines, followed closely by cattle (Table 26). Pigs are a poor third.

When compared to the species ratios seen in the original West Stow assemblage (Crabtree 1990: 10), there are relatively more cattle and fewer pigs in the WSW076 assemblage. (NB. To make the WSW 076 comparable to the original data, the NISP ratios should be recalculated to exclude ribs and vertebrae other than atlas, axis, and sacrum). In this respect, the assemblage is more typical of the faunal assemblages recovered from other early Anglo-Saxon sites in eastern England (Crabtree 2010). For example, Kilham in East Yorkshire (Archer 2003) produced relatively equal numbers of cattle and sheep, and Spong Hill, which is located in the breckland region of East Anglia (Bond 1995), produced mostly cattle remains. The importance of cattle in the early Saxon period, even in regions such as the Breckland, suggests that cattle may have played both an ideological role as symbols of status and wealth and an important economic role in early Anglo-Saxon husbandry.

Species	**No**
Domestic mammals	
Cattle (*Bos taurus*)	1394
Sheep (*Ovis aries*)	332
Sheep/goat	1270
Pig (*Sus scrofa*)	167
Horse (*Equus caballus*)	43
Dog (*Canis familiaris*)	3
Cat (*Felis catus*)	2
Wild mammals	
Red deer (*Cervus elaphus*)	2
Badger *(Meles meles*)	1
Rabbit (*Oryctolagus cunniculus*)	1
Domestic birds	
Goose (*Anser anser*)	6
Chicken (*Gallus gallus*)	15
Wild birds	
Crane (*Grus grus*)	1
Mallard (*Anas platyrhynchos*)	1
Other	
Small artiodactyl	173
Large artiodacylt	9
Large ungulate	168
Small mammal	1
Unidentified mammal	4143
Chicken-sized bird	1
Goose-sized bird	2
Unidentified Bird	7
Total	7742

Table 25. Quantification of animal bones by species

Domestic bird bones are not common in the West Stow West assemblage, but both goose (*Anser anser*) and chicken (*Gallus gallus*) bones are present in small numbers. Chickens and geese would have provided eggs, feathers, and meat.

A striking aspect of the WSW 076 economy is the limited evidence for wild animals. The only wild mammals present are badger and red deer, and each is represented by a single bone. The evidence for wild fowl is equally limited. The WSW076 assemblage yielded a single bone each of mallard duck and crane. This data can be used to provide evidence of hunting and wildfowling (or absence of) on the site.

Ageing data

Ageing data for the sheep, cattle, and pig mandibles were recorded following Grant (1982). Mandible wear states were recorded for the complete and nearly complete mandibles. The sheep mandibles were divided into age classes following Payne (1973). Further analysis of this data will allow examination of age profiles of different animals which will inform debate about farming, the economy and settlement resourcing on the site.

Conclusions

The preliminary recording of the faunal remains shows that the assemblage is generally similar in character to the animal bones recovered from the 1965-72 excavations at the site. The quantitative data indicate that the West Stow economy was based on sheep husbandry, supplemented by smaller numbers of cattle and horses. Compared to the original West Stow excavations, WSW076 yielded fewer pigs.

5.5.3 Shell

Small quantities of oyster shell were recovered from the site (12 fragments 143g), together with a single landsnail from a layer sealing SFB 0318 0319. The oyster shell was found in upper and lower fills of three of the SFB's. Small quantities of egg shell were identified in the some of the environmental samples taken from the SFB fills, however there were problems with mineral concretions on the ecofacts recovered from the samples, as outlined in the report for the plant macrofossils and other remains.

5.5.4 Coprolites

A single coprolite was recovered from SFB fill 0334 (Group 318). A larger quantity of faecal material was identified from the previous excavation (Walker 97).

5.5.5 Charcoal

Small fragments of charcoal were collected from 0050, 0151 and 0160 (both Group 0023), 0199 (Group 178) and 0364 (Group 318).

5.5.6 Charred plant macrofossils and other remains

Val Fryer

Introduction and method statement

Samples for the retrieval of the plant macrofossil assemblage were taken from four sunken-featured buildings (SFBs) and a small number of other features of early Anglo-Saxon date. Thirty-two were submitted for assessment, selected in order to provide a representative sample of the fills and features (particularly the Anglo-Saxon) on the site.

Sample no	Context	Feature no. and type
1	0050	Pit 0049
2	0056	Pit 0055 (layer 0054)
3	0057	SFB 0023
4	0058	SFB 0023
5	0072	SFB 0023
6	0073	SFB 0023
7	0136	SFB 0023
8	0137	SFB 0023
9	0149	SFB 0023
10	0147	SFB 0023
11	0151	SFB 0023
12	0157	SFB 0023
17	0148	SFB 0023
18	0184	Pit 0183
21	0193	SFB 0179
22	0196	SFB 0179
23	0195	SFB 0178
24	1097	SFB 0178
25	0204	SFB 0179
26	0205	SFB 0179
27	0201	SFB 0179
28	0210	SFB 0178
29	0209	SFB 0179
30	0214	SFB 0179
31	0212	SFB 0179
32	0218	SFB 0179
33	0231	SFB 0179
62	0326	SFB 0318
63	0341	SFB 0318
64	0327	SFB 0318
65	0342	SFB 0318
66	0344	SFB 0318

Table 26. Summary of assessed environmental samples

The samples were processed by manual water flotation/washover 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 in Appendix 11, Tables 1 – 5. Nomenclature within the tables follows Stace (1997). With the exception of very rare mineral replaced seeds, all plant remains

were charred. The non-floating residues were collected in a 1mm mesh sieve and sorted when dry. All artefacts/ecofacts were retained for further specialist analysis.

Results

Cereal grains and occasional seeds of common weeds were noted at a low density within only nineteen of the assemblages studied. As most were extremely heavily coated with coarse silt particles within a mineral matrix, it was assumed that some plant remains present within the original deposits had not floated during processing, thereby creating an artificial bias within the recovered assemblages. The same heavy mineral concretions also precluded the accurate identification of some macrofossils.

Oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded, although rarely as more than one specimen within an assemblage. Barley occurred most frequently, presumably because of its suitability for production on the local light, sandy soils, and a single barley rachis node was noted within the assemblage from sample 17 (SFB 0023). Weed seeds were exceedingly scarce, occurring within only four assemblages. All were of common cereal crop contaminants including black bindweed (*Fallopia convolvulus*) and sheep's sorrel (*Rumex acetosella*). A small number of complete rush (*Juncus* sp.) seed heads were recorded within the assemblage from Sample 63 (SFB 0318) and a single hazel *(Corylus avellana*) nutshell fragment was noted within Sample 6 (SFB 0023). Charcoal/charred wood fragments were present throughout, although as these were also coated with mineral concretions, the density of material recovered was generally quite low. Other plant macrofossils included pieces of indeterminate root/stem, culm nodes and inflorescence fragments and a single piece of heather (Ericaceae) stem.

Mineralised soil concretions were a major component within a number of the assemblages studied. Other remains included black porous and tarry concretions, many of which were probable residues of the combustion of organic remains at very high temperatures, food remains including eggshell and fish bones, and bone fragments, many of which were burnt. Mineralised faecal concretions were recorded within the assemblages from samples 7 (SFB 0023) and 65 and 66 (both from SFB 0318). Burnt specimens of the open country snail *Vertigo pygmaea* were recovered from Sample 65 (SFB 0318).

Discussion

For the purposes of this discussion, the structures and other features will be dealt with individually.

SFB 0023 (Appendix 11 Table 1)

Eleven samples were taken from a succession of fills within the pit of SFB 0023. The earliest deposit (context 0157 Sample 12) may have accumulated during the use of the building, although, as is common with samples from these structures, the assemblage is very limited, and may have been derived from the few remains which fell through the floor of the structure into the underlying pit. Cereal grains and charcoal/charred wood fragments are present, all of which are probably derived from domestic hearth waste. The remaining samples are largely from backfill deposits post-dating the abandonment of the structure. It is, therefore, assumed that much of the material within these assemblages is derived from a mixture of scattered or wind-blown refuse, which was accidentally incorporated within the pit fill, possible small, discrete deposits of domestic refuse and some material from the original occupation horizon. Although this makes it very difficult to interpret the material, it is, perhaps, of note that nine assemblages contain bone fragments, many of which are burnt. However, it is currently unclear whether this material is derived from dietary waste or from a craft activity, which was either being undertaken within the structure or close by, after the building was abandoned.

SFB 0179 (Appendix 11 Table 2)

Ten samples were taken, again largely from backfill deposits within the pit. The single possible occupation assemblage (Sample 30 context 0214) contains only a few charcoal flecks, possibly indicating that the structure did not serve a domestic function but was, perhaps, used as a store or workshop. Cereal grains are rare within the backfill deposits, although it is unclear whether this is indicative of the structure being peripheral to any main centre of domestic activity, or whether it is a result of poor retrieval of macrofossils at the sample processing stage.

SFB 0318 (Appendix 11 Table 3)

The five assemblages are all from backfill deposits, which accumulated within the pit after the structure was abandoned. Two of the assemblages appear to contain materials

derived from burnt thatch, bedding or flooring materials, with Sample 63 (context 0341) including a number of charred rush seed heads and Sample 65 (context 0342) being largely composed of charred root/stem fragments and culm nodes. These remains, along with the cereal grains and other dietary residues noted within the other samples, possibly suggest that these assemblages are largely derived from domestic refuse.

SFB 0178 (Appendix 11 Table 4)
The three assemblages are all related to the secondary use of the structure or to the backfilling of the pit. Although the assemblages are small (<0.1 litres in volume) cereal grains are present throughout and high densities of charcoal/charred wood are also recorded. Therefore, it would appear most likely that all three assemblages are largely derived from small deposits of domestic hearth waste.

The other features (Appendix 11 Table 5)
Samples were taken from fills within pits 0049 (Sample 1), 0184 (Sample 18) and buried soil layer 0056 (Sample 2). Charcoal/charred wood fragments were common or abundant throughout, but other plant macrofossils were extremely rare, with only one possibly fragmentary barley grain being recorded. Bone fragments, some of which were burnt, and small pellets of burnt or fired clay were present throughout, but other remains were scarce. It would appear most likely that all three assemblages are largely derived from small deposits or scatters of domestic hearth waste or similar detritus.

5.5.7 Soil micromorphology

Introduction

Five soil monoliths through the sequence of fills, top to bottom towards the centre of three SFB's (0023, Sample 71, 0178, Sample 34 and 0179,Sample 41) and a control profile were assessed employing standard techniques (Goldberg and Macphail, 2006; Hodgson, 1997).

Results

Monoliths are described below, and locations for potential thin section and bulk analyses are suggested in Appendix 12 Table 1 (Figs. 1-4).

Local soils

The site is located in an area of Typical brown sands (Newport soil association) on glaciofluvial drift (Hodge *et al*., 1983); these are poorly stable soils that also occur in the western part of the Early Anglo-Saxon settlement at West Heslerton, North Yorkshire. These soils are prone to acidification, including podzolisation, and aeolian deflation and burial (Haughton and Powlesland, 1999) – as in many areas of the Brecklands of East Anglia (Murphy, 1984). The soil analysis of fills of two SFB's on similar sands have been recently reported from Bowthorpe, Norwich, Norfolk– a useful analogue site for West Stow (Macphail and Crowther, 2008); similar analyses have alsoe been carried out at Bloodmoor Hill, Suffolk (Milek, 2009).

Potential of archaeological soils

West Stow is an internationally important type-site for the Saxon period (Tipper, 2001; West, 1985), but no systematic study has been carried out on the archaeological soils of the West Stow settlement. A review of soil data from English and European sites (Macphail *et al*., 2006) shows how the study of fills (Table 1) from three SFB's (0023, 0178 and 0179) and a control soil profile through the buried Saxon occupation soil, may be utilised to address both questions concerning the West Stow settlement and the function, use and disuse history of SFB's in general. The availability of a contemporary (buried) Saxon soil is unusual in such studies where Saxon soils are normally strongly truncated.

Construction and initial infilling of SFB's

It seems apparent from this assessment that the excavation of SFB's in poorly stable sands led to rapid infilling with sand and some local soil, for example making a sharp boundary at the base of 0178. Here and in other lower fills, banded and mottled layers may imply trampling of a pit-house nature, but this has yet to be proven; in fact most Early-Middle Saxon SFB's are believed to have had suspended floors (*ibid*; see wood remains of SFB constructions in Gustavs, 1998) and therefore an alternative interpretation for these deposits must be sought. Trampling can be differentiated from silting and inwash through soil micromorphology, and examination of the evidence at this site offers the opportunity to identify the nature of the basal fills and address wider questions about SFB structure and use.

Deconstruction and disuse

In some of the upper fills, charcoal-rich layers and fragments of possible humic turf were noted (SFB's 0023 and 0179) – these may relate to abandonment/deconstruction, but may also provide clues to the local soil and building materials involved; the West Stow reconstructions employ timber with some limited corking. No calcareous building material was noted in the fills; cob-like materials from chalky till and chalk have been found elsewhere in SFB's, (e.g. Hartismere School, Eye; Bowthorpe, Norfolk; Biddenham, Beds; West Heslerton, N Yorks) however these sites lie close to sources of clay, unlike West Stow. Burned clay is present in these fills and it will be useful to suggest a source for this.

In addition, the later fills may reflect the intensity of the land use/settlement contemporary with the disuse of the fills; 'clean' fills with little anthropogenic material (and associated little phosphate and low magnetic susceptibility) may reflect early/greenfield occupation, as in SFB examples from Bowthorpe, Biggleswade (Beds) and Svågertop (Scania, Sweden)(Macphail, 2002; Macphail and Cruise, 1998). Higher intensity/longer-lived settlement leads to fills with a strongly anthropogenic micromorphological, chemical and magnetic susceptibility signature (Guélat and Federici-Schenardi, 1999; Macphail *et al*., forthcoming). On many Early-Middle Anglo-Saxon sites the soil evidence from the sunken features implies a mixed farming economy, does the West Stow evidence fit this pattern?

6 Potential of the data

6.1 Realisation of the Original Research Aims

1 To provide a record of all archaeological deposits which would otherwise be damaged or removed by development, including services and landscaping.

All deposits have been recorded in the area of the new building, services and access road.

2 To place the site into context in relation to the prehistoric, Roman and early Anglo-Saxon occupation of the area.

3 To address regional research topics concerning the characterisation of Anglo-Saxon settlement.

Evidence to contribute to Research Aims 2 and 3 has been collected and these will be developed further below.

4 To prepare an archive of the excavation results, including an assessment of the potential for analysis and possible publication.

An archive of the excavation results has been prepared, and this report addresses the assessment of potential.

6.2 General statement of the potential

The site archive has the potential to address regional research aims pertaining to Early Anglo-Saxon settlement studies, specifically relating to settlement layout and topography, building form and function, building use and disuse processes, craftworking, farming and land-use.

6.3 Potential of the stratigraphic data

The discovery of further Anglo-Saxon buildings within this area, adds to the catalogue of SFB and wall post type buildings already recorded (West 1985) and the recovery of datable finds throughout the deep fills has the potential to establish the infilling sequence and contribute to the debate about the use of the sunken features post-abandonment. The development of soil analysis techniques means that there is an added potential for the analysis of the infilling processes both during the life of the buildings and after they went out of use, as well as to contribute to the discussion about the particular building materials used. Combining this information with examination of the details of the surviving pit cuts will contribute to discussions about the nature of the building structures, such as the presence of suspended floors and the projected size of the superstructure beyond the pit. Sieving of fills within one quadrant of three of the sunken features means that there is the potential to compare finds retrieval data between the two excavation methodologies, and to inform the conclusions of the biological analyses in particular.

The existence of the buildings and their density demonstrates settlement further east than originally thought. West suggests that the shape of the settlement is defined in part by the topography of the ground and that its nucleus was restricted to the pronounced knoll on which the reconstructed village now stands. Two SFB's were later found to the east of the main excavation but were described as outliers to the main site. Subsequent discoveries of two more SFB's and a wall post building to the west of the site at

Lackford Bridge (WSW 030, Tipper 2007) and a single building c.400m to the south on the opposing side of the river (LKD 038, Gill 1997) together with the current excavation results seem to demonstrate that there were pockets of settlement all along this part of the Lark Valley. Further study here has the potential to contribute to the wider understanding of settlement morphology, in particular to theories of nucleation of Early Anglo-Saxon settlements.

65% of the features (and all of the buildings) can be dated by finds or association and have been assigned to a period phase. There is good potential for close dating from the small finds, ceramics and scientific techniques to create a site sequence and to determine the relationship of this settlement area to that of the previous excavations. Although the truncation by ploughing of the Saxon ground surface to the level of the natural stratum has occurred over most of the area, the survival of the base of an ancient buried soil horizon at the north end of the site means that original ground surface levels can be suggested and shows that the projected depth of truncation of the cut features is unlikely to be severe. Below the truncation point the features are well preserved with stratified fills and good potential for addressing research questions for the period.

The results of the excavation are an important addition to the corpus of material already gathered about Early Anglo-Saxon settlement in this area and offers the opportunity to revise interpretations which are now over twenty-seven years old.

Further work required for the stratigraphic analysis

The stratigraphic data has been archived, group numbers allocated and provisional phasing applied. Further work to refine the phasing and prepare data for the specialists will be required before any analysis can proceed.

Late Neolithic and undated features

The features phased as late Neolithic have been catalogued and described for the archive. No further analytical work is required on these.

All unphased features have been catalogued and described for the archive. Once the phasing has been refined any features still identified as unphased will require no further

work. Features attributed to the early Anglo-Saxon period will be included in the further work outlined below.

Early Anglo-Saxon features

Further work is required to examine the fills of the SFB's alongside more detailed finds data in order to establish the use and abandonment processes and to help sequence the site, thus allowing the pattern of settlement and relationship with the posthole building to be established.

Research into the possible construction of the SFB's in conjunction with some revisiting of the original building forms will contribute to the development of the understanding of the structures and uses of this building type. Comparison of the size and possible form of the SFB's and posthole building should be made.

The posthole building will need revisiting for evidence of structural detail, date or function. Soil layer 0054 and the features underlying it will need further examination to confirm the interpretation as an occupation deposit.

Integration of the finds, environmental and stratigraphic data is required to adequately interpret the site. Spatial distribution of the finds data within and amongst the buildings will be a vital part of this work, and this includes searching for artefactual joins between contexts.

The results of this work will need to be compared with more recently (i.e. sites not available for comparison when the original West Stow site was published in 1985) excavated regional and national parallels (e.g. Bloodmoor Hill, Hartismere High School, Eye, Mucking, West Heslerton).

Plans and sections of each building will need to be illustrated and digital finds distribution plots produced, including one showing the dispersal of the pottery fragments and linked sherds. A site plan will need to be produced including the digital production or manipulation of the plans of the original excavations for relating to the current work. This should include topographical features such as contours. A simple phase plan to identify the early Anglo-Saxon features will be required, and it is envisaged that up to fifteen other feature sections will be required.

The aim of this further work is to present five more buildings associated with the nationally important West Stow settlement site, and to publish this information so that those involved in the study of this period have access to the data. It is also aimed to publish and display information and finds at the West Stow visitor centre so that staff and visitors are aware of the developing story.

Work required for the publication will be the production of publication text from the results of the analytical work, a synthetic discussion of the results and research into parallels, and location and topographic plans will need to be produced for the publication, in addition to the site illustrations listed above.

6.3 The potential of the finds data

6.3.1 General introduction

Richenda Goffin

This section of the assessment provides a detailed consideration of the potential of the different finds types for further analysis, in particular to address specific research objectives. The bulk material and small finds are considered together.

It is twenty-seven years since the publication of the Anglo-Saxon village at West Stow (West 1985). The recent excavation on the site of the New Museum Building provides an opportunity to examine new evidence in the light of the research that has been undertaken in the intervening years. It also offers a chance to reconsider some of the findings in the previous volume and to re-evaluate some of the material evidence, to enhance our understanding of this important settlement. In addition aspects of the further work will contribute to specific regional research themes as outlined in the Research Framework (Glazebrook 2000, Medlycott, 2011, 59).

The site lies towards the eastern part of an area of archaeological activity along the central Lark Valley. Prehistoric, Roman and Saxon activity has been recorded on both sides of the river valley, so a study of the site, the finds and the environmental material provides an opportunity to improve our understanding of this part of the landscape, as

well as providing an opportunity to re-evaluate some of the evidence from the earlier publication.

Artefacts of prehistoric, Roman and early Anglo-Saxon date were recovered from the excavation. Few categories of prehistoric finds were recovered, but a preliminary study of the worked flint shows that it dates to the Neolithic period. Considerable Neolithic activity has been recorded in the vicinity, on the north side of the valley, but also on the other side, at Lackford Bridge (Percival and Bates, unpublished pottery and flint reports). Further investigation of the prehistoric flintwork and the distribution of the heated stone and flint from the site will contribute to a better understanding of the date and extent of these features.

Although no Roman features were identified on site, there is potential through further study of the Roman material culture to address some significant issues. Amongst these is the question of the Roman/Anglo-Saxon transition for the settlement. This topic is discussed as a research theme in the East Anglian Regional Research Framework (Brown & Glazebrook, 1997; Glazebrook, 2000). The issue of the deliberate selection and collection of certain types of Roman artefacts should also be discussed. A study of the coinage also may provide some indication of how/whether the Saxons were using the Roman coinage, and perhaps offer information on continuity or discontinuity of currency following the end of the Roman period.

All the artefactual evidence can be considered against the backdrop of the material which has already been published (West 1985), together with a study of additional artefacts from the area recorded through the Portable Antiquities Scheme. Further cataloguing and research on the small finds will also supply more dating evidence to add to this framework. A study of the Saxon pottery may refine the dating on the development and the duration of the settlement, as well as providing information on its nature and status. The dating of the pottery can be compared to some extent to the assemblage from the main settlement site, although there will be limitations because of how the pottery was recorded from the first excavation. There are for example, no fragments of Ipswich ware from the latest excavation, although sixty-nine sherds were recovered from stratified deposits on the original site and more were collected from surface deposits (West 137). The lack of other features of later early Anglo-Saxon

pottery identified in the assessment for this site may also suggest that this part of the settlement may have had a shorter life-span than lower down the valley.

A consideration of the finds and environmental information from recent excavations of other rural Anglo-Saxon settlements in the region such as the important site at Hartismere High School, Eye, (Caruth and Goffin, 2012) as well as smaller sites such as Rushbrooke (Riddler, forthcoming) will also be included, so that a better understanding of the pattern of rural settlement in this part of the region can be gained. Recent work within the region on the Anglo-Saxon settlement sites e.g. at Bloodmoor Hill, Barking, Flixton, Crimplesham and Lakenheath should be considered for comparative purposes.

Summary of further work required

For the majority of the bulk finds, the initial catalogues have been completed and little further work is required on the individual assemblages themselves. However further study on the distribution of the different materials within the SFBs and a consideration of their dating and possible re-use is required at the analysis stage.

The main purpose of the programme of further work is to undertake more analysis of identified categories of data, and to provide a full and integrated synthesis of the data which can be disseminated in a suitable publication. In addition an ordered and indexed archive should be created for further research and for final deposition.

6.3.2 Pottery

Roman

Andy Fawcett

The potential of the Roman pottery is to inform discussion on the re-use of artfefacts in the Early Anglo-Saxon period.

One of the similarities of this assemblage with the 1985 West Stow material is the frequency of fabric types NVC and OXRC, as well as other finewares and oxidised pottery (Plouviez 1985, 84). This requires further examination. An analysis of wear, and comparisons of percentages of coloured and oxidised wares as well as known fabric types should be undertaken within the assemblage. In addition, the distribution of the pottery across the SFB’s, in terms of the possible selection of bases for instance, should

be compared to groups from SFB's from other settlements as this may provide further information on the reuse of these pieces. A high proportion of bases was also noted at Godmanchester (Fawcett 1999) and a similar percentage of coloured and oxidised sherds were recorded at Gamlingay (Fawcett 2005, 208). The analysis will enable some discussion on the possible re-use and curation of specific fabrics and vessel parts during the Anglo-Saxon period. Other probable curated fragments of Roman pottery from Saxon deposits have been identified at Staunch Meadow Brandon (Tester et al, forthcoming) and RAF Lakenheath (Tester 2006).

Further work

The pottery has been fully catalogued but further work is needed to examine the distribution of the pottery in relation to the various SFB fills on the site. The pottery should also be compared with other local and regional sites containing similar groups. No pottery is recommended for illustration.

Post-Roman

Sue Anderson

Early Anglo-Saxon

The pottery assemblage as a whole is in good condition with little abrasion, and all except one sherd was collected from stratified features. Although no intact vessels are present, there is enough information in the assemblage to add to existing information on the types of pottery vessels favoured for use in this community during the 6th century.

One of the Regional Research Aims for this period (Wade 2000) involves the study of rural artefact assemblages, to feed into settlement studies. The early Anglo-Saxon pottery assemblage from West Stow is one of several large groups to have been recovered from rural settlement sites in recent years, a number of which have been studied by the current author. This makes potential for comparison very high, as there is less chance of inter-observer error in terms of fabric and form descriptions.

In the region as a whole, medium to large early Anglo-Saxon pottery assemblages have recently been studied from Eye (Anderson 2008), Flixton cemetery and settlement (Anderson 2005a and forthcoming a), Carlton Colville (Tipper 2009), Bromeswell (Anderson 2000a), Handford Road, Ipswich (Anderson 2005b), Eriswell cemeteries and settlement (Anderson 2005c; 2005d), Lackford (study of fabrics only, Anderson,

unpub.), Godmanchester, Cambridgeshire (Anderson 2000b), Gamlingay, Cambridgeshire (Anderson 1998), Witham, Essex (Anderson 2003), Tittleshall and Foulsham, Norfolk (Anderson forthcoming b). Although some of these sites have only reached assessment level, nevertheless basic catalogues of fabrics and forms are available for comparison, which will help to place the site in context with regard to regional pottery studies for the period. The previously published assemblage from West Stow (West 1985) will also be of value for comparison of forms.

Large groups of pottery were recovered from the SFBs, and analysis of these individual groups may provide evidence for patterns of use and disposal, potentially by individual households or within phases. Information on the deposition patterns of the ceramics may be gained by finding cross-context joins and sherd links, or fragments of one vessel distributed throughout the different fills of a feature, or between different features. The pottery from the different fills of each SFB can be examined as part of an attempt to characterise any differences in the origins of their deposition. This information will be considered together with pottery from surrounding features to provide a picture of rubbish disposal and pottery use within this part of the settlement.

A number of sherds with internal residues will be selected for radiocarbon dating. This may provide dating evidence for the sequencing within the SFB fills and may also provide dating indicators for particular fabric types.

Further work

A full quantification by fabric, context and feature has already been completed, and a catalogue of this data will be prepared for the archive. Further work however is required on spatial and stratigraphic analysis once final phasing and more detailed site information are available. Further investigation of the distribution of sherds within structures and between structures will be required, to contribute to understanding the sequence and nature of the deposits associated with the SFBs. The dating of individual vessels will be refined, where possible, based on forms and fabrics. The assemblage will be compared with other East Anglian sites. A more detailed report on fabrics, forms and decoration will be prepared for publication. The stamps should be added to the Archive of Anglo-Saxon Pottery Stamps. The nine vessels which are worthy of illustration will require more detailed fabric and form description for the published catalogue.

The stamped sherds will be fully catalogued by Diana Briscoe and comparisons will be made with the original assemblage from West Stow and other groups in the region.

It is recommended that nine vessels require illustration.

Medieval and later

The post-Saxon part of this assemblage is made up of only three sherds. No further work is required following on from the full catalogue. The fact that a single sherd of medieval pottery was found in the upper fill 0195 of SFB 0178, where it is presumed intrusive, is worthy of note.

6.3.3 CBM and fired clay

Sue Anderson and Andy Fawcett

No further work is required to record the CBM, but the assemblage should be considered in relation to its deposition within the SFBs, with a discussion of the possible re-use of Roman material. The further interpretation of this collection could also be enhanced by the consultation of published sites of a similar nature that include CBM assemblages.

The fired clay assemblage has been fully quantified by fabric. The potential for further work on the assemblage is fairly limited, given the lack of structural indicators such as impressions. However, the collection would benefit from a distribution analysis, in relation to each SFB, once all other materials and contextual evidence has been examined. It may therefore be possible to glean some supplementary information, in relation to function and distribution within individual structures.

6.3.4 Mortar

Two soft silty buff coloured lumps from SFB fills 0329 and 0338. Further examination is needed to identify fully what they are made of and establish whether they are artefacts or natural objects. Their identifications may contribute to an overall understanding of the artefacts that are associated with this SFB. If they are biological rather than artefactual their identification will also be useful. (It is possible that they are coprolites or similar).

6.3.5 Lava quern

Richenda Goffin

The lavastone assemblage is abraded and fragmentary, so individual fragments cannot be described in any detail. Their condition is too poor to provide information on type (for examples whether they are from upper or lower stones), or date. The stones do not have the potential to provide additional information on the domestic activities generated within the Saxon settlement relating to food preparation.

There is a question of the dating of these querns, that is whether they are Roman and were re-used during the Saxon period, or whether they are Saxon? It is usually considered that Rhenish lavastone was used in Britain from the prehistoric to the Roman period and from Middle Saxon times onwards into the medieval period, with a hiatus in the early Anglo-Saxon period. The original West Stow publication only has a paragraph discussing the querns from the SFBs (West 128). Puddingstone quern fragments were also found in these SFB fills. Comparison with the quernstone evidence from Bloodmoor Hill, Carlton Colville (Lucy, Tipper and Dickens 2009), Mucking (Hamerow 1993) and recent excavations on the Anglo-Saxon settlement at Crimplesham, Norfolk may help with consideration of the dating of the West Stow querns.

Further work

Further research needs to be undertaken to establish whether it is likely that the lavastone is contemporary with the early Anglo-Saxon settlement, following on from closer dating of the other artefacts. This issue also links in to discussions on trade and economy during the early Anglo-Saxon period. What was the nature of the trading links across the North Sea at this period for this material? Traditionally these stones were imported from the Mayen area of Germany, and during other periods they were included as ballast in ships and were exported as blanks before being made up into full quernstones once they had arrived (Freshwater, 1996)). Presumably the traditional trading routes were disrupted during the early Anglo-Saxon period, due to the social and political upheavals. Are there other types of artefacts from the Rhineland that were reaching East Anglia during this period?

If the quern fragments are considered to be Roman, they may fall into the category of Roman finds which were re-used during the Saxon period. Further investigation of the precise deposition of this material may provide information on understanding whether the querns were re-used during the Saxon period, or whether they were part of the accidental backfilling of these structures. All the fragments were recovered from the fills of several SFBs, and a study of exactly where within the SFB fills may provide valuable information on the subsequent history of the SFB after it had been abandoned. What other evidence is there from elsewhere for re-use of Roman querns during the Early Anglo-Saxon period?

6.3.6 Worked flint

Sarah Bates

An examination of the stratigraphic and spatial distribution of the flint across the site and in relation to the excavated material has the potential to provide evidence for a better understanding of the early history of the site. Some of the flint is residual, but other fragments were recovered from features located beyond the area of the SFBs towards the northern edge of the site. Few other artefacts were recovered from these sand-filled features, and the flints will contribute to establishing their dating. The presence of flint of Neolithic date will contribute to establishing the pattern of settlement and other activity throughout this part of the valley during this period. Neolithic pottery and flint was recovered at the Lackford Bridge site (Bates, unpublished report, Percival, unpublished report).

Further flint study may also identify the occurrence of the knapping of flint for building or other purposes during a later period. The sharp flint from the Saxon deposits and pit 0038 should be examined for further refits and its context considered to see whether it might have derived from prehistoric contexts or be contemporary or intrusive to the Saxon deposits. The sandy deposits on some of the flints should be more clearly identified to help ascertain the nature of the debitage. The flint should be considered in relation to any such material recovered from previous excavations at West Stow and any other relevant sites.

Further work

The flint should be described and analysed by context and in relation to the ceramic and other dating evidence from the site. In addition the following specific work should be undertaken for inclusion in the final report:

The sharp flint from the Saxon deposits and pit 0038 should be examined for further refits and its context considered to see whether it might have derived from prehistoric contexts or be contemporary or intrusive to the Saxon deposits.

The sandy deposits on some of the flints should be more clearly identified to help ascertain the nature of the debitage.

The flint should be considered in relation to any such material recovered from previous excavations at West Stow and from other relevant sites.

6.3.7 Burnt flint and stone

The groups of burnt flint and stone were recovered from a range of contexts, sometimes without the accompaniment of worked flint. Much of this material however was deposited into pits and the different type of fills of the SFBs, rather than being evidence of general prehistoric activity on the site.

Further work

Further work is required to examine the distribution of the burnt flint and stone fragments across the site. Is the presence of this material in the SFBs accidental reflecting the background materials that were on site at the time? The assemblage should be discussed in relation to previous work at West Stow and other SFBs which are sited on areas of prehistoric activity.

6.3.8 Slag

Small quantities of slag were recovered from the excavation (10 fragments @ 690g). It is likely that some of this material is fuel ash slag rather than smithing slag. All the slag came from SFB fills.

Further work

Although the slag assemblage is small and not well-dated, a basic catalogue of the material should be undertaken and a summary report written. Otherwise the potential for further work seems low. A few small finds associated with both ferrous and non-ferrous metalworking have been separately catalogued and are included in the small finds catalogue.

6.3.9 Iron nails

Ian Riddler

Eight of the twelve nails from the new West Stow excavations are stratified and come from the fills of three SFBs. It is notable that the iron nails from Mucking were all thought to be of Roman date and residual (Hamerow 1993, 68). Are the nails from West Stow Roman, or are they early Anglo-Saxon? Were nails used in the West Stow structures? Roman structures were discovered in the south-western part of the site and Roman finds, including coins, have been noted in the previous publications (West 1985, 76-85 and 122; 1990, 68-95). Further examination on nail types and their distribution may inform a discussion on these issues.

6.3.10 Small finds

Ian Riddler

Roman

The coins

Jude Plouviez and Ian Riddler

Initial examination of the assemblage suggests that there is strong evidence for the re-use of some of the Roman coins during the Saxon period. A full catalogue is required. The spatial distribution of the coins (preferably in conjunction with other late Roman material) should be examined and compared to data from the previous excavations. The published data does not analyse whether there is a difference in deposition between the Valentinian and earlier (Ae3 size) coins which frequently show re-use and the smaller, final period Theodosian coins (Ae4 size) which were not re-used – if this data can be retrieved from the archive it would be a useful comparison.

A balance was also found at West Stow previously, but it is of Roman date (West 1985, 122 and fig 237.2). Nonetheless, the weights of the coins should be noted and viewed against the evidence from Hartismere High School, Eye, with the possibility that some of the West Stow series might have been used as weights, originally accompanying a balance.

Other Roman finds

The plate brooch of second to third century date and two fragments from copper alloy bracelets are unstratified, but in spite of this, their presence is worthy of fuller discussion. The fragmentary Roman bracelets are likely to have been collected for recycling, alongside some of the coins, whilst the plate brooch may have been acquired for its intrinsic appeal. Fuller descriptions of these artefacts are needed so that they can inform any discussion on artefact re-use during the Anglo-Saxon period. Evidence from the excavation at Hartismere High School Eye shows a similar range of uses of Roman material, albeit with a greater emphasis on coins as weights, and on the recycling of metals (Riddler, forthcoming). The question of structured, placed and 'special' deposits within early Anglo-Saxon settlements has been raised by Hamerow (2006) and the small finds may also contribute to that debate, although it is usually centred on the deposition of human or animal bone.

Early Anglo-Saxon

The majority of the small finds of this date are stratified and the assemblage has good potential to assist with a number of research aims. One of the most fundamental of these is the potential of the small finds to contribute to the refinement of the dating of the features.

Few of the objects can be dated with great precision and one of the best-dated, the cruciform brooch fragment, is unstratified. Nonetheless, when the objects are grouped by feature, there is certainly the potential to provide reasonable dating for the backfills of some of the sunken-featured buildings. This would be undertaken in detail during the analysis stage and amalgamated with evidence provided also by the ceramics and from scientific dating techniques. On the basis of the small finds alone, the dating of SFB 0318 is equivocal at present, but it could be the latest of the fills, and that for SFB 0179 may only be precise if the glass vessel can be firmly identified to type, but SFB 0023 can be dated provisionally to *c* AD 525 – 600 and SFB 0178 to *c* AD 550 – 600. A mid

to late sixth-century emphasis for the fills of two of the structures appears likely at present, but a full analysis of the objects in context is needed in order to confirm this suggestion, and to establish also whether the fills of SFB 0179 are earlier than the remainder, as well as providing a sequence of occupation.

The other important point here is to examine the proportion of residual material within each fill. There is some consistency in dating across most of the fills but SFB 0318 appears to contain both earlier and later material, a situation seen with a number of the fills from the earlier excavations (Riddler forthcoming). Is this curated material (alongside the Roman items) or does it tell us something about the way in which these structures were backfilled?

With the dating of this part of the settlement established, it will be possible to relate it to the earlier excavations. This work was published some time ago and in the intervening period some of the assumptions made about the material culture have been developed and revised. In particular, Ipswich ware is now dated rather later than it was and there is additional evidence as well to suggest that the West Stow settlement continued into the first part of the eighth century. The original model for the development of the settlement over time has been reconsidered on several occasions (Welch 1992, 30-1; Tipper 2004, 53-4 and 130-4) and is in need of re-evaluation. The new excavations can be dated from the small finds, ceramics and scientific techniques, but they can only be properly put into context if the earlier excavated material (which has been well published) is also considered once again and a revised dating scheme is produced for the settlement as a whole. The new findings need to be accurately stitched to the old.

Another important aspect of the analysis will be the cataloguing and discussion on the artefacts relating to crafts, trade and economy that were recovered from the site.

Textile manufacturing implements dominate this category and are distributed across several of the SFB fills. They can be viewed in terms of the processes of textile manufacture, not all of which take place in the same location (Walton Rogers 2007, 41-7). There are no fibre processing spikes but the evidence for spinning (two spindle whorls) can be contrasted with that for weaving (the ceramic loomweights and pin-beaters). The bone awl and needle would probably also have been used in textile manufacture, during the weaving phase. The two processes of spinning and weaving

overlap but are not found in precisely the same places. West Stow has been used as a type site for this type of investigation (*ibid*, fig 2.33) and the new evidence can test some of the hypotheses adopted with that model. In terms of textile manufacture, the early Anglo-Saxon period is viewed as a subsistence economy, with specialisation in textiles developing only in the Middle Saxon period. A comparison of material culture with the faunal remains from the settlement can be used to assess the situation for West Stow and possibly to view changes over time, particularly if the new excavations extend over most of the sixth century.

The metalworking evidence provided by the small find assemblage is slender but still important, particularly as this craft was scarcely mentioned in the earlier site reports. The lead alloy waste can be compared with similar material from Mucking whilst the presence of wire of iron, copper alloy and silver is intriguing. Several items of silver came from the earlier excavations, and the presence of wire is indicative of the manufacture of silver wire rings, most of which are of late sixth to seventh century date and occur with necklaces (Geake 1997, 48-50). There are no imported objects within the assemblage, aside from the glass beaker fragment, and it all has a distinctly local, East Anglian character, corresponding with the Middle Anglia region, as defined by Walton Rogers (2007, fig 6.2). Within that region there are settlements from West Stow, Handford Road at Ipswich, Eye and Carlton Colville. The settlement at Spong Hill lies to the north of the Middle Anglian group, alongside the Fen settlements of Lincolnshire. Further to the south, but still in the same broad Middle Anglian and East Saxon region, lies the site of Mucking. Are they all the same, or can regional identities be seen within the material culture of settlements? Did the same activities occur in all of them or are particular specialisms present in some?

Medieval and post-medieval

A single bent silver coin (SF 1036) was recovered as a metal detected find. A copper alloy post-medieval mount (SF1003) recovered from the ploughsoil requires an amended catalogue entry but otherwise no further work.

Further work

The small finds have been initially catalogued and x-rayed. Further work is required to provide a more detailed catalogue, following cleaning of selected artefacts. Further identification of some material types is also required. An in-depth study of the distribution of the different types of small finds within the SFBs and a consideration of

their dating and possible re-use will be necessary. The analysis of the small finds will form a major element of the synthetic discussion on the character of the settlement. The Roman and Anglo-Saxon small finds should be fully catalogued and discussed in relation to material from the earlier West Stow excavations, and in the context of other settlements within East Anglia and the Midlands.

Investigative conservation
The Roman coins should be cleaned so that they can be inspected for more detailed identification but also for damage, abrasion, rubbing etc and other reuse.

Some cleaning of objects is necessary to reveal their detail, particularly for the cruciform brooch fragment (SF1021*)* and the strap-end (SF1043*)*. Wooden bowl (SF1020) also requires cleaning and stabilisation.

Wood identification
The wood type of the bowl (SF1020*)* should be identified, alongside the wood of the copper alloy repair or rim mount (SF1068)

Stone identification
The stone of the spindle whorl (SF1062*)* should be provenanced.

6.4 The potential of the environmental evidence

6.4.1 Animal bone

Pam Crabtree and Douglas Campana

The study of faunal remains from the excavation has considerable potential to answer a number of questions on the groups deposited into the SFBs and the associated features. In addition to the analysis of the assemblage and comparative studies, there is also the potential to re-evaluate the work which was undertaken on the previously published animal bone assemblage at West Stow.

Analysis of the recent animal bone assemblage should contribute to the following topics:
1. When the faunal analysis of the original assemblage from the West Stow village was carried out, the animal bone assemblage from the West Stow village was the only large

faunal collection from an early Anglo-Saxon site in England that had been systematically studied and published. The West Stow animal bone remains were used to develop a model for early Anglo-Saxon animal husbandry practices, hunting patterns, and diet. The animal data from the new museum site will allow us to test and refine this model.

2. The faunal remains from Stanley West's 1965-1972 excavations were hand collected without fine sieving. Since one quadrant of each of the new museum site SFBs was screened, we will be able to assess what kinds of information were lost from the original excavations due to the lack of sieving. This is critical for the interpretation of the Anglo-Saxon economy, since, without screening, the bones of small vertebrates, and even the smaller carpals, tarsals, and phalanges of medium-sized mammals such as sheep and pigs can be lost.

3. The condition and size of the faunal remains within the fills of individual SFBs will be studied to contribute to understanding the formation processes of these structures. The proportions of identifiable and unidentifiable bone will be considered, to provide further evidence on the deposition of this material. Comparisons will be made also of animal bone groups between the SFBs.

4. Comparison with the faunal remains from the New Museum Building with other early Anglo-Saxon assemblages such as the recent excavation at Hartismere High School Eye, Bloodmoor Hill, Carlton Colville, Rushbrooke (all Suffolk) and Kilham in Yorkshire will provide valuable information on the economy of the site. This study will allow us to contribute to a reconstruction of the history of animal husbandry (including collection of biometrical and ageing data), hunting and diet in East Anglia in this period.

The assemblage can also be discussed in relation to other relevant assemblages, such as Icklingham (Late Roman) and Brandon and Wicken Bonhunt (Middle Saxon).

5. When the faunal remains from the West Stow village were initially studied, it was not possible to distinguish sheep mandibles from goat mandibles. New methods of identification now allow researchers to separate the mandibles and mandibular teeth of sheep and goats. This study will use these methods to develop separate age profiles for sheep and goats based on dental eruption and wear. A preliminary assessment of the collection suggests that most of the mandibles came from sheep rather than goats.

6. One possible research question is whether it is possible to determine whether the cattle from West Stow used to pull carts and ploughs? New methods for identifying

traction pathologies have been developed since the 1970s. A quick preliminary assessment indicates that there is some evidence for traction pathology on some of the cattle bones from the new museum building site.

7. An analysis of the disposal of animal bone waste may show significant differences in species, and body parts between the SFBs.

8. Analysis of the animal bone is likely to show further worked fragments which can be catalogued and added to the discussion on craft and exploitation of resources in the small finds report.

9. An analysis of the assemblage will enable us to establish to what extent were wild resources exploited, whether there are any particular species noteworthy by their rarity. Also there may be fishbones present in the environmental residues.

Further work

The animal bone assemblage requires full analysis, data analysis, biometric data analysis and the production of summary tables and figures. In particular the assemblages from individual SFBs need to be examined separately. Comparative work should also be undertaken with the previous work on the West Stow excavation, but also other sites such as Icklingham, Brandon, and Eye.

The following methods will be used for the analysis stage:

- Initially each animal bone fragment will be identified in terms of animal species and body part. The body side, portion, and degree of fragmentation will be recorded for each entry.
  These data will be used to calculate the relative importance of the various animal species in the assemblage (based on MNI and NISP), as well as to determine the taphonomic history of the faunal collection. The sex of the animal will also be recorded where possible. A preliminary assessment of the collection indicates that most of the animal bones come from domestic mammals, principally sheep and cattle, along with smaller numbers of pigs and horses. The remains of poultry (goose and fowl) and small mammals such as domestic cat were also identified in the preliminary assessment.
- All the animal bones will be measured following the recommendations of von den Driesch (1976, *A Guide to the Measurement of Animal Bones from Archaeological Sites*). These measurements can be used to determine the size

of the animals kept by the early Anglo-Saxons, as well as to reconstruct the withers heights for these animals. The preliminary assessment showed that the assemblage includes a number of complete long bones of cattle, sheep, and horse that can be used for the estimation of withers heights.

- Age profiles will be constructed for the domestic mammals using both dental eruption and wear and epiphyseal fusion of the long bones. The preliminary assessment indicated that this faunal collection includes many mandibles of cattle, sheep, and pig which can be used to construct age profiles for these animals.
- All the animal bones will be examined for traces of butchery and bone working.
- The cattle limb bones will be examined for traces of traction pathology which can be used to determine whether these animals were used to pull carts and ploughs.
- All the faunal data will be entered into the ANIMALS program, a specialized data base for zooarchaeology. The program allows the faunal data to be sorted both spatially and temporally, based on the archaeological context. It also provides statistical summaries of the measurement and ageing data. The program can be used to generate a complete catalog of the faunal specimens, and the measurement and ageing data can be provided in standardized formats, such as Microsoft Excel.
- The condition and deposition of the animal bone from the SFBs will be studied with a view to contributing to understanding the nature of the deposits within these features and how they were formed.

6.4.2 Shell

There is little potential in further work on the shell and no further work is recommended.

6.4.3 Fishbone

Although there is evidence of fishbone in the residues retained from the environmental sampling of the SFBs, there are severe problems, due to the heavy mineral concretions which coated so much of this material which prevents accurate identification (see plant macrofossil remains report). Therefore further work is not recommended

6.4.4 Coprolites

Further analysis of this faecal material may provide information on whether the host was an animal or a human, and if so, whether it was adult or immature. The analysis might

provide information on the details of any parasitic infections. In addition to parasite eggs, other material evidence could have been captured within the coprolite, as a mite, bone fragments, plant material including charcoal and pollen grains were identified on coprolites from the previous excavation (Walker 97, 1985).

Further work

The coprolite recovered from SFB fill 0334 (Group 318) should be examined and analysed for the final report. Although there are clearly issues of residuality, it is considered that this analysis would be worthwhile. At the time of writing a specialist could not be found who does this kind of analysis but the approximate cost of the work has been allowed for.

6.4.5 Charcoal

Although species identification could be undertaken of the charcoal, the results are unlikely to be very useful and therefore no further work is recommended.

6.4.5 Charred plant macrofossils and other remains

Val Fryer

Introduction

It was hoped that the plant macrofossils and other remains would have the potential to provide more information on the activities and diet of those using the SFBs, as well as providing information on the environment and background flora. In addition it was hoped that the samples might provide information on the function of individual structures through the recovery of metalworking debris such as hammerscale, as well as the history, use and dis-use of the SFBs.

The potential for further work

Full retrieval of the plant macrofossils contained within the samples was a major issue, largely because of the heavy mineral concretions, which coated so many of the remains. As this introduced a bias to the recovered assemblages, accurate interpretation of the evidence was not possible. In addition to this, the samples from the sunken-featured buildings were almost all from secondary backfill deposits within the pits (as primary occupation deposits were rare) and, as a result, were, possibly unlikely to be directly related to any activities which were occurring within the buildings. However, notwithstanding these issues, the composition of the plant macrofossil

assemblages would appear to indicate that structures 0023, 0318 and 0178 may have been domestic buildings, or were at least situated close to centres of domestic activity, whilst structure 0179 may have functioned as a store or workshop. Two small deposits of possible burnt bedding, flooring or roofing materials were recorded within the fills of structure 0318, although it is unclear whether these were derived from the building itself or from debris dumped within the pit fill.

Further work

As none of the assemblages contain a sufficient density of material for quantification (i.e. 100+ specimens), no further analysis is recommended. However, a written summary of this assessment should be included within any publication of data from this site focusing in particular on the material recovered from the different fills of the SFBs.. The identification of the material type for the possible burnt bedding should be undertaken if at all possible.

6.4.6 Soil micromorphology

No systematic study has been carried out on the archaeological soils of the West Stow settlement. A review of soil data from English and European sites (Macphail *et al*., 2006) shows how the study of fills (Table 1) from three SFB's (0023, 0178 and 0179) and a control soil profile through the buried Saxon occupation soil, may be utilised to address both questions concerning the West Stow settlement and the function, use and disuse history of SFB's in general. The availability of a contemporary (buried) Saxon soil is unusual in such studies where Saxon soils are normally strongly truncated.

Soil micromorphological analysis has the potential to identify the difference between trampled deposits within the SFB pits and natural in wash and examination of the upper fill deposits has the potential to identify local soil used in the construction of the buildings, thus making an important contribution to the discussion about the use and construction of Anglo-Saxon buildings. In addition there is the potential to identify from where clay was sourced during the Anglo-Saxon period.

This study also has the potential to produce evidence for the surrounding land-use during the life of the settlement, and changes in the environment from the earlier to the later buildings. This in turn can be compared with the evidence from the occupation soil and with studies from other regional early Anglo-Saxon and Middle Saxon sites.

Further work

The following analyses are suggested to examine the details of the column samples from the buildings and the surrounding soil profile (see also Appendix 12 Table 1).

Soil micromorphology, chemistry (LOI, fractionated P and pH) and magnetic susceptibility (with MSmax)(Crowther, 2003; Crowther and Barker, 1995). Sample selection would focus on the research objectives identified in Section 7 using these combined methods with bulk analysis of control modern and subsoil samples.

SFB 0023

3 thin sections (M71A, B and C); up to 5 bulk analyses.

SFB 0178

2 thin sections (M34A and B); up to 3 bulk samples.

SFB 0179

2 thin sections (M41A and B); up to 6 bulk samples

Control profile monolith 70

1 thin section (M70); up to 3 bulk samples.

It is suggested that if all the potential SFB and control profile soils are to be utilised the above-listed 8 thin sections (Appendix 12 Table 1) should be employed, with the total 14 bulk samples being rationalised to 10 bulk analyses.

6.5 Radiocarbon dating

Eighteen radiocarbon dates will be sought to enhance the dating framework for the analysis and publication. Dating material will be obtained from charcoal and seeds from the environmental sample residues, concentrating in particular on the samples recovered from the SFB fills and if possible from individual postholes. Unfortunately no artefactual or environmental material was recovered from the posthole structure 0357 so this cannot be scientifically dated within the early Anglo-Saxon period.

It is recommended that two radiocarbon dates should be obtained for each of the four excavated SFBs. This could be from cereals or charcoal fragments which are plentiful in most of the fills of the different structures. In addition two more samples should be sent for dating from Early Saxon pit 0049, pit fill 0050) and pit 0183 (fill 0184) which cuts the top fill of SFB 0179. The articulated sheep torso found in the final fill of SFB 0318 is also a good candidate for C14 as it is unlikely to be residual, nor of great age.

The internal residues of some of the early Anglo-Saxon sherds will be considered for radiocarbon dating. For the early part of the Anglo-Saxon period, there is a flat spot in the calibration curve, and the calibrated range will broaden somewhat, but for an age with a +/- 30 year error, the worst case would be around 150 year spread at 95% confidence level (Gordon Cook, pers. comm.).

The majority of the sherds with residues come from SFBs 0023, 0178 and 0318. In addition one sherd with a residue came from a pit which was recorded in the central northern part of the site. Some of the pottery was recovered from basal fills and other sherds from layers higher up in the sequence. In one case, a sherd of early Anglo-Saxon pottery was found in a charcoal deposit in SFB Group 0023 (0149), and if the residue was substantial enough, it would be interesting to compare the dating of the residue with a date recovered from the charcoal.

Context	Fabric	Residue	Feature type and group
0157	ESFS	int	Fill of SFB Group 0023
0131	ESFS	int	Fill of SFB Group 0023
0058	ESCF	int	Fill of SFB Group 0023
0149	ESO2	int	Fill of SFB Group 0023
0144	ESO1	int	Fill of SFB Group 0023
0151	ESFS	int	SFB basal fill, Group 0023
0151	ESFS	int	SFB basal fill, Group 0023
0210	ESCF	int	Fill of SFB Group 0178
0226	ESCF	int	Fill of SFB Group 0178
0199	ESCF	int	Fill of SFB Group 0178
0197	ESO1	int	Fill of SFB Group 0178
0197	ESCF	int	Fill of SFB Group 0178
0343	ESCS	int	Fill of SFB Group 0318
0330	ESFQ	int	Fill of SFB Group 0318
0338	ESCF	int	Fill of SFB Group 0318
0334	ESMS	int	Fill of SFB Group 0318
0060	ESFS	int	Pitfill

Table 27. List of pottery with residues for C14 dates

The final selection of the pottery will be made by considering the amount of residues present inside the sherds and by investigating the stratigraphic sequences within the three SFBs. It is recommended that up to two pots from each SFB might be suitable and a possibly one from pit fill 0060.

7 Significance of the data

The site data is of regional and national significance and has the potential to address research topics relating to Early Anglo-Saxon settlement, craft, farming and economy. The West Stow Anglo-Saxon settlement site is still regarded as one of the most important studies of this period and the additional evidence identified here challenges some of the assumptions of that original report. The opportunity to examine a group of buildings associated that site, but excavated under modern conditions with the range of new scientific techniques (e.g soil micromorphology) available, adds to the significance of the site data. The significance of the results can be seen in reference to the regional research priorities for the period, outlined in the regional research frameworks (Brown and Glazebrook, 2000; Medleycott, 2011)

The characterisation of Anglo-Saxon rural landscapes and settlements has been highlighted as a regional research priority (Medleycott, 2011). The data from this site provides an opportunity to characterize the form of several additional early Anglo-Saxon buildings and to describe in detail the types of infilling of these structures through further stratigraphic analysis and more research on the artefactual and environmental material. The results of this work can be linked to the previous excavations and may result in some re-evaluation of the original layout and extent of the settlement and the surrounding landscape.

Another highlighted research priority is the nature of the Anglo-Saxon economy. The finds and environmental data from this site will contribute to the discussion on farming practices, particularly the balance between arable and livestock, the types of animals kept and for what purpose (milk, meat, wool, draft?) and the likelihood of primary and secondary crop production. The artefactual data will also contribute to examination of the local economy with evidence for textile production and other crafts, the re-use of Roman coins, the range of the pottery assemblage. These all can help indicate which resources are being brought in from outside, which produced on site for consumption within the settlement community and which are being traded out of the settlement.

Dissemination of the site data in an appropriate national journal will allow research opportunities in the future for a comprehensive reassessment of the original West Stow excavations is therefore of national significance.

8 Analysis and reporting: Aims and Objectives

8.1 Revised research aims

Following assessment of the potential and significance of the site data the original research aims can be revised in the light of the new evidence. These research aims will address topics identified in the Regional Research Agenda (Brown and Glazebrook, 2000) primarily settlement characterisation studies, but also to population studies, land-use changes and economic factors.

RA1 How do these results relate to WSW 002 and the other settlement clusters in this part of the Lark Valley.
RA2 What is the life-span of the SFB's and how are they grouped with the posthole building? Does this offer new evidence that can be applied to the main excavation? How does this contribute to an understanding of the number of people occupying the settlement at any one time?
RA3 What can examination of the stratigraphy, finds and soil micromorphology tell us about the use and abandonment of the SFB's? This will help examine the organisation of the settlement, the diversity of material goods at any one time, the disposal of waste items and evidence for trading.
RA4 What evidence is there for the physical structure of the buildings from the stratigraphic and environmental studies?
RA5 What evidence is there from the soil micromorphology for changes in land-use during the life of the settlement?
RA6 What finds and environmental evidence is there for trade and the economic basis of the settlement?
RA7 Does this new evidence change any of the assumptions about settlement organisation made in the original publication? How have ideas about Anglo-Saxon settlement changed in the intervening years?
RA8 What is the evidence for the use or re-use of Roman items, and does this contribute to arguments about the Roman-Saxon transition?
RA9 What dating evidence is there from the pottery and small finds for establishing the duration of this part of the settlement? Does the lack of Ipswich ware on this part of the settlement suggest a more restricted length of time for its lifespan. If so, what does this say about the development of the overall Saxon settlement and why is this likely to have happened?

RA10 What does the evidence from the animal bone assemblage tell us about the use of livestock?
RA11 What does the evidence tell us about arable production around the site?
RA12 What does the evidence from the small finds tell us about the organisation of craft activities within the settlement, and does this shed any further light on the original hypotheses from the original excavation?
RA 13 How does the finds assemblage compare with other settlements in the region in terms of its overall character and what does it tell us about trade and commerce?
RA14 How do these results compare with other recently excavated Early Anglo-Saxon sites?

8.2 Reporting

It is proposed that following the post-excavation analysis of the stratigraphic, finds and environmental archives the results should be collated into an analytical report which would be made available as a 'grey literature' report in the Suffolk HER and online on the OASIS archaeological database.

The principal academic potential of the site lies in the information to be gained from study of the Anglo-Saxon activity, which is of national significance. Whilst there is a background of prehistoric features across the site these are not well dated and the sample area small. Although this adds to the archive of data for the early occupation along the Lark Valley, the scope for analysis from the site assemblage is limited. There is a suggestion that some of the worked flint is contemporary with the Anglo-Saxon occupation which should be explored. It is therefore suggested that a paper is prepared for Medieval Archaeology to disseminate the results of the Early Anglo-Saxon period study. It is recommended that, given the constraints of the proposed publication, the prehistoric data should remain at archive level and is not included in the proposed publication.

8.3 Preliminary publication synopsis

The report will include a detailed description, and an analysis and interpretation of the SFBs and their associated fills, using the supporting artefactual and soil micromorphological evidence. The original interpretation of the SFBs from the first excavation by Stanley West will be examined, together with subsequent reviews of that work.

The recently excavated structures are some distance from the original excavations at West Stow. The publication will include a discussion on the overall extent of the Saxon activity, and whether the new structures are part of the same settlement as the original excavation, or whether they form a separate entity, perhaps one of many farmsteads established along the Lark valley. A brief discussion about the density of other early Anglo-Saxon sites in this part of the Lark valley would be included.

Once the dating evidence from the new work has been completed and considered the implications for the dating sequences established for the original excavations will be addressed. At the same time the finds and environmental evidence can be compared with the original assemblages to highlight any differences in the socio-economic evidence.

The plans of the SFBs should be included with illustrations of their associated small finds and other artefacts as in the original publication. Individual finds reports will be prepared by material, but the artefacts will also be considered in relation to individual SFBs, as before. More photography will be used however to show some of the artefacts, in addition to conventional illustration.

It is therefore proposed that the above would be suitable for submission as a report for inclusion in Medieval Archaeology. The aim would be to produce a relatively short report with an integrated discussion of the old and the new. The Society of Medieval Archaeology states clearly in its notes accompanying report submission that they 'publish few excavation reports, and then only when the site is very special'. The content of the report needs to be 'at the very least, of national significance and international interest'. The potential of this site to provide new information to allow reassessment of such a seminal work in the history of Early Anglo-Saxon settlement publication will satisfy those criteria. However it does mean that it is necessary to focus very clearly on the objectives in order to produce a report which would be of wider interest, by a considerable discursive element on the new SFBs coupled with further thoughts on re-interpretation and placing the settlement in a wider perspective.

Papers for submission to Medieval Archaeology should normally be not longer than 12000 words including notes and bibliography, unless there are exceptional circumstances.

9 Analysis and publication: resources and programming

9.1 Staff for analysis and publication

The following staff are allocated to the project.

Name	Initials	Organisation	Role
David Gill	DG	SCCAS FT	Senior Project Officer
Richenda Goffin	RG	SCCAS FT	Finds and Post-excavation Manager
Crane Begg	CB	SCCAS FT	Graphics Officer
Gemma Adams	GA	SCCAS FT	Graphics Assistant
Ellie Hillen	EH	SCCAS FT	Graphics Assistant
Andy Fawcett	AF	SCCAS FT	Finds Officer
Jess Tipper	JT	SCCAS CT	Archaeological Officer (Anglo-Saxon)
Jude Plouviez	JP	SCCAS CT	Archaeological Officer (coins)
Anna West	AW	SCCAS FT	Environmental Officer
Jonathan Van Jennians	JVJ	DCCAS FT	Finds Assistant
Donna Wreathall	DW	SCCAS FT	Finds illustrator
Sue Anderson	SA	CFA	Post-roman pottery specialist
Sarah Bates	SB	Freelance	Lithics specialist
Ian Riddler	IR	Freelance	Small finds specialist
Pam Crabtree	PC	Freelance	Animal bone specialist
Douglas Campana	DC	Freelance	Animal bone specialist
Val Fryer	VF	Freelance	Macrosfossil specialist
Richard MacPhail	RMP	Freelance	Soil micromorphology specialist
Sue Holden	SH	Freelance	Finds illustrator
Diana Briscoe	DB	Freelance	Anglo-Saxon pottery stamp specialist
Sarah Paynter	SP	Freelance	Slag specialist
Emma Hogarth	EH	Colchester Museum Service	Artefact conservation officer
Scottish Universities (SUERC)	GC	SUERC	Radio carbon dating contact
Derek Hamilton	DH	SUERC	Baysian modelling of C14 dates

Table 28. List of contributors

9.2 Task sequence

The following is a list of tasks proposed to produce the analyses and publication.

9.2.1 Initial preparation

Task 1. Preparation of information for specialists including plans, updated phasing and databases (DG/asst).

Task 2. Integration of finds and animal bone from the environmental samples, and adding new quantifications into the database (AF).

9.2.2 Task sequence and stratigraphic method statement

Task 3. Detailed examination of buildings and features, integration of finds evidence (DG)

Task 4. Discussion of results of stratigraphic analysis with reference to WSW 002 and paralellls (DG).

9.2.3 Task sequence and method statement for bulk finds

Task 5. Distribution of the Roman pottery within the SFBs and discussion of evidence for selection and re-use (AF).

Task 6. Spatial and temporal analysis of the Post-Roman pottery, comparative work and reporting (SA).

Task 7. Identification of Saxon stamps, report (DB).

Task 8. Spatial analysis and report on the CBM, fired clay, slag etc. (AF/RG).

Task 9. Worked flint analysis and reporting (SB)

9.2.4 Task sequence for analysis and publication for small finds

Task 10 Investigation of iron nails (IR)

Task 11 Cleaning and conservation (EH)

Task 12 Identification of wood species from SF 1020 (JW)

Task 13 Identification of petrology for SF (DW)

Task 14 Re-examination, full catalogue and plot distributions of coins (JP)

Task 15. Full catalogue of Roman and Early Anglo-Saxon small finds and report preparation(IR)

Task 16. Dating discussion in main part of report (IR)

9.2.5 Task sequence and method statement for environmental evidence

Task 17. Full analysis of the animal bone and reporting (PC and DC)

Task 18. Production of report on plant macrofossils (VF)

Task 19. Identification/analysis of straw ? bedding in sample (JW)

Task 20. Soil micromorphology analysis and reporting(RMP)

9.2.6 Task sequence for graphics

Task 21. Geo-referencing and digitising WSW002 site plan (CB)

Task 22. Production of site illustrations (CB/GA).

Task 23. Publication illustrations (GA/CB).

Task 24. Finds illustrations (SH).

Task 25. Checking of illustrations by authors (SA, SB, IR, DG).

Task 26. Photography of selected artefacts for publication (GA).

Task 27. Scanning and pasting up of finds illustrations (GA).

9.2.7 Dating

Task 28. Selection of plant macros, animal bone and pottery residues for C14 dating and submission (DG/RG)

Task 29. Bayesian modelling (DH)

9.2.7 Task sequence for publication

Task 30. Preparation, editing and assimilation of finds report (RG/IR)

Task 31. Editing grey literature report (DG and RG)

Task 32. Preparation of publication text (DG and RG)

Task 33. Translation of abstract for Med Arch

9.2.8 Project and finds management

Task 34. Liaising with specialists, packing finds for sending off, finds management (RG)

Task 35. Project management (DG)

Task 36. Meetings x 2 (DG, RG, JT, AF)

9.2.9 Archive deposition

Task 37. Check labelling on boxes and deposit in archive (AF)

Task 38. Updating databases, re-ordering the digital and paper archive (Asst).

Task 39. Submission of archive to HER or other appropriate body

9.2.10 Graphics and work associated with the display

It has been suggested that a small display should be created in the new building. This would include selected artefacts with explanatory captions and photographs. A reconstruction illustration could also be included if funding allowed, as this would greatly enhance the overall quality of the display.

In addition to the cost of acquiring a suitable small display case and possibly a panel, other costs relating to the design of the display, the writing and production of the captions accompanying photographs and artefacts will be incurred. Also the commissioning of a suitable illustrator to provide the reconstruction and panel display should also be included in the costings, if this is decided upon.

Once the graphics for the display have been completed and the artefacts are ready, time also needs to be included for the transport and the installation of the display by SCCAS staff.

A detailed task list for this has not been developed at this stage, it is suggested that this is discussed as a separate element once the analysis is complete.

9.3 Summary of tasks

Task no.	Task summary	Specialist	No. days
	Initial preparation		
1	Preparation of information for specialists etc.	DG	1
2	Integration of finds and animal bone from the environmental samples	AF	1
	Stratigraphic analysis		
3	Stratigraphic analysis	DG	4
4	Discussion of results of stratigraphic analysis	DG	2
	Bulk finds analysis		
5	Roman pottery	AF	1
6	Anglo-Saxon pottery	SA*	5
7	Stamp identification and report	DB*	1
8	Misc. finds, cbm, fired clay, etc	AF/RG	1
9	Worked flints	SB	1
	Small finds analysis		
10	Investigation of nails	IR*	0.5
11	Cleaning and conservation	CMS*	
12	Identification of wood on bowl	JW?*	
13	Identification of stone (petrology)	DW?*	

Task no.	Task summary	Specialist	No. days
14	Cataloguing of coins, distribution, discussion	JP	1
15	Roman and Anglo-Saxon small finds	IR*	3.5
16	Dating evidence for small finds and their spatial distribution	IR*	1
	Biological and environmental analysis		
17	Animal bone report	PC*	18
18	Plant marofossils publication report	VF*	1
19	Analysis/ID of organic material - straw ?bedding/	JW?	0.5
20	Soil micromorphology	RMP*	
	Illustration		
21	Digitising	CB	1
22	Site illustrations	GA	6
23	Publication illustrations	CB	0.5
24	Finds illustrations	SH*	7
25	Checking of Illustrations	IR*, DG, SA	1
26	Photos selected artefacts	GA	2
27	Scanning and pasting up of finds illustrations	GA	2
	Dating		
28	Radiocarbon analysis of 18 samples	SUERC	
29	Bayesian modelling	DH	2
	Publication		
	Grey literature report		
30	Preparation of final report, inc appendices	DG/RG/IR*	6
31	Report editing	RG/DG	2
	Medieval Archaeology report		
32	Preparation of publication text inc editing	DG/RG	8
33	Translation of abstract		
	Finds and project management		
34	Finds management (liaison, integration)	RG	3
35	Project management	DG	2
36	Meetings	DG/RG/JT/AF/IR	2
	Archive deposition		
37	Check labelling on boxes, inputting box info on archive database	AF	0.5
38	Updating databases, re-ordering digital and paper archive	DG/asst	1
39	Submission of archive to HER, OASIS and ? Museum	DG	0.5

Table 29. Summary of analysis and publication tasks

9.4 Programming

A gantt chart for the suggested analyses and reporting has been produced (Fig. 4). The work would start once funds have been approved (a nominal date of Jan 2nd has been used for the chart). The work for analysis has been programmed to take place over a period of 10 months (to allow specialists to fit the work into their schedule), with a suggested date of 31st October 2013 for submission of the publication report.

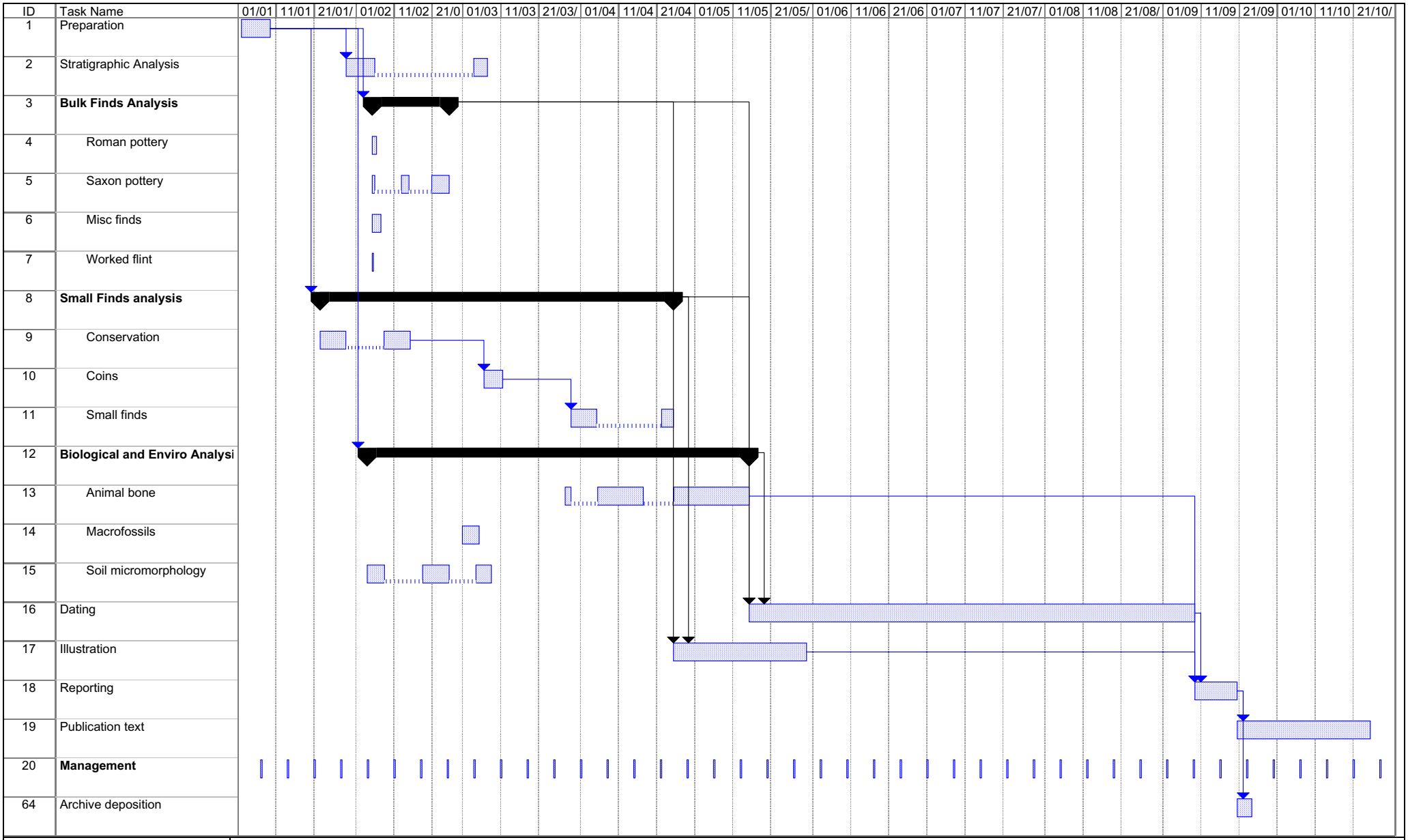

Figure 4. Gantt Chart for analysis and publication

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The fieldwork was carried out by Jo Caruth, John Craven, John Duffy, Fiona Gamble, Jen Hoang, John Sims, Dan McConnell, and Jonathan Van Jennians (all SCCAS) and directed by David Gill.

The finds were processed by Gemma Adams and Rebekah Pressler (SCCAS, Field Team) and the report graphics produced by Crane Begg.

The finds assessment has been compiled by Richenda Goffin (SCCAS, Finds Manager), incorporating individual reports by Sarah Bates (flint), Ian Riddler (small finds), Sue Anderson, (post-roman pottery and CBM), Andy Fawcett (Roman pottery, fired clay), Pam Crabtree and Douglas Campana (animal bone), and Jude Plouviez (coins) .

The environmental samples were processed and assessed by Val Fryer and the soil micromorphology assessment is by Richard MacPhail.

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