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NORFOLK ARCHAEOLOGICAL UNIT

PROJECT DESIGN FOR ARCHAEOLOGICAL EXCAVATIONS

A140 SCOLE DICKLEBURGH ROAD IMPROVEMENT PROJECT

(Revision 2.3)

May 1993

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NORFOLK ARCHAEOLOGICAL UNIT

A140 SCOLE DICKLEBURGH ROAD IMPROVEMENT

PROJECT DESIGN FOR ARCHAEOLOGICAL EXCAVATIONS

SUMMARY

Construction of the proposed A140 Road Improvement at Scole on the Norfolk-Suffolk border will cause considerable damage to important areas of archaeological remains, including a Scheduled Ancient Monument. Medieval earthworks, a considerable proportion of a Romano-British 'Small Town' dating from the first to fifth centuries AD, and probable Mesolithic horizons are at risk of destruction; the areas under threat are also known to contain building foundations, buried soils, and waterlogged deposits. The Norfolk Archaeological Unit and the Field Projects Archaeology Section of Suffolk County Council propose a programme of Excavation and Earthwork Survey, to be co-ordinated by the NAU, which will record the extensive remains prior to road construction. Mitigation measures were investigated with DTP but were not found to be practicable, principally because peat and alluvium will need to be totally removed, or subject to close-set piling north of the river. Construction of an amenity bund will cause damage to the topsoil to the east of the roadline through compression. Further small-scale work will monitor topsoil removal in other parts of the road improvement, and test hypotheses regarding the survival of pre-Roman landscape elements. Detailed timetables and costings are provided to cover the fieldwork and archiving/assessment phases of the project, and an outline figure provided for the likely cost of further work.

1 BACKGROUND

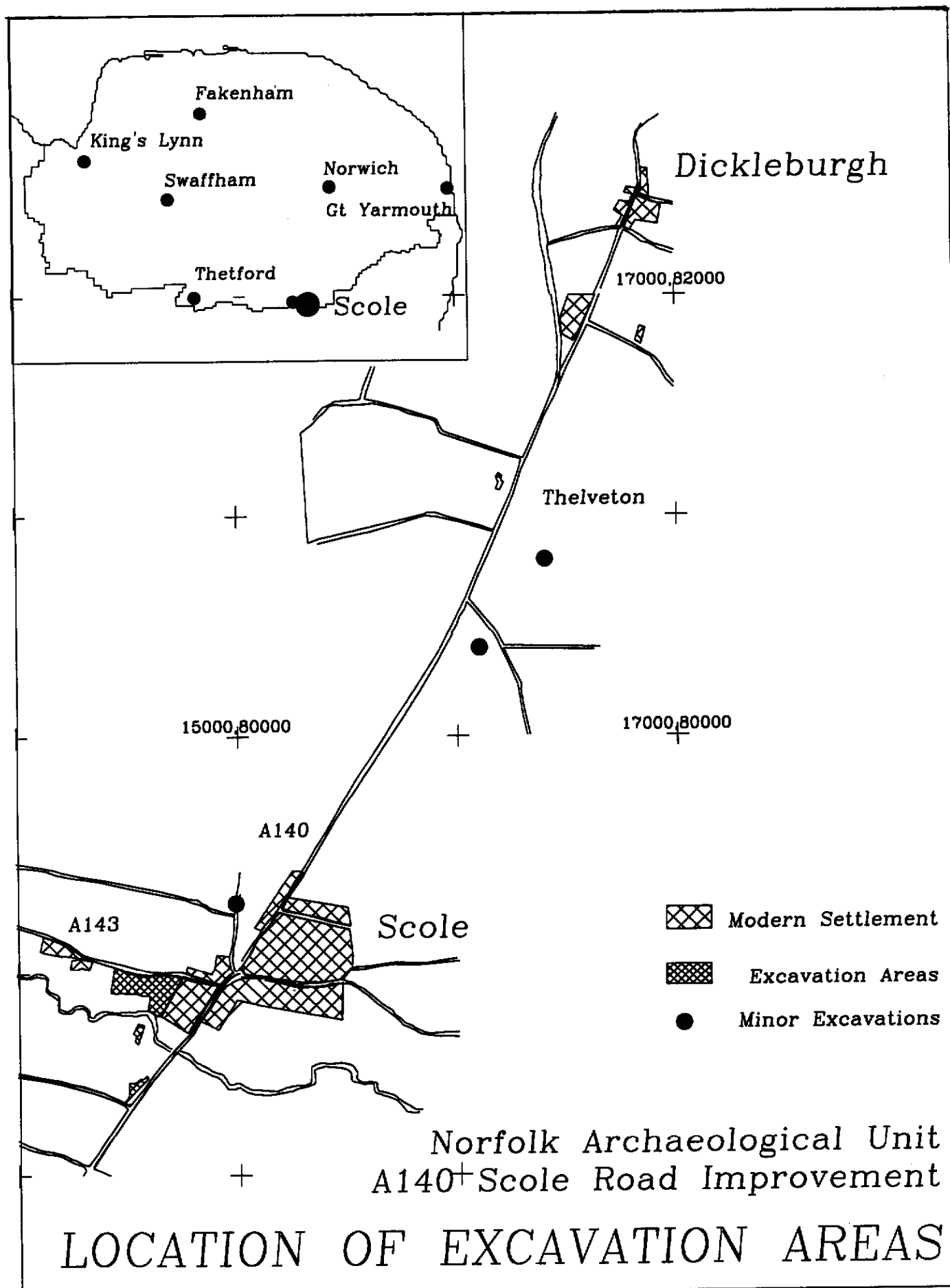
1.1 The Main Excavation Site

1.1.1 This Project Design outlines the proposed archaeological works engendered by the A140 road improvement in the vicinity of Scole village on the Norfolk/Suffolk county boundary. The bypass will affect sites in both counties and this document forms the joint response of the Norfolk Archaeological Unit ('NAU') and the Field Projects Division Archaeology Section of Suffolk County Council (informally referred to as 'Suffolk Archaeological Unit' or 'SAU').

1.1.2 Excavation is proposed for the three areas marked on Figure 1. The NAU will excavate the site north of the River Waveney, the SAU the two smaller areas south of the river. The river itself will be diverted as part of the road construction programme and provision has been made within the costings for the NAU to retrieve a series of environmental samples from a section cut across the former river channel. Further low-intensity archaeological activity will be conducted along the other parts of the bypass line during topsoil removal for road construction.

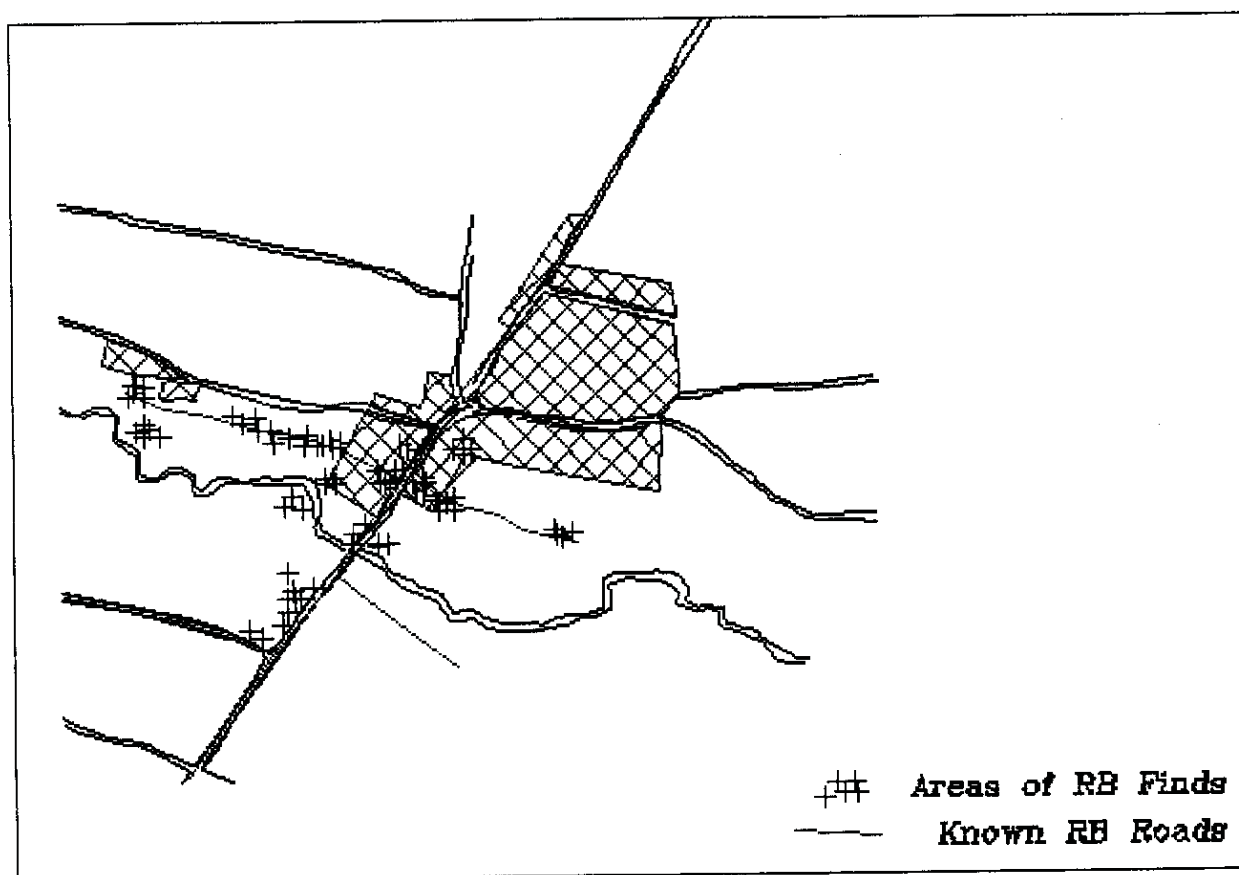
1.1.3 The main sites affected lie on the floodplain of the Waveney (Figure 1) and comprise areas adjacent to the river itself and beside the A140 further south in Scole (Norfolk) and Stuston (Suffolk) parishes. The topography of the excavation area north of the river consists of a south-facing slope as the floodplain descends to the current river course; the land drops 5m over a 250m distance. South of the river the valley slope is more gradual, rising only 1.75m over 300m. The geology of the excavation area consists of chalk overlain by thick deposits of alluvial sand; peat beds to a maximum depth of 2.5m have formed in the immediate vicinity of the river itself. Within the roadline these affect an area of around 3500m² centred to the south of the present river course (The approximate extent of these peat deposits within the excavation area is shown on Figure 3).

Figure 1



1.1.4 Construction of the bypass will affect part of a Romano-British nucleated settlement which developed in the first century A.D. at the point where the road between *Camulodunum* (Colchester) and *Venta Icenorum* (Caistor St Edmund) crossed the Waveney. This 'small town' seems to have survived until at least the late fourth or early fifth century. The road-building operation will also offer the opportunity to examine apparently well-preserved deposits dating from the Mesolithic to Post-medieval periods.

1.1.5 Surface finds and earlier excavations suggest that the town was centred north of the river, beneath the modern village, with extensive roadside development along routes to the North, South and West (Figure 2). The areas proposed for excavation, largely centred either side of the River Waveney around TM 145 787, preserve extensive earthworks of medieval house platforms and enclosures and at least one Roman road in Norfolk and well-preserved subsurface remains of roadside development along the present A140 in Suffolk. The Norfolk site comprises approximately 20% of the original Romano-British settlement, and forms the only substantial block as yet unaffected by modern development. Widespread evidence of Mesolithic activity in this part of the Waveney valley exists and it is believed that stratified deposits may be preserved beneath the valley-floor peat. A low sandhill on the Suffolk bank of the river is considered to have great potential in this context and will be extensively investigated.



A140 SCOLE-DICKLEBURGH ROAD IMPROVEMENT

Figure 2. Known extent of Romano-British Settlement in relation to modern village (hatched)

1.1.6 The Norfolk excavation site comprises five fields, currently under pasture, and contains earthworks interpreted as the remains of medieval enclosures and house platforms as well as earthworks of roads associated with the Romano-British small town. Evaluation of these features in 1987 indicated the survival of Romano-British soils beneath the medieval platforms. Clay and masonry building foundations are known to survive in part of the site threatened by road construction, and archaeological stratification to a depth of 0.7m has been recorded. Waterlogged peat deposits survive along the river margin which may preserve cultural features, though this aspect was not resolved during the evaluation.

1.1.7 The two Suffolk excavation areas lie within an arable field immediately south of the river. No earthworks survive in this field, but surface finds over many years have indicated previous activity in the area, and archaeological evaluation in 1992-3 has identified concentrations of prehistoric and Romano-British material with the survival of stratified deposits along the edge of the field adjacent to the A140 and along the edge of the riverside peat deposits.

1.2 Previous work

1.2.1 The first references to a Romano-British site at Scole date from the mid nineteenth century, and the intervening years have seen a steady catalogue of small-scale investigations, surface finds and building site observations. The Norfolk events are summarised in the introduction to the largest excavation yet conducted in the area, by Andrew Rogerson for the Norfolk Archaeological Unit in 1973 (Rogerson 1977). This excavation examined an area of 900m² within Scole village 200m east of the current NAU site, and identified extensive remains of the Romano-British settlement, including roads, building foundation, and wells, the latter producing well-preserved organic material. Dateable finds fixed the occupation to the period from the first to early fourth centuries.

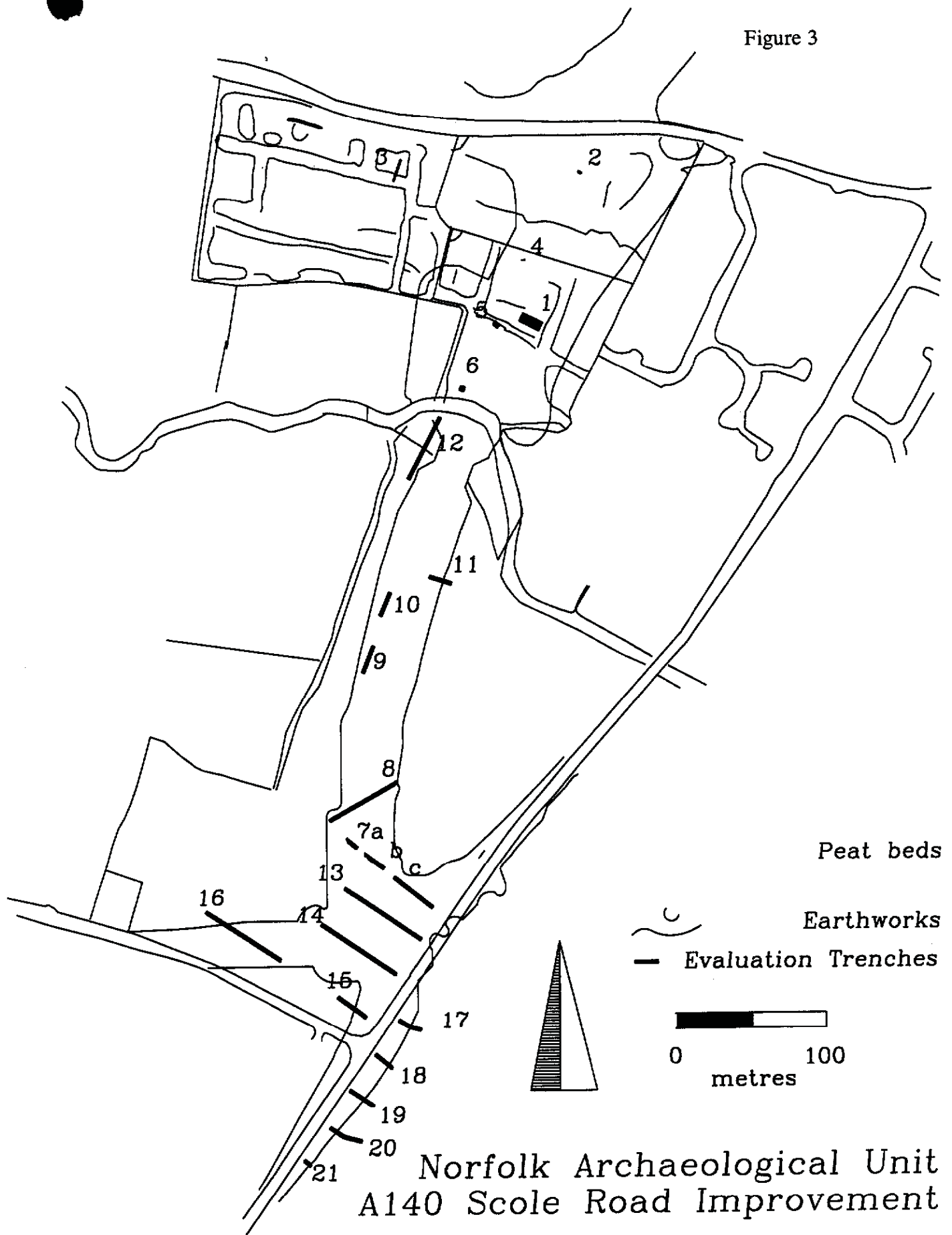
1.2.2 No similar area excavation has taken place to investigate the area south of the river, and the existing archaeological data is largely based on surface finds. Romano-British material is widespread and does not exhibit the early fourth century decline noted in Norfolk. A substantial group of metal artefacts was recorded in 1979-1980, including 200 Roman coins, and prehistoric material; this was concentrated along the eastern edge, but extended into the centre of the field. Air reconnaissance has also recorded a number of overlapping linear systems within the field.

1.2.3 Mesolithic material has been recovered from this area, both from surface collection, and from the upper part of the alluvial sand below the Romano-British occupation on the 1973 excavation site.

1.2.4 Archaeological investigations which directly relate to the proposed excavation sites comprise work conducted in 1967 and 1972 by Suffolk WEA (1. on Figure 3) and evaluation by NAU in 1986 (2. on Figure 3) and 1987 (3-6 on Figure 3) in Norfolk; and evaluation of the Suffolk field by SAU in 1992 and 1993 (7-21 on Figure 3). The notes from the 1987 trial trenches and copies of the 1992 and 1993 Evaluation Reports (Emery 1992; Penn & Tester 1993) are included as Appendices 1-3.

1.2.5 The archives of the WEA excavations have not been located, apart from a short summary report (Moss 1972) which identifies an east-to-west road fronted by a timber and masonry building associated with a cobbled yard and ironworking hearths. The 1987 evaluation of the Areas 1-5 was conducted by Tony Gregory for the NAU (Gregory, 1987). A basic survey of the surviving earthworks was made, and four small trenches excavated to assess the degree of survival across the site. This work concluded that the rectangular ditched system probably represented medieval house platforms and enclosures, while two Romano-British road lines also survived as earthworks. Romano-British soils lay preserved beneath the medieval

Figure 3



SURVIVING EARTHWORKS and PRIOR FIELDWORK LOCATIONS

earthworks. Stratified remains of the Romano-British settlement were identified in the southern part of the site with spreads of apparently unstratified material over the whole area. Stratification to a depth of 0.7m was recorded. Waterlogged peat deposits were encountered in the southernmost trench, though excavation was not continued to determine the survival of archaeological material.

1.2.6 Evaluation of the bypass line in Suffolk was conducted in May-October 1992 and January 1993 by Andrew Tester for SAU (Tester in Emery 1992). The evaluation consisted of gridded fieldwalking of the entire Suffolk field, metal-detecting along the proposed roadline, and limited trial trenching (7-12 on Figure 3) to investigate the known concentrations of archaeological material. This highlighted two areas of importance, one adjacent to a sand hillock beside the river where concentrations of prehistoric flintwork and Romano-British material were recovered, the other at the southern end of the bypass line where trial trenching identified a distinct zone of Romano-British stratification, partially covered by a dark soil deposit. Further evaluation trenches were excavated in 1993 (Penn and Tester 1993) (13-21 on Figure 3) to assess the extent of this dark soil and to investigate a further part of the proposed roadline east of the present A140. These gave a good indication of the extent of the Romano-British deposits within the area proposed for excavation, and indicated a lack of activity to the east of the present road.

1.2.7 Landscape and documentary study of the line of the road improvement in Norfolk (Emery, 1992) led to the identification of several areas of potential interest spanning the periods from the Mesolithic to the post-Medieval. The area of the main excavation was highlighted as of the greatest importance, though landscape work by Tom Williamson of University of East Anglia, Centre for East Anglian Studies also identified the area between Scole and Dickleburgh as of considerable potential. Williamson's analysis of early maps has suggested the fossilisation of a pre-Roman landscape within the present pattern of field boundaries. The relict landscape is characterised by long, slightly sinuous north-south boundaries separating ladders of rectangular fields or enclosures; the system ignores the local topography, and has been suggested as extending over very large areas of southeast Norfolk in a similar manner to 'co-axial field systems' in other parts of England. This hypothesis is based solely on cartographic analysis and has not been tested archaeologically. Three areas were identified by Emery as locations where the bypass line contacted elements of this relict field system: TM 149 792; TM 161 804; and TM 164 808 (Emery, 1992. Figure 10).

1.2.8 Subsequent fieldwalking in 1993 (Penn and Tester, 1993) failed to confirm most of the earlier evaluation hypotheses, but four potentially interesting areas were identified. Four concentrations of medieval material were recovered during the 1993 evaluation which suggested small settlements; the location of one north of the A143, directly opposite the main excavation area suggests that it represents a further continuation of medieval Scole (Penn and Tester, 1993. Site 1). A second was located on Thelveton common at TM 161 805, opposite Tollgate Farm (Penn and Tester, 1993. Site 15) in the approximate area of a building marked on Faden's Map of 1797, which may represent the remnants of a village (Emery 1992. p8-9). The other two concentrations, at TM 153 805 and TM 164 815 (Penn and Tester, 1993. Sites 9, 26) could not be related to known features.

1.3 Circumstances of the project

1.3.1 The improvement of the A140 in the main excavation area will involve the construction of a new bridge across the River Waveney; canalisation of the river itself; removal of peat and alluvium either side of the river and subsequent piling and stable infilling to create a geotechnical raft on the north bank; and general excavation to a depth of 1m prior to road construction. An amenity bund will be built along the eastern side of the road in the vicinity of the village to act as a noise screen and a new field access established for the fields north of the river. These activities will require topsoil removal and are likely to result in the total

destruction of the surviving archaeological remains, either directly through soil removal or indirectly through compression beneath the road earthworks, (with the exception of the earthworks west of the roadline in Norfolk). Further sites along the bypass route are also likely to be destroyed.

1.3.2 The site of the main NAU excavation is a Scheduled Ancient Monument (Norfolk No 403, HBMC Ref AA43930/1). The Department of Transport ('DoT') has been granted Scheduled Monument Consent for road construction works, subject to the provision of 20 weeks for the Norfolk Archaeological Unit to undertake archaeological works. The project has been timed to follow completion of the Compulsory Purchase Orders and precede construction, enabling at least 24 weeks of main archaeological excavation to be completed prior to the start of ground works associated with the road improvement.

1.3.3 Additional access to the site of the new Waveney bridge is being sought subsequent to diversion of the river. This will allow a section across the river channel to be sampled for environmental analysis. A Watching Brief will be kept on the entire bypass length, and three small trial excavations are proposed to test hypotheses concerning the survival of a pre-Roman field-system between Scole and Dickleburgh. Dates have yet to be agreed for all these events, though it is anticipated that the main excavation will undertaken in Suffolk between May and September 1993 and in Norfolk between May and October 1993.

1.3.4 The project has been designed to fulfil the Site Brief/Specifications established by the respective Curatorial sections for work in each County (Gurney 1991, Norfolk; Plouviez 1993, Suffolk). These have been included as Appendices 4 and 5. Separate Method Statements for Norfolk and Suffolk have been approved, and this Project Design is aimed at combining the two individual Method Statements into a coherent single project. The additional Watching Brief and trial excavation works identified in Paragraph 1.3.3 were included in the Project after discussion and approval from HBMC.

1.3.5 As the project is timed to precede directly the construction of the A140 road improvement, backfilling of the excavation site is not required, and has not been included in the budget. Specialist reinstatement and backfilling with stable material is considered to be a technical operation and best dealt with as part of the main road construction programme. Consequently no budgetary provision has been made for these operations, though small scale temporary hand-backfilling of features for Health and Safety needs is included within the costings for each area, should this be required.

1.4 Impact Assessment

1.4.1 While the entire area of the road line and its associated earthworks threaten the surviving archaeology of the site, the extent of the threat varies across the area, as does the nature of the archaeological remains. Seven excavation areas have been identified on the basis of degree of archaeological potential and the specific nature of the threat.

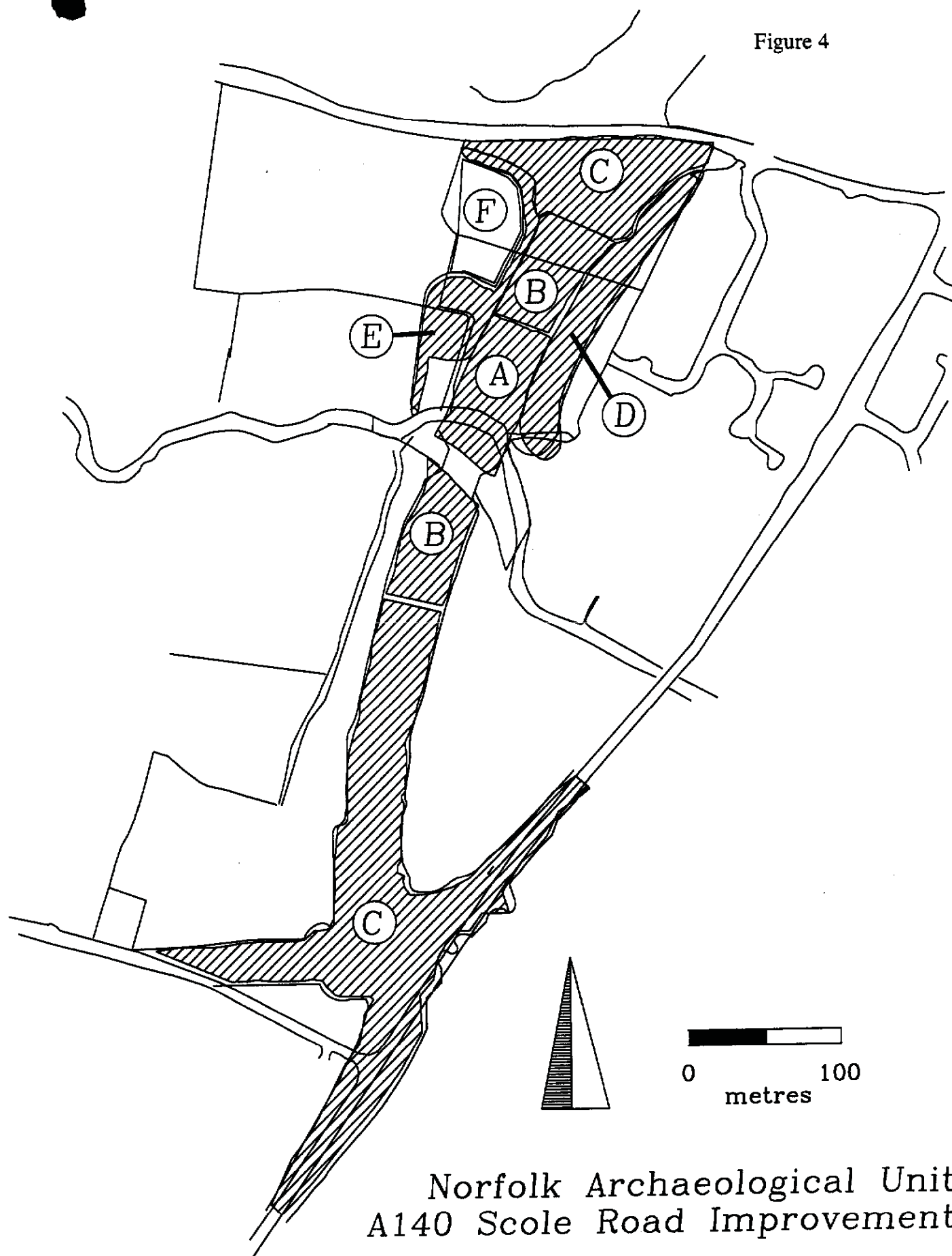
1.4.2 Figure 4 outlines the differing earthwork activities proposed for the parts of the site.

1.4.2.1 In Area A peat and alluvium will be removed to a depth of 1.5m prior to close-set piling to 20m depth, causing effective total destruction to this depth.

1.4.2.2 In the areas marked B alluvium and any peat deposits will be removed to a maximum depth of 2.5m and replaced with granular material. This depth is likely to include all archaeological deposits. An embankment will be constructed in the areas marked A and B to carry the road over the Waveney.

1.4.2.3 The areas marked C indicate the area in which soil will be removed to a depth

Figure 4



Norfolk Archaeological Unit
A140 Scale Road Improvement

NATURE OF CONSTRUCTION THREAT

of 1m and the road built up at ground level. This will involve, at best, severe truncation of archaeological deposits.

1.4.2.4 Area D marks the location of an amenity bund to be constructed to shield local residents from traffic noise. This will involve removal of topsoil only, but construction of the bund is likely to cause subsequent damage to the subsoil through compression. Plant movement associated with construction of the bund will cause extensive damage to exposed features.

1.4.2.5 No major earthworks are intended for Area E, though a field access track will be constructed. However this area will be used as a haul road during construction of the Waveney bridge and embankment and this will result in destruction of surface remains.

1.4.2.6 Area F represents the other area subject to Compulsory Purchase, and is likely to be damaged through contractors' plant movement and the haul road route.

1.4.3 Figure 5 contrasts this by presenting a qualitative assessment of the differing archaeological potential and resource requirements of the site:

1.4.3.1 The areas considered most valuable are cross-hatched in red. These include an area with surviving earthworks of a structural nature known to seal Romano-British soil deposits (Area Ia); an area of surviving earthworks associated with a density of stratified archaeological deposits (Area Ib), including the waterlogged levels beside the river; an area with potentially vital late deposits surviving beside the Roman road line (Area Ic); and the riverside sandhill where waterlogged Mesolithic deposits are likely to have survived (Area Id). The potential information content of these areas is critically high, both relatively and in absolute terms, and intensive archaeological activity is likely to provide high-quality data to answer the Research Aims identified below in Section 2.9.

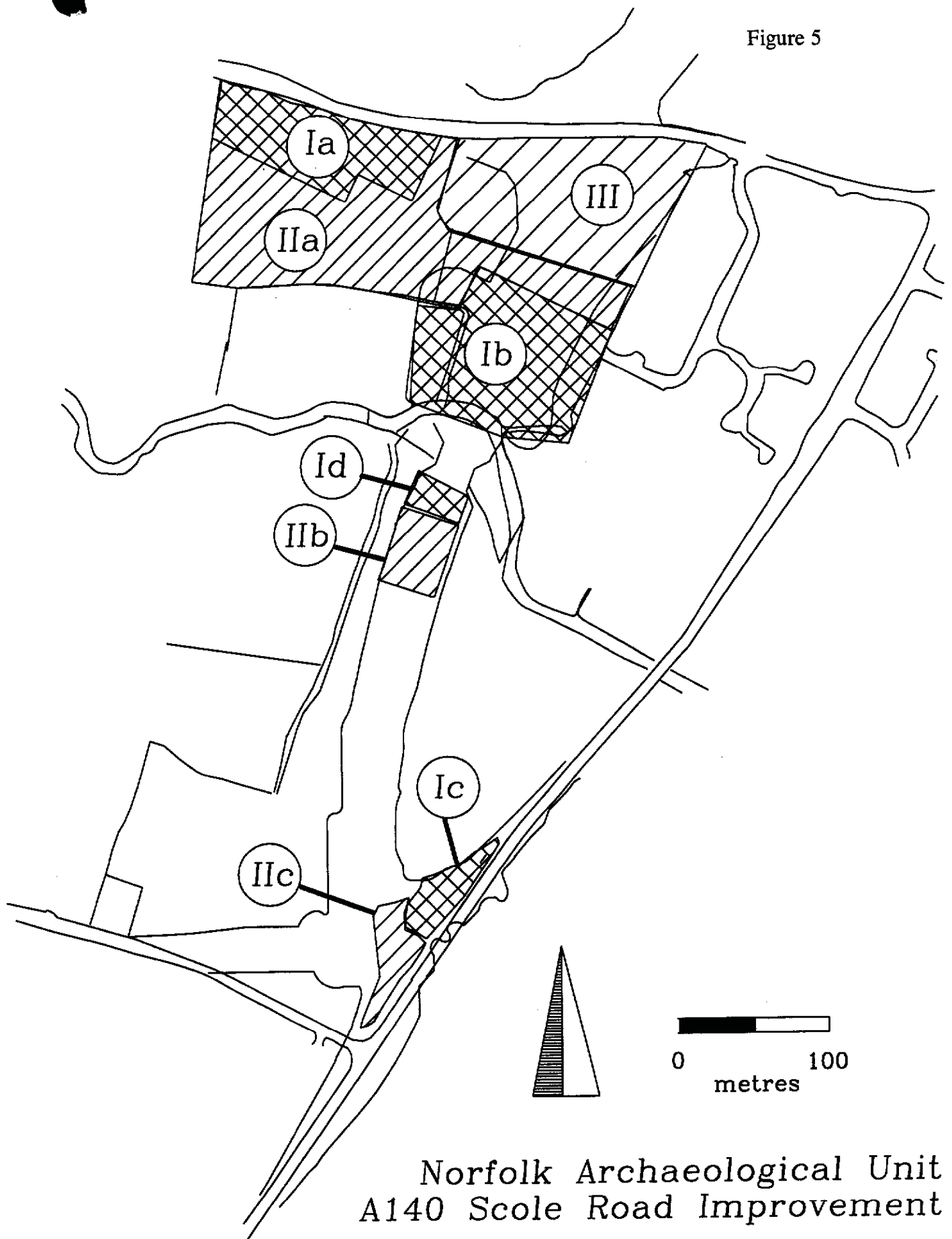
1.4.3.2 The yellow-hatched areas (Areas IIa-c) are considered slightly less valuable than those listed above in terms of information content. They comprise the area of earthwork survival for which evaluation has not shown there to be any concentration of stratified deposits (Area IIa), the concentration of prehistoric and Romano-British surface finds south of the River Waveney (Area IIb) excluding the possible stratified Mesolithic material, and the area of Romano-British activity further south with survival of truncated deposits and no 'dark soil' (Area IIc). The potential information content of this area is high, but not as critical as the red cross-hatched areas.

1.4.3.3 The green broad hatched area (Area III) represents an area in which the potential is still fairly high, but which is not felt will require intensive archaeological activity to record adequately. In this area earthworks survive in a heavily denuded state and while evaluation has indicated survival of archaeological stratigraphy, the density of cut features is less and suggests spreads of refuse. This area will provide valuable information on the zoning of the Romano-British town and the nature of the medieval settlement. Information potential in this area is still fairly high, but is the least vital area of the proposed excavation site.

1.4.4 By assessing the threat to, and information potential of, the various parts of the site, seven zones were devised (Figure 6). These areas will be subjected to excavation, sampling and recording at differing levels of intensity to answer the research aims outlined in Section 2.9 most efficiently.

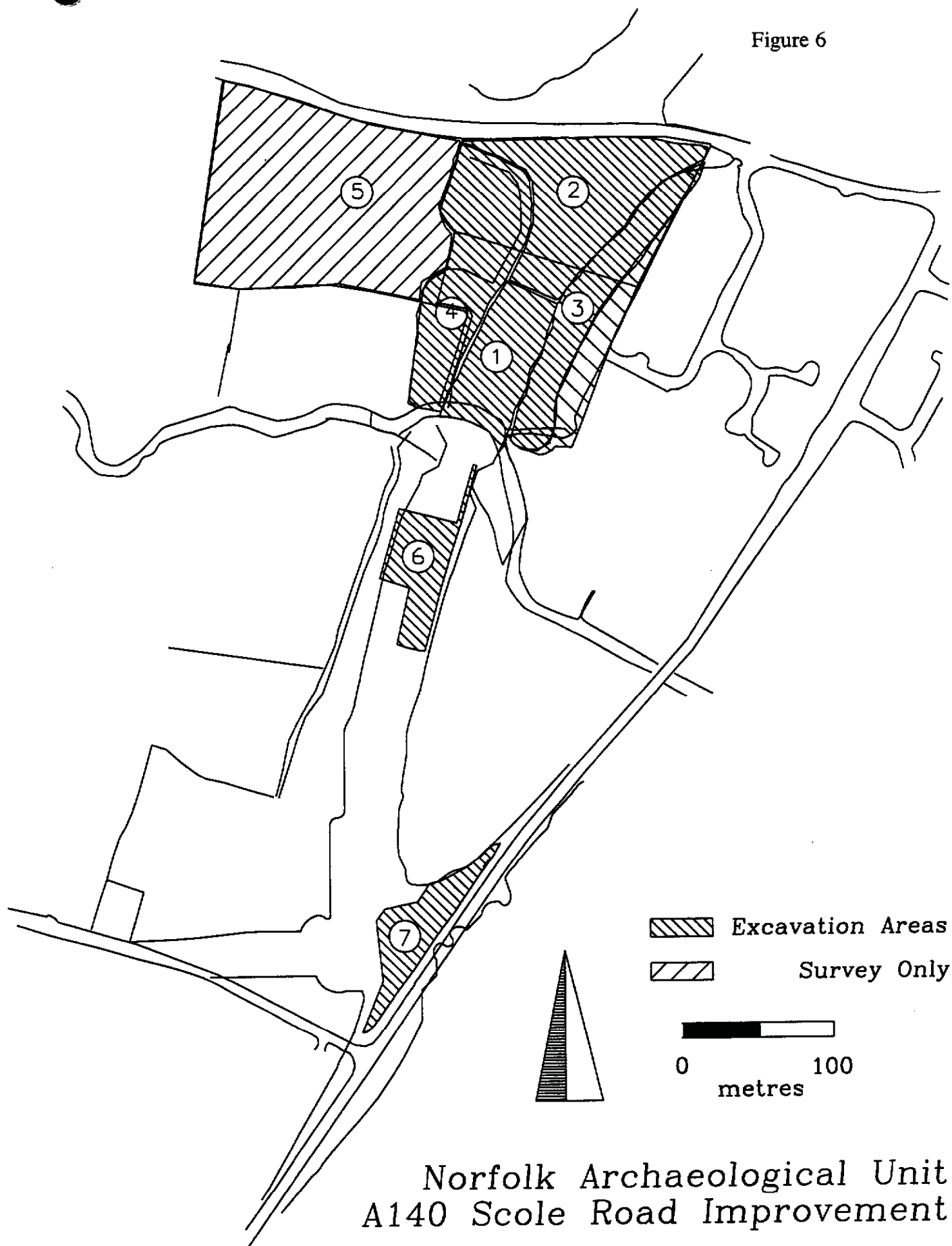
1.5 Archive Deposition

Figure 5



ARCHAEOLOGICAL POTENTIAL

Figure 6



EXCAVATION & SURVEY AREAS

1.5.1 At the end of the project it is intended that the project archives generated by each Unit and all retained finds will be deposited with the relevant county authorities. In Norfolk the archive and finds will be transferred in a stable condition to Norfolk Museums Service. The archive will conform to the guidelines produced by the Museums Service Field Archaeology Division for excavation projects (Gurney 1989). The SAU site archive will be deposited with the county SMR within 12 months of fieldwork completion; every effort will be made to gain the excavation and evaluation finds for deposition in the County Stores through agreement with the DoT and other landowners. The two site archives will be cross-referenced to allow comparison between the various parts of the excavation site.

2.1 The modern village of Scole is a nucleated Post-medieval settlement which served as an important Staging Post along the the London-Colchester-Norwich road, where the road crossed the River Waveney; the extent to which earlier medieval settlement was nucleated is unclear, as are the processes by which nucleation took place. Understanding of the pattern of such settlements in Norfolk in the medieval period is still in its infancy with some evidence suggesting that occupation patterns throughout much of the county were atypical compared to the rest of lowland England. Examination of the medieval features and deposits should help to increase understanding of the early stages of the present day nucleated village.

2.2 The A140 Road Improvement offers the opportunity to obtain data relevant to several nationally important Research Aims, including the study of Processes of Change, Archaeological Landscapes, and the development of nucleated settlement, which have been identified by English Heritage in 'Exploring Our Past' as being national priorities (HBMC 1991b, 35-40). Research will be concentrated in the Waveney valley which has acted as a focus for human activity for the last 7000 years, and where subsequent disturbance has been less extensive, but the construction of the road will allow the study of the development of the whole landscape from pre-Roman times to the present.

2.3 Mesolithic

Analysis of Mesolithic activity is an nationally important Research Aim (HBMC 1991b, 36), and the Waveney valley area is considered to be particularly productive among the sandy river valleys of East Anglia with important sites at Thetford and Bungay (Clark 1932). Previous work in the Scole area has indicated the survival of flintwork on both banks of the river, with large quantities of material related to a later-Mesolithic industry recovered to the west of the excavation area (Waterloo Sites "1" and "2", Wymer 1977). The floodplain peat deposits present the possibility of organic material surviving under waterlogged conditions; the excavation of this type of deposit has been identified as being a vital research priority (Wymer, 1991, 26). Removal of the peat on both banks and the subsequent piling operations on the north bank will destroy any such deposits. The project will attempt to assess the nature and extent of human activity and to characterise the local environment.

2.4 Later Prehistoric

To the north of the Waveney valley flood plain the road construction offers the opportunity to evaluate Williamson's hypothesis on the fossilisation of a pre-Roman landscape within the later boundaries (summarised in the first evaluation report: Emery, 1992). His work has provided compelling evidence for its survival based on cartographical analysis, but has never been tested in the field. The confirmation of this survival is of great importance to general landscape studies and this type of research has been identified as a national research priority in 'Exploring Our Past' (HBMC 1991b, 38). The survival of a pre-Roman landscape is also important in the transition from Iron Age to Roman periods (Paragraph 2.6.2).

2.5 Romano-British Small Town

2.5.1 Excavation will allow the study of a large proportion of a small Romano-British nucleated settlement. Around 25% of the area of the small town is threatened by road construction; this forms the last major area of the Romano-British settlement to remain undeveloped, as the remainder lies largely beneath the modern village of Scole. The Society for the Promotion of Roman Studies stated in 1985 that "No town of whatever size...is sufficiently well-known for any threatened site to be abandoned without exploration, on academic grounds alone" and "Small towns are in many ways less well understood than their major counterparts, and deserve the same, if not greater, consideration" (SPRS, 1985. 4.3.1 p5, & 4.3.3 p6); subsequent research has not radically altered this state of affairs. Regionally few examples have been subjected to modern area excavation. Only two similar sites have been excavated in Suffolk, at Hacheston and at Pakenham; both currently being prepared for

publication. In Norfolk excavation data on Small Towns has come from work at Brampton and on the periphery of Billingford; again, work on publishing these sites is proceeding.

2.5.2 The locale, at the point where the major Roman road from *Camulodunum* to *Venta Icenorum* crosses the River Waveney, one of the larger rivers of East Anglia, was clearly important in the initial siting of the settlement and would have affected the economic and social catchment area, with communications along both river and road important. Analysis of the extent to which Scole differed from other small towns in the region in terms of circumstances of foundation, function within the official and 'local' socio-economic hierarchies, and development history as a result of this location will help in understanding the variety of processes involved in the formation of nucleated settlements in this period. This information will complement the data from Billingford and Pakenham where a military origin has been suggested, and from Hacheston where continuity of Iron Age settlement is presumed.

2.5.3 The excavation at Scole will be of a large enough area to allow meaningful discussion of the small town and its character. Work will be targeted on assessing the extent of the Romano-British settlement within the excavation areas, its character, development and morphology, and the degree of planning apparent in its layout. Comparison of the two excavation areas west and south of the river crossing may allow the degree of functional diversity and zoning of activities within the suburbs of the town to be gauged, and study of the variation within each area the degree of heterogeneity within each zone.

2.5.4 It is apparent that all the excavation sites lie away from the presumed focus of the town on the river crossing and, while this may result in little potential for recovering evidence of any 'official' aspect of the settlement, expansion and functional change within the settlement suburbs along roads to south and west should be identifiable.

2.5.5 The survival of an extensive buried 'dark soil' deposit around 30cm thick close to the A140 in Suffolk is an important element of the project. This deposit is similar to layers typical of very late Romano-British activity on many urban sites, though the precise nature and formation mechanism of such deposits continues to be debated (eg Yule, 1990). Far less work has been undertaken on such deposits in 'Small Towns', and their nature and similarity to the urban deposits is unclear.

2.6 Medieval Settlement

2.6.1 Few medieval rural settlements survive in Norfolk with upstanding earthworks and the opportunity to investigate this site on the edge of Scole village is of great importance. The pattern of medieval rural settlement and the process of village formation in much of Norfolk is not well-understood and appear to be unusual in the degree to which non-nucleated settlement continued. The best-preserved house platforms lie to the west, outside the road construction zone but around 50% of the area of surviving earthworks will be destroyed by road construction, and detailed examination of the north-south hollow ways/ditches and of the interiors of these settlement units should provide valuable information on the development and function of similar medieval sites; information which will complement the documentary and field survey data collected in both Norfolk and Suffolk (eg. Davison, 1988), and the national research on the formation of medieval settlement identified as a priority in 'Exploring Our Past' (HBMC 1991b, 39).

2.6.2 The essentially agricultural nature of medieval rural settlement makes it important to consider the non-nucleated elements of the landscape. Equal emphasis on all parts of the environment- farms, moats, mills, ponds, fields, villages has been highlighted as a necessary part of research (HBMC 1991b, 39); the road construction between the medieval villages of Scole and Dickleburgh will enable the study of a transect across the contemporary medieval landscape and allow a fuller interpretation of the nature of medieval settlement.

2.7 Transition Period Studies

2.7.1 Mesolithic-Neolithic

The widespread finds of later Mesolithic and Neolithic material from this part of the Waveney valley raise the possibility of research into the transition from this period to the Neolithic. Excavated evidence for this transition has proved nationally elusive, and the opportunity to address this problem either through recovery of stratified deposits or by environmental sampling is considered a national research priority (HBMC 1991b, 36). In this case the 1992/3 evaluations recovered Neolithic material in addition to Mesolithic artefacts; the potential for waterlogged cultural or environmental sampling increases the importance of the site.

2.7.2 Iron Age-Roman

The possible survival of a pre-Roman field system north of the Waveney flood plain, and its physical proximity to the Roman communication route and settlement raise the possibility of studying the processes and stresses involved in the transition from 'Iron Age' to 'Roman'.

2.7.3 Iron Age-Roman-Sub Roman

The date-range of material recovered in earlier work on the excavation sites suggests that while Romano-British deposits ranging from the first to fourth century are represented in the northern zone, activity in the southern part appears to have continued throughout the fourth century. Thus it will be possible to trace the processes active in the transition from 'Iron Age' to 'Roman' and the formation of the settlement, and the varying fortunes of the town through the Roman period and beyond. This type of transitional study has been highlighted as a national priority in 'Exploring Our Past' (HBMC 1991b, 36). It is hoped that the possible survival of a pre-Roman field system north of the Waveney valley and its proximity to the Roman communication route and town will enable the Iron Age-Roman transition to be documented, and that controlled excavation of the 'dark soil' deposit in the southern part of the site will illuminate the development of the town in the sub-Roman period of the early fifth century, through the social and economic evolution from Roman to Anglo-Saxon periods. The opportunity to examine this late aspect of a 'small town' is uncommon and has been identified as a nationally important research priority by the Society for the Promotion of Roman Studies (SPRS, 1985. 5.1.1).

2.8 The Palaeo-environment

The potential exists for the recovery of a wide range of environmental data during the excavation; the assessment and analysis of this data will provide important information regarding the Long-Term change in the palaeoecology and economy of the sites over periods spanning seven thousand years. The chance to study the Mesolithic environment and the first human attempts to alter it is a particularly important aspect, but the more drastic changes wrought during the Romano-British and medieval periods of use should not be overlooked.

2.9 Methodological Research

The opportunity for the development of archaeological methodology exists in the different cultivation regimes present in separate areas of the main excavation site. The northern part of the site (north of the River Waveney) does not appear to have been ploughed to any great extent since at least the early medieval period, and possibly since the decay of the Romano-British town; the area south of the river provides a more 'normal' rural regime with annual ploughing and cultivation. The extent to which artefacts migrate through and into the topsoil as a result of ploughing may be open to assessment by a comparison between the areas north and south of the river. This research would be of broad benefit to many sites nationally.

2.10 SPECIFIC AIMS

- 1 To characterise the nature of mesolithic activity and its affect upon the local environment.
- 2 To explore the mesolithic/neolithic transition
- 3 To test the validity of the pre-Roman landscape fossilisation hypothesis.
- 4 To explore the Iron Age/Roman transition
- 5 To examine the morphology of the Romano-British 'small town'
- 6 To characterise the changing functional uses of individual parts of the site through the Roman period
- 7 To enable the town to be contrasted with other regional examples
- 8 To assess the extent to which, and mechanisms by which, the small town participated in local, regional, national and international networks during the Roman period.
- 9 To examine the extents to which the town utilised road- and river-based communications
- 10 To outline the social and economic changes in the suburban areas of the town during the Roman period
- 11 To determine the duration and continuity of settlement within the Roman period
- 12 To investigate the possible continuation of activity on the site into the sub-Roman period
- 13 To study the processes and date of medieval settlement formation at Scole
- 14 To characterise the nature of the medieval activity on the site
- 15 To examine the relationship of the medieval settlement to its environs
- 16 To outline the long-term effect humans have had on the environment of the area
- 17 To study the processes involved in the formation of late Roman 'dark soils'
- 18 To improve understanding of the differing nature of ploughsoil and non-ploughsoil artefact assemblages

3 OVERALL STRATEGY STATEMENTS

3.1 The principal strategies for exploring the **Specific Research Aims** (presented in section 2.9) are listed here. These are discussed in detail in section 4 (Detailed methodologies) and section 5 (Excavation strategies).

- 1 Mesolithic activity to be characterised by:**
retrieval of unstratified cultural material
examination of stratified deposits
Reconstruction of the palaeo-environment

Methods:

sample excavation of areas of 'natural' alluvial sand, particularly in the riverside Areas 1 and 6 (Figure 6) (See 4.5 & 5.2.1.2)
extensive sampling of stratified deposits (See 4.6)
broad-range environmental sampling from cultural and non-cultural features, particularly waterlogged deposits (See 4.7)

- 2 Mesolithic/Neolithic transition to be explored by**
Study of sequences which span the transition
Reconstruction of the palaeo-environment

Methods:

Spot-dating of flintwork during fieldwork to enable identification of deposits showing evidence of this transition
Intensive sampling of deposits containing both Mesolithic and Neolithic material (See 4.5)
broad-range environmental sampling from cultural and non-cultural features, particularly waterlogged deposits (See 4.7)

- 3 Validity of Landscape fossilisation to be tested by:**
Examination of potential boundary elements within the landscape system

Methods:

Small scale excavation at three points where the bypass intersects elements of the pre-Roman field system (See 5.3)

- 4 Iron Age/Roman transition to be explored by:**
Reconstruction of pre-Roman environment
Identification and reconstruction of earliest elements of town

Methods:

Landscape study (See 5.3)
Large scale open area excavation to discern layout of town (See 4.3-4.9)
Extensive sampling to identify well dated early features (See 4.5-4.9)

- 5 Morphology of town to be examined by:**
Examination of property layout
Examination of property/street relationships
Retrieval of stratified functional information

Methods:

Recovery and recording of unstratified material to complement the stratified deposits (See 4.3, 4.4)
Large scale open area excavation to discern property layout and interaction (See 4.3-4.9)
Extensive sampling strategy for well dated features (See 4.6)

- 6 Changing functional uses of parts of site characterised by:**
Identification of stratified sequences within areas of site

Retrieval of functional information from stratified sequences

Methods:

Large scale excavation to identify functional units (See 4.3-4.9)

Extensive sampling to determine stratigraphical relationships and recover valid artefact/ecofact assemblages (See 4.5-4.9)

7 Town contrast to be enabled through:

Study of published and archive records of Pakenham, Hacheston, Billingford, Brampton
Comparison with artefact records for other Norfolk sites

Methods

Access to archives for other sites

Collection of suitable artefact/ecofact assemblages (See 4.5-4.9)

Large scale area excavation to understand settlement morphology and development (See 4.3-4.9)

8 Network participation to be assessed by:

Identification of well-provenanced artefacts

Assessment of mechanisms responsible for artefacts' presence on site

Methods:

Extensive sampling strategy to recover material (See 4.6,4.7)

Spot-identification procedures to ensure that important material is not overlooked

Specialist knowledge to identify material and to determine its significance

9 Road and River communications examined by:

Examination of town layout adjacent to the Roman road network elements

Examination of town layout adjacent to river

Assessment of mechanism responsible for provenanced artefacts' presence on site

Methods:

Large scale Open area excavation of areas adjacent to modern A140 (See 5.2.7)

Open area excavation of areas adjacent to River Waveney (See 5.2.1, 5.2.3-5.2.4)

Extensive sampling strategy to recover suitable material (See 4.5-4.9)

10 Social and economic changes in suburban areas outlined by:

Identification of structural units in both areas of the site

Examination of functional activities represented in both areas

Methods:

Open area excavations both north and south of the river to discern the nature of activity in both these areas (See 4.3-4.9)

Establishment of a broad phasing for the site to enable sequences north and south of the river to be related (See 6.3.1)

Extensive sampling to retrieve functional and dating evidence (See 4.5-4.9)

11 Duration of settlement determined by:

Identification of earliest elements of settlement

Establishing a continued sequence of features

Methods:

Open area excavation to discern structural units (See 4.3-4.9)

Extensive sampling strategy and on-site spot-dating to identify well dated features (See 4.5-4.9)

12 Continuity of activity investigated by:

Identification of fourth century and later features

Examination of site layout/function in latest phases

Methods:

Open area excavation and spot-dating to identify late deposits, particularly 'dark soil'

deposits (See 4.3-4.9)

Intensive sampling of 'dark soil' deposits to discern structural layout within deposit (See 5.2.7)

13 Process and dating of medieval settlement formation studied by:

Examination of earliest medieval features on site to determine layout and degree of planning

Dating of earliest medieval features

Methods:

Open area excavation to identify earliest medieval features and units (See 4.3-4.9)

On-site spot dating to determine date of medieval features

14 Nature of medieval activity characterised through:

Identification of medieval features and site layout

Examination of interiors of medieval settlement units for functional information

Methods:

Detailed earthwork survey (See 4.2.1, 4.2.2)

Large scale open area excavation to identify medieval units and inter-relation (See 4.3-4.9)

Extensive sampling strategy for well dated features (see 4.5-4.9)

15 Relationship of medieval settlement and environs examined by:

Identification of contemporary 'non-village' features

Identification of interaction between settlement and other elements

Examination of local and non-local trading links

Methods:

Watching Brief along Bypass line (See 5.3.1-5.3.3)

Extensive sampling strategy to recover dateable and well-provenanced material

Spot-dating and provenancing of features both on the bypass line and within the excavation area

Evaluation of Documentary evidence to elucidate the non-physical relationships

16 Effect on environment outlined by:

Retrieval and analysis of environmental material from cultural and non-cultural deposits

Assessment of the date at which elements of the modern environment were incorporated

Methods:

Extensive environmental sampling from cultural features (See 4.6-4.7)

Column environmental sampling from long-term deposits such as riverside peat deposits and old course of River Waveney (See 4.7.5, 5.1.5, 5.2.6)

Spot dating of features along bypass line to determine date

Evaluation of Documentary evidence to chart the changes in land-use within historical periods

17 Dark Soil Formation studied by:

Micro-morphological examination of samples

Analysis of artefact patterning

Methods

Extensive sampling by relevant specialist (See 5.2.7)

Detailed recording of artefact distribution (See 5.2.7)

18 Understanding of ploughsoil and non-ploughsoil artefact assemblages improved by:

Comparison of systematic samples from both soil regimes

Methods:

Extensive systematic sampling of ploughsoil/topsoil across whole site prior to mechanical soil removal (See 4.2.4)

4 DETAILED METHODOLOGIES

4.1 This section establishes basic recording and sampling strategies, related to the project aims. The application of these is then discussed, in section 5, by excavation area, where variations to the overall framework are explained.

4.2 Pre-Excavation Survey

4.2.1 Prior to excavation a full *earthwork survey* of the Norfolk site will be undertaken using a Total Station Theodolite and digital data logger. This survey will address Specific Research Aim 14. The results of the survey will be transferred to AutoCAD to enable their integration with the subsequent excavation data. This survey will include the area of the proposed road construction (Areas 1-4 on Figure 6), and the area further west not presently threatened (Area 5 on Figure 6). The absence of earthworks south of the river removes the need for such a survey in Suffolk.

4.2.2 The earthwork survey will be complemented by a *topsoil metal detector survey*, with all dateable artefacts being recorded three-dimensionally by the TST to allow integration with the excavated data. The roadline in Suffolk were detected as part of the site evaluation and it is not felt that further work would be justified prior to topsoil removal. The detector survey will provide further data on the differing nature of topsoil assemblages (Specific Aim 18), the range of contacts with other parts of the Roman Empire represented (Specific Aim 8), the morphology of the town (Specific Aim 5) and provide data more comparable with other small town sites in Norfolk (Specific Aim 7), as well as reducing the possible damage to the site through illicit detecting.

4.2.3 Other *geophysical/geochemical survey* techniques will not be used routinely, as it is intended that the entire area threatened by the road project will be stripped of topsoil and recorded. However the opportunity the project offers to assess geophysical survey techniques against the excavated remains has been noted and research may be conducted by Ancient Monuments Laboratory Staff if their work-programmes allow. This is not considered to be a major objective of the project, and would be externally funded.

4.2.4 A systematic survey of the *topsoil/ploughsoil artefact content* will be conducted across the site prior to topsoil removal. This will be achieved by the hand excavation of 1m x 1m trial boxes through the top/plough soil and sieving through 10mm mesh to retrieve comparative artefact collections. A 40m grid will be used as the base scale for this survey, with test stations excavated at each intersection: approximately 25 stations will be excavated. The aim of the survey is to broadly contrast the artefact assemblages between the ploughed and unploughed zones rather than study any patterning within the topsoil itself; this latter exercise will be undertaken during topsoil removal. This will address Specific Research Aim 18.

4.3 Site Clearance

4.3.1 Topsoil and subsoil will be mechanically stripped from the entire area threatened by road construction (Areas 1-4, 6, 7). Area 5 will not be stripped as it is not presently threatened by construction. Due to the extensive earthwork survival in Norfolk and the fragile nature of the Suffolk stratigraphy, all stripping will be undertaken by Hymac-type tracked excavator with spoil removal by 20 tonne dumper-trucks. In the area of the earthworks this will effectively comprise machine de-turfing. Soil removal will be monitored by the NAU and SAU Project Managers and supervisory staff, and the method of removal (by Hymac rather than box-scraper) will permit a continual visual and metal detector survey of the soil to optimise the location and recovery of unstratified artefacts prior to actual removal of soil (recovery of this material will address Specific Research Aims 5,7,8,14 & 15, and may provide data relevant to Aims 4 & 13). Metal artefacts will be three-dimensionally recorded,

other finds recorded in 20m x 20m units as this is considered to be the most time- and resource- effective procedure for recording their locations and distributions. The aim of the mechanical stripping will be to remove archaeologically uninformative deposits to enable focussing of resources. All discrete archaeological features identified within the top- and subsoil will be plotted and recorded in appropriate detail prior to removal.

4.3.2 In Norfolk, it is intended that soil stripping will proceed in three distinct phases. Topsoil and subsoil will be removed from Area 1 and the southern parts of Areas 3 & 4 (an area of c.10,000m²). Two Excavator-dumper teams will be employed on this task. Spoil from this operation will be stored in Area 2. The second phase will involve one Excavator-dumper team removing the upper layers of peat from the southern part of Area 1. The exact area involved in this operation will not be known until topsoil is removed, but commercial borehole data suggests around 1500m² as a likely maximum for the peat. This operation will involve trial excavation of parts of the peat, to determine the survival of waterlogged archaeological deposits within the riverside peat zone, and is aimed at removal of the sterile upper layers under close supervision from the NAU Project Manager and supervisory staff. Assessment of the final intensity of work in this area will be undertaken after the excavation of the trial areas in consultation with the Project Environmental Co-ordinator and Soil Micromorphologist. Control areas will be maintained for environmental assessment. The third phase of topsoil stripping will follow completion of excavation in Area 1, when Area 2 (c.10,000m²) will be stripped in order to comprehend the nature of the stratigraphy, and the extent of context survival in this area. Two monitored Excavator-dumper teams will be used for this phase, and the topsoil stored in Area 1.

4.3.3 The Suffolk excavation areas will be stripped by Hymac-type tracked excavator in three distinct operations. In Area 6 an area of 2,900m² will be removed under supervision to expose archaeological deposits, with a machine-and hand-dug section excavated into the riverside peat and alluvium to retrieve environmental samples (see section 5.2.6). In Area 7 3,000m² of topsoil will be initially removed under close supervision by the SAU Project Officer and supervisory staff to reveal the 'dark soil' (an area of c.1600m² adjacent to the eastern field boundary). A 25% sample excavation of the dark soil will be undertaken by hand (see section 5.2.7). Subsequent to this, the remainder of the plough and subsoil will be removed mechanically, under archaeological supervision, to explore strata sealed by the dark soil deposits.

4.4 Initial Site Recording

4.4.1 As Areas are stripped initial plan recording will be undertaken using standard NAU/SAU procedures and equipment. The aim of this initial recording is to define features and plan the site while revealed deposits are at their clearest; artefact retrieval during this cleaning and definition of features will enable provisional spot-dating of most features. Production of area plans and spot dating records at this stage will enable the most informed decisions to be made on the subsequent degree and focus of sample excavation required across the site; it is intended that the initial plans will form the basis for recording the site, with excavated details added on supplementary sheets. The NAU and SAU Project Teams will share equipment and expertise to produce the most effective results.

4.5 General Excavation and Sampling Procedures

4.5.1 All early prehistoric features will be fully excavated, to achieve the goals established under the Specific Research Aims 1 & 2.

4.5.2 In those areas where Roman and/or medieval horizontal strata survives, all features and horizontal stratigraphy will be fully excavated. This sampling strategy will maximise the retrieval of cultural material from the contexts with the greatest potential for primary

information pertinent to Research Aims 1,2,4-14,16.

4.5.3 Where shallow stratification exists, or features are cut directly into natural, *structural features* will be 50% sampled. Simple *horizontal strata* will be recorded in plan and sufficiently excavated to establish stratigraphic relationships and retrieve artefact and ecofact assemblages. *Linear features* will be investigated in profile and along their length by means of excavated section; 10% of each feature will be excavated. Baulks will be retained at intersections of features to establish stratigraphical relationships and sequences (specifically in relation to Research Aims 5,6,10-14). *Pits, isolated postholes, and other features of a non-structural nature* will be hand-excavated in half section.

4.5.4 Large scale sample excavation of exposed *Romano-British road surfaces* will be undertaken, with a 20% sample being fully excavated. Particular emphasis will be given to any exposed junctions in order to determine the history of individual elements of the internal and external communication network. This has been suggested (Burnham & Wachter, 1990, 321-322) as a potentially valuable means of assessing the changing character of activity within Romano-British small towns (and thereby addressing Specific Research Aims 5,6,9,11,12).

4.5.5 In all of the above cases, an enhanced sample will be excavated if:

- a) contexts prove to yield significant data assemblages relating to Research Aims 1,2,4-16.
- b) insufficient data has been gathered from the sample to fulfil the project objectives (eg insufficient dating evidence from linear features).
- c) further excavation is necessary to establish function or relationships.

4.6 Finds and macro-botanical retrieval

4.6.1 In addition to normal hand recovery, the following *dry-sieving* will take place:

- i) Romano-British and medieval features will be dry-sieved (through 10mm mesh) on a largely judgmental basis, to enhance the retrieval of small artefacts/ecofacts and will assist in the discussion of Specific Research Aims 4-6,8-15. The selection criteria will concentrate upon floor/occupation surfaces and deposits with potential for primary depositional processes, but will also target contexts from which dating evidence is sought (eg linear feature samples). Some background random sampling will be conducted to test retrieval procedures. It is suggested that this will involve c 20-25% of contexts, which is considered to form a realistic sample. The sampling programme and equipment will be adjusted to meet the requirements of the deposits across the site.
- ii) Because of the rare nature of Mesolithic cultural features, 100% of the excavated sample of this class of feature will be sieved to answer Research Aims 1 and 2.
- iii) Bulk samples of dry fills will be taken for wet-sieving for retrieval of carbonised plant remains, shells, small animal bones, etc. These will be taken from all contexts that have the potential to address the Research Aims 5-16, on the advice of the Project Environmental Co-ordinator.
- iv) full-range environmental samples will also be taken from any waterlogged structures or deposits encountered (see below).

4.6.2 All features will be subjected to *metal detector survey* in an effort to limit the damage caused through illicit detector use; the artefacts collected by this means will address Specific Research Aims 4-8,10-14.

4.7 Environmental Sampling

4.7.1 During excavation of archaeological features with dry fills animal bones will be collected by hand and bulk samples will be collected from contexts (see above) for the retrieval of carbonised plant remains, small bones, shells etc. These samples will be wet-sieved during the fieldwork phase of the project, with the non-soil residues being retained for specialist

assessment. Retrieval of these classes of ecofact will aid discussion of Specific Research Aims 1,2,5,6,8-16.

4.7.2 Environmental samples will be collected for flotation as deemed necessary by the Project Environmental Coordinator. These samples will be floated during the fieldwork phase of the project, with the flot being retained for specialist assessment. Retrieval of these classes of ecofact will aid discussion of Specific Research Aims 1,2,5,6,8-16.

4.7.3 Buried soils and similar sediments will be sampled on the advice of the Project Soil Micro-morphologist; it is anticipated that all buried soils will be sampled to address Research Aims 4-6,12,17.

4.7.4 Provision will be made for the collection of radiocarbon samples if appropriate contexts are encountered; this will be considered particularly important in relation to Research Aims 1 & 2.

4.7.5 Environmental investigation of the valley sediments at two points will be made: in the northern extension to Area 6, where 2.3m of peats and other sediments have been identified; and under the present channel of the river following diversion. Column samples will be collected from waterlogged deposits for analysis of plant macrofossils, pollen, insects and molluscs and for radiocarbon dating. This will address Specific Research Aims 1, 2 & 16 in particular, but prove of wider significance to the project.

4.7.6 It is likely that Romano-British wells or other features with waterlogged fills will be encountered. If so, a full programme of sampling for macro- and micro-fossils, dendrochronology and study of wood technology will be undertaken. This will enable Research Aims 4-7,10 & 11. Waterfront wooden structures may exist, and again these will be fully studied to examine their species composition, technology and dating. Collection and assessment of this data will directly address Specific Research Aim 9, but will also be vital in answering Aims 5-11.

4.7.7 On site records of bulk, column and wood samples will be compiled during the course of fieldwork by Finds staff; these records are designed to provide a basic record of the sample's provenance for specialists who were not directly involved in their collection. Initial assessments of the results and quality of the environmental sampling, made by the appropriate specialists during the course of sampling itself, will be used to modify the strategy if necessary.

4.8 Context Recording

4.8.1 A separate recording sequence will be established for each county, though the records will be readily comparable. Context numbers will be allocated sequentially to all discrete stratigraphical units identified during the excavation of features. Large units, such as topsoil or ploughsoil will be subdivided to allow identification of spatial patterns (to aid Research Aims 5 & 14). Context numbers used will respect those already recorded in the county SMRs. Summary information concerning location, nature, and artefact content will be logged in Site Context Registers as excavation progresses. Recording will use standard NAU and SAU pro-forma sheets, copies of which have been deposited with English Heritage Archaeology Division and the relevant county Curatorial Sections. A computerised context record will be compiled during the fieldwork phase for all areas; the data will be recorded on separate systems in Norfolk and Suffolk, using standardised Unit procedures, but the information will be comparable across all the project excavation areas, and mechanisms agreed for the transfer of data between systems.

4.8.2 All context and plan records will be checked for completeness and accuracy during the fieldwork phase, and a provisional site matrix compiled as excavation progresses in each Area. The matrix will show all stratigraphical relationships.

4.8.3 All excavation areas will use a single co-ordinate system related to the Ordnance Survey National Grid. Excavated features generally will be recorded at a scale of 1:50 on a series of A3 format sheets, unique numerical sequences being established for all plans in each County. Detail plans at 1:20 and 1:10 will be drawn when the information content requires. The balance between area/phase plans and single-context recording systems will reflect the nature of the archaeological remains; phase plans will be used for areas of limited or no stratigraphical depth, single-context plans compiled where more complex stratigraphy is encountered.

4.8.4 Sections across excavated features will be drawn at a scale of 1:10, using standard NAU/SAU conventions. Under exceptional circumstances large sections will be recorded at a scale of 1:20.

4.8.5 A photographic record will be compiled in colour transparency and monochrome negative formats to record:

- Archaeological relationships
- The Specific nature of features
- Progress of the excavation
- Spatial relationships

In the case of the latter, low-level aerial photography will be used, when possible, to record large-scale spatial relationships.

4.8.6 Photographic Registers will be compiled on site enabling the identification of individual photographs and cross-referencing each photograph to its subject.

4.9 Finds and Conservation

4.9.1 Bulk finds will be recorded and processed within their collection units; small finds will be individually located three-dimensionally within their collection unit.

4.9.2 Finds, both hand-collected, and retrieved from bulk-sieving will be processed during the course of the excavation by the project Finds Supervisor/Finds Manager and staff. The Finds Supervisor/Manager will be fully experienced with their Unit's finds processing and recording procedures and basic conservation techniques. Copies of the Unit recording manuals have been deposited with English Heritage Archaeology Division. The initial processing will involve the cleaning and recording of ceramic, bone and lithic artefacts, and the recording and appropriate packaging of metal and organic items. All finds will be processed and stored under suitable conditions pending assessment; initial assessment and spot-dating will be made during processing to allow adjustment to the detailed excavation strategy. Cleaning will be undertaken on-site by the NAU, because of the difficulties and distances involved in using the Unit's Gressenhall Offices; SAU Finds processing will be largely undertaken at the SAU Bury St. Edmunds Offices. A computerised Finds database including initial identification and quantification data will be compiled during the fieldwork and archiving phases of the project; the data will be recorded on separate systems in Norfolk and Suffolk, using standardised Unit procedures, but the information will be comparable across the whole project.

4.9.3 All metal artefacts (except Roman coins) will be radiographed; the initial aim of conservation will be environmental control to prevent deterioration prior to assessment. Additional conservation work necessary for the assessment of analytical requirements and for long term storage will be undertaken by Norwich Castle Museum (NCM) Conservation Department. Funds from the project budget will be allocated for this work according to a

● formula agreed between NCM and the individual Units (See Section 7.1.10).

5 Excavation Strategy

5.1 Overview

This section provides a basic overview of the excavation strategy. It is followed (section 5.2) by specific strategies in each excavation area.

5.1.1 Excavation will concentrate in Areas 1 and 7, as it is anticipated that these Areas will contain the greatest concentration of high-quality archaeological material. Within Area 1 it is likely that considerable resources will be expended on the waterlogged southern part, as this area is likely to produce high-quality, complex archaeological data. In Area 7 similar emphasis will be placed on the stratigraphically latest deposits; in both these areas contingency sums have been allocated within the project budget to reflect the uncertain extent to which intensive work will be necessary.

5.1.2 Excavation of Area 6 will be concurrent with Areas 1 and 7, though will be completed before either of these areas, and will focus on investigation of prehistoric and Romano-British contexts, with a section excavated through the riverside peat to retrieve macrofossils, pollen, insects and radiocarbon samples. After excavation has been completed on this Area, the SAU staff will be transferred to Area 7.

5.1.3 In the latter stages of work in Area 1 NAU staff will be redeployed to excavate the most threatened sections of Areas 3 and 4. It is anticipated that this work will concentrate on the southern parts of these Areas where waterlogged deposits may be encountered. Recording and excavation of Area 2 will follow the completion of Areas 3 and 4.

5.1.4 Arrangements have been made for the transfer of personnel from one Area to another, irrespective of County boundaries, should the potential of particular areas greatly exceed or fall short of that anticipated.

5.1.5 Additional access to the site will be sought by a small NAU team during the road construction operation to divert and canalise the River Waveney. It is intended to retrieve environmental samples from the deposits forming, and beneath, the present bed of the river. This will be undertaken under the guidance of the Project Environmental Co-ordinator. Such a sample should prove useful in determining the original palaeoenvironment and the changes which have occurred in the area.

5.2 Specific Strategies

This section details specific strategies to be employed for particular areas of the site, and should be taken as supplementary to the general strategies detailed in Sections 3.4-3.9 unless it is stated that they are replacements. The micro-strategies for the site will be determined by the Project Officer/Manager in consultation with the respective County Curatorial staff and English Heritage as excavation progresses.

5.2.1 Area 1. (4200m²)

5.2.1.1 An assessment of the need for detailed excavation in the waterlogged southern part of this Area will be made by the NAU Project Manager in consultation with curatorial and monitoring bodies on the basis of the results of the trial stripping in this area (see 4.3 for stripping procedure) mechanical removal of the peat will be undertaken in shallow spits in order to minimise the accidental damage to any archaeological features preserved within the deposit. Any waterlogged structural deposits will be subjected to 100% hand excavation with retrieval of bulk, column and wood samples as appropriate for environmental assessment and analysis (See Section 3.7.3 above). Close liaison will be kept with the Project Environmental Co-ordinator on the need for specialist sampling of both structural and other deposits. Examination of this peat deposit will allow progress on Specific Research Aims 5,6,8-12, & 16.

5.2.1.2 There is potential for waterlogged Mesolithic deposits surviving beneath the riverside peat in this area and for dry deposits on the higher ground further north; 100% sampling of any features identified will be undertaken as detailed above (Section 3.6.4). Additionally, sample hand-excavation and sieving of 10% (by area) of the alluvial 'natural' sand to a depth of 0.2m will be undertaken in the southern part of Area 1, as unstratified material was recovered from the upper part of this deposit in the 1973 excavation (Rogerson, 1977, 102). All finds from Mesolithic features and deposits will be recorded three-dimensionally to assess spatial patterning. This intensive sampling will address Specific Research Aims 1 and 2

5.2.2 Area 2. (7700m²)

5.2.2.1 The minor earthworks noted in the evaluation will be examined by three hand-excavated sections cut across the grain of the furrows prior storing Area 1 topsoil on this area in order to confirm the earthworks' recent date. This is related to Specific Research Aim 16, but may provide data relevant to Aims 13-15.

5.2.2.2 Topsoil removal in this area is currently planned as a two-stage process; the soil from Areas 1, 3 & 4 will be removed and stored on Area 1 prior to removal of the Area 2 topsoil and its storage on Areas 1, 3 and 4.

5.2.2.3 Open area excavation of this area is of great importance in assessing the extent of the Romano-British town and the degree to which activities were zoned. (Research Aims 5 and 10 primarily, but also 6-9,11,12), and to examine any surviving medieval road-side deposits (Research Aims 13-15). It is not anticipated that a great concentration of features will be encountered.

5.2.3 Area 3. (4850m² + 1800m²)

5.2.3.1 Area 3 is subdivided into two zones, the larger (close-hatched on Figure 6) is directly affected by construction of the noise bund, the other (broad-hatched on Figure 6) will be isolated by construction of the road and will be excavated to complete the record of this area (see section 1.4.2.4 for archaeological threat).

5.2.3.2 Sample excavation will be undertaken of all features threatened by construction of the noise bund, with particular regard being given to any waterlogged deposits, which are more likely to be damaged through ground compression. It is not anticipated that trial stripping of peat, as planned in Area 1, will be undertaken. The area to the east of the amenity bund (marked with broad hatching on Figure 6) will be subjected to less-intensive sampling, with parts of features within the area of the bund being sampled in preference to parts which will not be affected.

5.2.3.3 Sampling in Area 3 will be less intensive than in Areas 1, 6, and 7, as road construction will cause less damage in this area, and will be aimed at addressing Specific Research Aims 1,2,4-16. Structural features will be 50% hand-excavated to address Aims 1,2,4-14,16 as appropriate; other features will be solely recorded in plan. Pits, isolated postholes, and other features of a non-structural nature in the broad-hatched zone of Area 3 will be hand-excavated in half section *only where their excavation can be shown to be of material significance to the research aims of the site*. Excavation of such contexts will follow discussion and approval from the Monitoring body. This replaces the standard project sampling specification for this outer part of Area 3.

5.2.4 Area 4. (7200m²)

5.2.4.1 Topsoil stripping and planning will meet the standard project specification outlined above (Sections 4.3-4.4), but in this area the primary concern will be to record and excavate those features at threat from construction of the new access road and the

haul route to retrieve data for Specific Research Aims 1,2,4-16 (see Section 1.4.2.5 for archaeological threat). Sample excavation will be concentrated at the southern end of the site, where the potential for waterlogged deposits is greater and where construction work will cause greater destruction, though Trial stripping of peat deposits is not anticipated.

5.2.4.2 Pits, postholes, and other features of a non-structural nature will be hand-excavated only where the feature can be shown to be of material significance to the site. This will include possible groups of features which may be related, features which are stratigraphically associated with other excavated elements which can be related to Specific Research Aims 4-16, and possible prehistoric features which will address Aims 1 & 2. This replaces the standard project sampling specification in the southern part of Area 4.

5.2.4.3 The northern part of Area 4 (identified as Zone 'F' on Figure 4) will be sampled less intensively as the threat is restricted to construction traffic. Earthwork features will be investigated in profile and along their length by means of excavated section to address Research Aims 1,2,4-16; 10% of each feature will be excavated. Structural features will be 50% hand-excavated to address Aims 1,2,4-14,16 as appropriate; other features will be solely recorded in plan. This amends the standard project sampling specification in the northern part of Area 4.

5.2.5 Area 5. (18,600m²)

5.2.5.1 This area lies to the west of the roadline and will not be affected by construction work. No soil removal or archaeological excavation will be undertaken in this area; activity will be restricted to the earthwork survey detailed above in Paragraph 4.2.1, which will allow discussion of Specific Research Aim 14.

5.2.6 Area 6. (2900 m²)

5.2.6.1 A trench will be excavated into the riverside peat deposits (see Paragraph 4.7.5), partly by hand, partly by machine in order to retrieve environmental material relating to the palaeoecology of the site (Specific Research Aim 16). This operation will be done in close liaison with the Project Environmental Co-ordinator and specialists who will advise on sampling requirements.

5.2.7 Area 7. (3000m²)

5.2.7.1 The topsoil removal in this area will be particularly carefully monitored to ensure that the late Roman 'dark soil' deposit is not partially removed with the overlying ploughsoil (see 3.3.3). Hand cleaning of the upper surface of such deposits will be undertaken to define the deposits more fully and to retrieve an initial artefact collection for use in spot-dating and planning the sampling tactics. Systematic metal-detecting will accompany the cleaning with finds recorded three-dimensionally. Other artefacts, including any industrial metal waste, will be collected on a 2.5m grid. These processes will result in a more resource-intensive initial cleaning than will be necessary for the other areas of the site.

5.2.7.2 Hand excavation of 25% of the dark soil deposit in this area will follow. The exact locations and composition of the sample will be decided by the Project Officer and the Project Soil Micro-morphologist, in consultation with curatorial and monitoring bodies, on the basis of the results gained from the planning and artefact collection. The strategy will test chronological and spatial diversity, both across the dark soil deposit and vertically within it. Within the sample, artefact collection will be based on a 2.5m grid. All excavated material will be dry sieved (10mm mesh). Significant finds will be three-dimensionally plotted.

5.2.7.3 Close liaison with the Project Environmental Co-ordinator and Project Soil

Micro-morphologist will be maintained during excavation of this deposit as recent work in Worcester has emphasised the importance of soil micromorphology in studying these 'dark soils' (Dalwood 1992). The detailed excavation of this 'dark soil' deposit will address Research Aims 5-8, 10-12 & 17.

5.2.7.4 Subsequent to the sample excavation of the 'dark soil' the remaining 75% of the deposit will be removed by mechanical excavator under close supervision from the Project Officer. Particular attention will be paid to the base of the 'dark soil' sequence, to examine possible truncation horizons (cf Yule 1990); also in support of Research Aim 17. It is intended that the base of the 'dark soil' will be hand-excavated in order to realise the information potential of this important interface.

5.2.7.5 Planning and excavation of the underlying strata will follow, conforming to the project specifications outlined above (Sections 4.5-4.9). This excavation will address Specific Research Aims 5-12 & 16, but may also provide useful information for Research Aim 17.

5.3 Additional Small Works

As mentioned above, the project resources will be concentrated on an intensive investigation of the well-preserved Waveney flood plain sites. However, less intensive work will be undertaken along the length of the road improvement line by agreement with DoT. This section outlines the methods to be employed in this less-intensive work.

5.3.1 A Watching Brief will be kept on all topsoil removal operations. This will entail an inspection of the ground surface after topsoil removal, but prior to the start of road construction activities. This work will enable the results of the main excavations to be related to their landscape (Specific Research Aims 4,8,9,15), and may identify the locations of further concentrations of archaeological material (To aid discussion of some or all the following Specific Research Aims: 1,4,8,9,13,15,16).

5.3.2 A more intensive Watching Brief will be kept when road construction affects areas identified in the two evaluation reports (Emery, 1992; Penn & Tester, 1993) as potentially important (See Paragraph 1.2.8), with archaeological staff on site during topsoil removal, as it is considered that these areas are most likely to produce archaeological material pertinent to Research Aims listed in 5.3.1.

5.3.3 Individual archaeological features identified during the Watching Brief will be recorded and sampled through spade-cut sections to retrieve artefactual information. Unstratified artefacts will be recorded by OS land unit, unless distinct concentrations argue for a greater detail of recording.

5.3.4 Additional minor excavations will be undertaken at three points along the roadline north of the Waveney flood plain where the suggested pre-Roman field system will be crossed by the roadline (See Paragraph 1.2.7). Machine-cut sections will be excavated through the topsoil/ploughsoil, and any resultant features cleaned and hand-excavated with the aim of retrieving structural and artefactual data which could achieve Specific Research Aim 3.

5.3.5 These excavations will be timetabled for the period between completion of the Compulsory Purchase Orders and the start of road construction, and will be temporarily backfilled by machine after completion; more complex reinstatement will not be undertaken as a result of the then imminent start of road construction.

5.3.6 Recording and numbering systems used in the Watching Brief and small excavations will be separate from, but compatible with, the sequences established for the main excavation and the County SMRs (See Section 4.8). Environmental bulk sampling will be restricted to

stratified features from the minor excavations which are believed to be related to the pre-Roman field systems to assist Research Aim 3.

5.3.7 The results of the Watching Brief will be integrated with the main excavation data during the Archiving and Assessment phase of the project, and will be assessed for their value in resolving the project research aims.

6 ARCHIVING & ASSESSMENT METHODOLOGIES

6.1 After completion of the fieldwork, the Site Archive will be prepared in the format outlined in 'Management of Archaeological Projects' (HBMC, 1991a, Appendix 3) (Hereafter MAP 2) in consultation with the respective county Curatorial Staff.

6.2 Context, Bulk Find, and Small Find records will have been largely input onto computer during the course of the fieldwork to create integrated project databases for use in the assessment and any subsequent analysis; these processes will be completed in the Archive phase, and any necessary tidying undertaken. The Photographic Archives will also be compiled during this phase, involving the processing and contact-printing of films and their cross-reference to the Context and other records.

6.3 The site plans will be digitised during this phase using standard techniques in both counties to provide an analytical tool, and to aid final illustration preparation. The digital plan record will consist of AutoCAD drawings of each area of the site (from the A3 and single-context plans created during the fieldwork phase) as context outlines. It is not intended that the plans will be recorded as detailed three-dimensional structures, though spot-heights recorded during the planning will be transferred to the digital record as boiler-plate text. Digitising the site plans will allow stratified evidence to be readily assimilated with the earthwork survey and the topsoil finds (to assist Specific Research Aims 5,8,18), and will simplify the study of the processes acting across the entire site (eg. Specific Research Aims 4,5,6,10-15). The use of a single grid will allow the ready composition of plans covering the whole site.

6.3.1 The cross-referencing of all records generated on site will be completed if necessary and the site registers finalised. All stratigraphical relationships will be cross-checked and the full site matrix compiled from the provisional matrices. A provisional phasing of all the areas of the main excavation site will be undertaken to provide a broad interpretative framework and to allow assessment of the potential of artefact/ecofact groups for valid Finds or Environmental analysis; the phasing will be based on stratigraphical position and spot-dating. The numbering systems and phasing rationales used will be standard for all areas, and will be added to the computerised Context/Finds databases during this phase.

6.3.2 A Summary of the fieldwork data will be compiled which will comprise a narrative account of the site, broad summaries of the artefact and ecofact classes found, and details of the provisional phasing. Copies of this summary will form part of the documentation circulated to all specialists working on classes of artefact/ecofact, together with copies of the site plans highlighting the finds spots of the material, and supporting context and finds data from the computerised databases. The presentation of data for the specialists will be standardised across the site.

6.3.3 Artefactual and environmental material will be assessed by the specialists named in Section 7.3, though it is anticipated that the basic coarse pottery work will be undertaken by project staff, with advice from the pottery specialists. Each assessment will naturally deal with the material from all seven excavation areas to ensure a common approach to the material and to enable the recognition of spatial differences across this single archaeological entity.

6.3.4 The Assessment Report produced from these individual assessments will contain a summary account of the fieldwork stage of the project and a quantitative statement of the potential of all aspects of the fieldwork results for further analysis, grouped under the broad categories of structural, artefactual, and environmental data. The Assessment reports will identify the groups of material (finds, environmental samples, contexts) which have the greatest potential to answer the research aims identified in Section 3, and also outline the groups which have little potential and which will not be studied in greater depth. Material to be discarded will be highlighted at this stage. The reports will be compiled in the format outlined

in MAP 2 (HBMC, 1991a, Appendix 4), and combined to create a Project Assessment Report.

6.3.5 After these individual assessment reports have been returned an integrated report will be produced and recirculated to highlight any potential further areas of joint analysis or new research objectives that may be apparent. The final Assessment Report will be submitted as a supporting part of the updated Project Design, which will be compiled at this time. The Project Design will propose a detailed programme of analysis with specific research aims, and will adhere to the model set out in MAP 2 (HBMC, 1991a, Appendix 5).

6.3.6 A detailed timetable for the Archive and Assessment phase of the project will be finalised towards the end of the Fieldwork phase.

7 RESOURCES AND PROGRAMMING

7.1 Staffing and equipment

7.1.1 The project will be managed for DoT by NAU. Two teams from the respective County Units will conduct the fieldwork and assessment phases in Norfolk and Suffolk. SAU fieldwork will involve 17 staff over a maximum period of 16 weeks, the NAU excavations are intended to last 21-24 weeks with a site team of 26. The actual length of time on site will depend on assessments of the degree of survival in particular areas, and the subsequent use of contingency funds.

7.1.2 The Suffolk team will be headed by a Project Officer (Scale 5), with 2 Supervisors (Scale 4), 9 Project Assistants (Scale 3), and 5 experienced Excavators (Scale 2). Immediate Finds processing and co-ordination will be undertaken by a Finds Manager (Scale 3/4) and 2 assistants (Scale 2).

7.1.3 The Norfolk excavation team will comprise a Project Manager (Scale 5), 2 Supervisors (Scale 4) and 20 experienced Excavators (equivalent to SAU Project Assistants, Scale 3). Finds processing will be the responsibility of a Finds Supervisor (Scale 4) and 2 Finds Assistants (Scale 3).

7.1.4 Provision has been made within the project budget for a second Project Manager on the NAU excavations during the initial topsoil removal stages. This will permit a shortened lead-in time for the main excavation by allowing preparation to extend into the site survey and topsoil stripping phases.

7.1.5 Figure 7 details the individual stages of the project and the team involved. Reduced teams will continue after completion of the fieldwork to compile the site archives and assist the Project Officer/Manager in preparing the Assessment report. It is envisaged that access to the River Waveney cutting would be made available during the NAU Archiving phase of the project, and that the Watching Brief and minor excavations would also be conducted during this time, though the exact timetabling of all these activities will depend on the progress of road construction. The tasks listed in Figure 7 are detailed in Section 7.4.

7.1.6 Budgetary allowance has been made for the hire of three Hymac-type tracked excavators with flat blades and four 20-tonne dumper trucks. These machines will be used in preference to towed box-scrapers for the reasons outlined in Section 4.3.1.

7.1.7 Site accommodation will consist of portable offices in the two County compounds; these will provide toilet and mess facilities, Finds-processing centres, and office space. It is impractical to create a single compound as the excavation areas span a distance of around 1 mile, and access to most areas would have to be made along busy roads. Mains water will be supplied to the NAU compound as the distance from the Unit Offices at Gressenhall makes it necessary to wash and process finds on-site.

7.1.8 Other sums for general tool and fencing purchase and for hire of pumping equipment have been included. Use of the NAU Total Station Theodolite will be programmed with other unit projects, but it is intended that it will be available for establishing the site grids on all Areas, and during topsoil removal operations.

7.1.9 Capital expenditure on this project will cover the purchase of four IBM PC compatible computers, one printer, one digitiser, and one A3 plotter. Adequate provision exists within the NAU for the preparation of digitised plans (as outlined in Section 6.3) but an AutoCAD computer-aided design package will have to be purchased for the SAU (Comprising a PC, digitiser, plotter and AutoCAD software, with provision for training). Compilation of

context/finds records during the course of fieldwork will require the purchase of additional computers for both units. A desktop PC will be required for SAU, which will be used for context/finds data entry accompanying finds processing at their offices in Bury St. Edmunds. The location of the excavation makes use of the NAU offices impractical, and context/finds data-entry will be undertaken on site. Two portable (battery-powered) PCs and one portable printer will be required and have been included in the Capital Expenditure costing, together with the necessary software; provision has been made for the creation of security copies of the databases.

7.1.10 Conservation costs have been agreed with NCM based on existing formulae to cover the costs of materials and any assistance required. The wages of the regional Conservator are not allocated directly to projects. The initial cost covers basic 'First Aid' conservation and an assessment of the potential for analytical conservation to assist in the specialist analyses. Environmental sampling and assessment costs have been discussed with the project Environmental Co-ordinator, based on the likely nature and preservation of deposits.

7.1.11 Provision will be made with the local constabularies for out-of-hours security checks; it is hoped that the intensive metal-detector surveys accompanying soil removal will lessen the scope for damage through illicit detecting. As the excavation sites do not directly front public Rights of Way, the need for security fencing is reduced; the budget includes sums for adequate temporary fencing.

7.1.12 The respective County Council Health and Safety policies will be implemented; copies of these documents are included in the Project Control Documentation.

7.2 Contingency Funds

7.2.1 Due to the lack of detailed information regarding the degree of survival of archaeological remains in particular areas of the site, and the consequent uncertainty over the amount of work required, contingency sums have been included within the project resources. These contingencies may be called upon by the excavation Project Officer/Manager in consultation with county Curatorial staff and the project Co-ordinators. Requests will be passed to English Heritage who will advise the DoT on the need for the contingency prior to the funding being released.

7.2.2 Contingencies have been allowed for:

7.2.2.1 The detailed excavation of Area 6. This contingency will be claimed unless the initial cleaning of Area 6 indicates the poor survival of Mesolithic and/or Romano-British contexts.

7.2.2.2 The sample excavation of the 'dark soil' deposit in Area 7. This contingency will be claimed unless initial ploughsoil removal shows that substantially less than the 1600m² of deposit anticipated has survived. A related contingency sum will allow the Soil Micro-morphology sampling programme to match the degree of excavation.

7.2.2.3 The excavation of contexts in Area 7. This contingency will be claimed if the initial ploughsoil removal and subsequent excavation of the 'dark soil' indicates the intensive survival of stratigraphy in this Area.

7.2.2.4 The recording and sample excavation of waterlogged structures in Area 1. This contingency will be claimed if the trial mechanical removal of peat at the southern end of Area 1 reveals well-preserved organic deposits.

7.2.2.5 The excavation of Area 2. This contingency will be used if the topsoil removal and initial cleaning of this Area identifies reasonable numbers of surviving Romano-

British and medieval contexts.

7.2.2.6 The environmental sampling of the Waveney river channel. This contingency will be claimed after diversion of the river and cutting of a section across the old course by the main contractors, the cleaning of the section by NAU staff, and an assessment of the extent of suitable deposits.

7.2.2.7 Emergency conservation. This sum will be claimed should large quantities of waterlogged material be encountered in any of the excavation Areas.

7.2.2.8 Well preserved environmental deposits. This contingency will be claimed if large numbers of archaeological features are encountered within which a wide range of ecofacts survive. This is most likely to involve numbers of waterlogged wells or stratified deposits beneath the river peat.

7.2.2.9 Archiving and Assessing the data from Areas 6 and 7. The provision of contingency sums for all the main tasks in Areas 6 and 7 (Paragraphs 7.2.2.1-3 above) has the implication that the quantity of data recovered is more variable for these areas than for other parts of the project. Consequently an Archiving and Assessment contingency has been allocated; the extent to which it will be called upon will depend on the take-up of the fieldwork contingencies outlined above.

7.3 Personnel

7.3.1 The following personnel are associated with the Project.

Project Management Co-ordinators

Brian Ayers, Jez Reeve, NAU

Norfolk Project Manager

Myk Flitcroft, NAU

Suffolk Project Officer

Andrew Tester, SAU

Environmental Co-ordinator

Peter Murphy, University of East Anglia, CEAS

Animal Bone

Dr Rosemary Luff, University of Cambridge

Pollen

Patricia Wiltshire, University of London

Insects

Dr Mark Robinson, University of Oxford

Dendrochronology

Dr Jennifer Hillam, University of Sheffield

Plant Macrofossils, molluscs, wood

Peter Murphy

Wood Technology

Richard Darrah, West Stow

Soil Micromorphology

Dr Richard Macphail, University of London

Conservator

Gordon Turner-Walker, NCM

Roman pottery, metalwork consultant

Jude Plouviez, SCC

Medieval pottery

Irena Lentowicz, NAU

Basic Pottery Assessment

Project Finds Supervisor/Manager under guidance of consultants

Roman coins

John Davies, NCM