

Chapter 5

The Late Iron Age and Roman periods

by Paul Booth

Introduction

The High Speed 1 (HS1) sites typically show a lack of direct association between activity of most of the 1st millennium BC and that of the end of the Iron Age and later. In contrast to this disjuncture at the end of the Middle Iron Age (see Champion, Chapter 4), almost all of the sites discussed here were occupied continuously in both Late Iron Age and Roman periods (although rarely throughout the latter), the ‘dividing line’ of AD 43 being, as so often in relation to ‘Romano-British’ rural settlements, archaeologically meaningless. These points are discussed in greater detail below, but provide the essential justification for treating the Late Iron Age and Roman as a single period, one which has produced significantly more archaeological evidence for settlement and other activity than any other comparable chronological unit (in this case, *c.* 500 years) represented in the HS1 project. The term ‘Roman’ is generally used as a convenient shorthand for ‘Late Iron Age and Romano-British’ in a purely chronological sense; more precise terminology is used elsewhere when required.

Traditional views of Roman Kent have seen it as, amongst other things, the focus of the Claudian invasion of Britain, the seat of the *Classis Britannica*, and a homeland of rich villas, particularly in the north-west of the county. The HS1 Section 1 fieldwork has produced relatively little evidence that has a direct bearing on these topics, but much that informs understanding of wider aspects of rural settlement (for the location of the HS1 sites and others mentioned in this chapter, see Fig. 5.1). There have been several syntheses of the evidence for Roman Kent as a whole, varying widely in scale and approach. The survey in Volume 3 of the *Victoria County History* (Wheeler 1932) was itself a composite work of two generations. It was initiated by Haverfield before the First World War, his contributions being completed after his death by Margerie Taylor (Freeman 2007, 380). It was then revised for publication by Wheeler, with significant additions by him and R F Jessup. The emphasis of this and another more recent substantial survey by Detsicas (1983) was on presentation of the evidence for Roman settlement within an historical framework and from a Romano-centric perspective. This is unsurprising given Haverfield’s clearly defined views on Romanisation; ‘Almost every feature in Romano-British life was Roman’ (Wheeler 1932, 5) may be taken as a typical example—a view

from which Wheeler himself presumably did not dissent significantly (for comments on the extent to which Haverfield ‘recycled’ some of the introductory text of his VCH contributions see Freeman 2007, 311). The pervading influence of Haverfield’s perspective can be seen as far as Detsicas’ survey and the brief review by Blagg (1982), and the essence of his definition of Romanisation (though not the acceptance of its importance) has survived into some recent work on Kent (eg Andrews 2001). A rather different approach was followed by Williams (2003, 221) and particularly in the most recent overview, that of Millett (2007).

In recent years concepts of ‘Romanisation’ (broadly that the Roman conquest entailed a ‘civilising mission’, manifested archaeologically in material culture from pottery to building types, the superiority and therefore desirability of which in relation to what had preceded them was uncontested) have been subject to extensive critique, deconstruction and redefinition (*inter alia*, Barrett 1997; Freeman 1993; 1997; Grahame 1998; Greene 2002; Hanson 1994; Hill 2001; Keay and Terrenato 2001; Mattingly 1997; 2006, 14–16; Millet 1990; Webster and Cooper 1996; Woolf 1998; Hingley 2005 for an overview with copious further references). Many different perspectives have emerged, including a view that the term ‘Romanisation’ now has no usefulness at all (eg Mattingly 2002; 2004, 9). This survey does not attempt to add to the more theoretical aspects of these discussions, but hopes to present new information informed by some of the recent thinking. Undoubtedly, many material transformations did take place, but not as a result of a coherent centralised policy of imposition of ‘Roman’ cultural values. Equally, a simple desire by the British to emulate (in the interests of sustaining their social and/or political positions) their new masters, whose cultural ‘superiority’ was manifest and undisputed, is likely to have been rare. Current thinking emphasises the existence of complex patterns of interactions between the wide variety of identities labelled ‘Roman’ and ‘British’, whose interests may have been variously conflicting, convergent or completely separate, with variation in all these possible combinations in the course of time.

The durability of the Romanisation paradigm means that the focus of interest in most reviews of Roman Kent, including to a considerable extent that of Millett, has centred very much on higher order (ie more ‘Romanised’) settlements: forts, towns and villas. Detsicas’ (1983, 84)

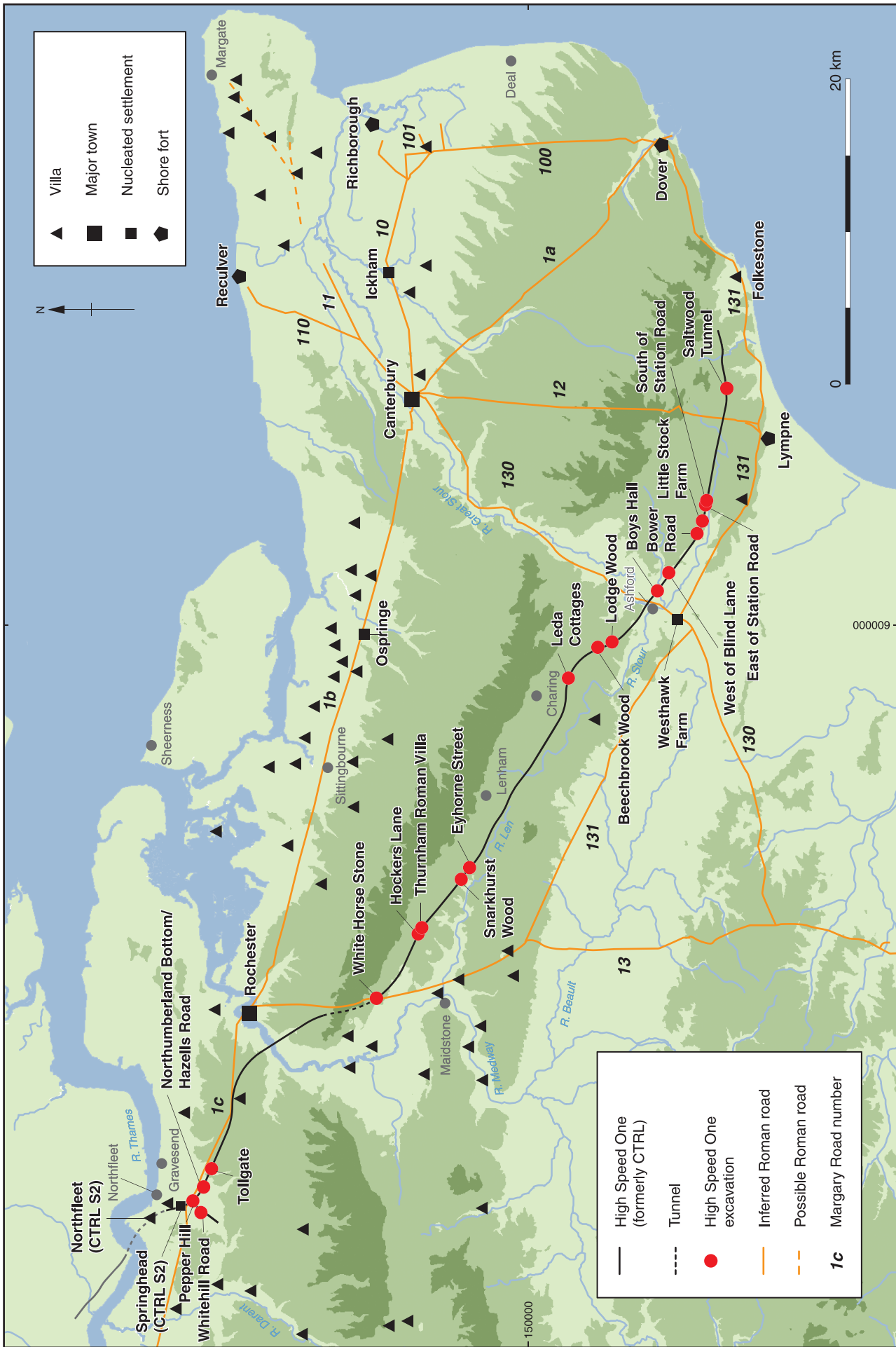


Figure 5.1 Map of Roman Kent showing HSI principal sites (background detail partly based on Andrews 2004, 21 and Bennett et al. 2010, fig.1)

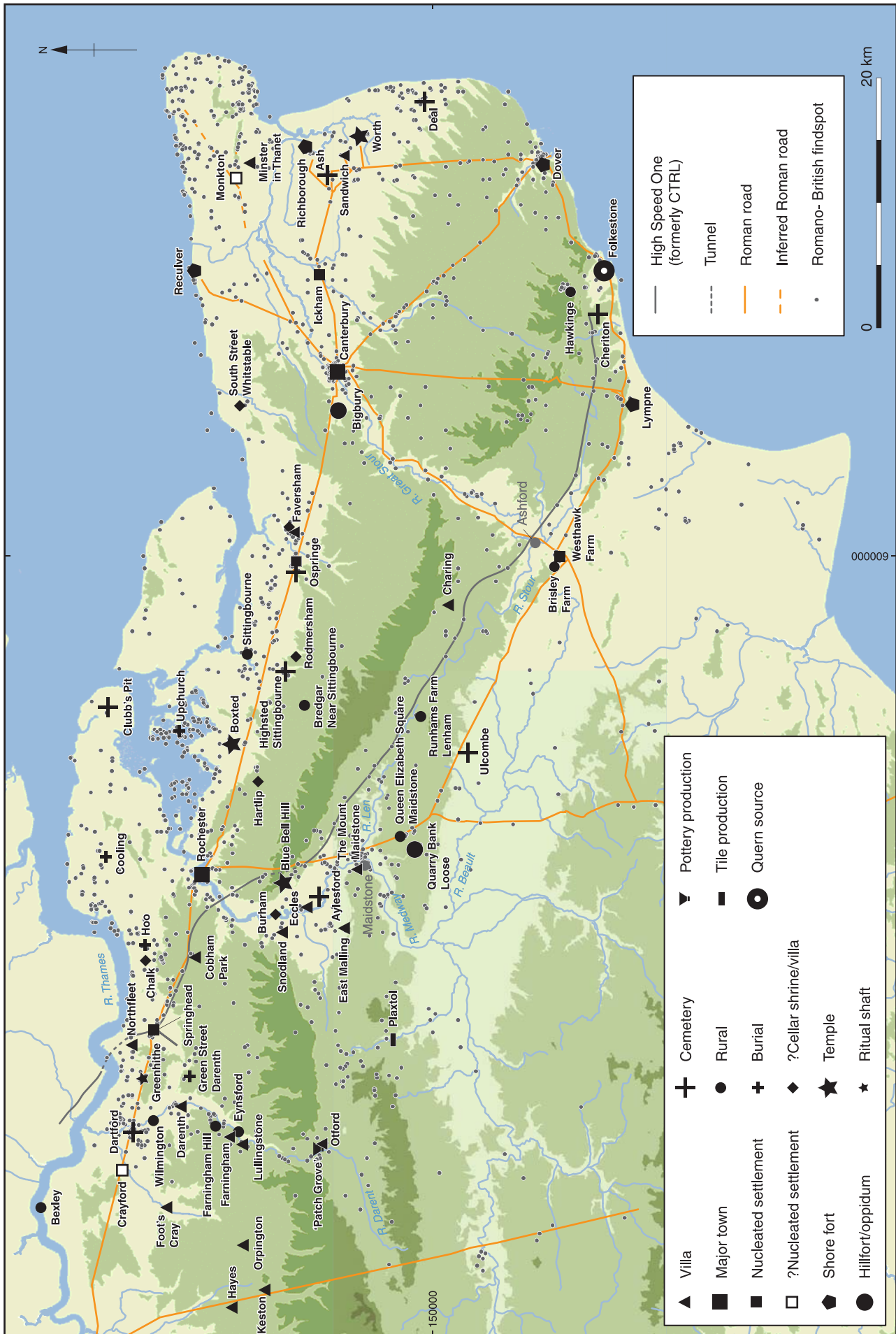


Figure 5.2 Map of Roman Kent showing places named in the text and general distribution of Roman finds (based on Andrews 2004, 24)

four stage classification of rural settlement ended with ‘farmsteads, usually with round huts and ditched enclosures’, to which he devoted a single page. This simplistic characterisation has been retained even more recently (eg Andrews 2004, 20). In part this bias resulted from a lack of relevant evidence in comparison with the volume of material available for the main buildings of villa complexes (but not for their economic basis, evidence for which is largely lacking), but it also reflected perceptions of the importance of the lower order sites. It is only with the growth of systematic development-led archaeological programmes that this imbalance has begun to be redressed. An aspect of this is seen in relation to the distribution of Roman sites in Kent. Detsicas’ (1983, 34) map of Roman Kent shows the south-western part of the county effectively empty of anything except occasional indications of iron-working. A more recent map (Andrews 2004, 24; cf Fig. 5.2) shows more sites in this area (a good number of those in the Chart Hills zone were identified in HS1 work), but still shows a heavy concentration of sites on the north Kent coastal plain and in east Kent. These distribution patterns may reflect some aspects of Romano-British reality (including a notable apparent absence of settlement on the North Downs), but the increase in the number of sites plotted away from the major concentration (and from subsidiary ones such as the Darent and Medway valleys) may indicate the existence of other realities, particularly involving the widespread distribution of settlements which were not focused on stone-built structures.

The Late Iron Age and Roman evidence recovered in HS1 Section 1 exemplifies these trends. Examination of a large part of the already-known villa complex at Thurnham was the only component of HS1 which involved stone-founded Roman structures, apart from some poorly-preserved foundation fragments at Bower Road. By contrast, parts of perhaps eleven other rural settlement sites were excavated—figures probably reasonably representative of the relative numbers of these types of site—mostly falling within Detsicas’ definition of ‘farmsteads’ and mostly of Late Iron Age to Early Roman date. The definition of ‘settlement’ here is problematic since many sites were only very partially impacted and sampled. Systematic criteria for identification of site character have therefore not been established, but usually the existence of settlement is felt to require the presence of a variety of feature types (ie not just ditches) and reasonable quantities of ‘domestic’ material (a criterion which would not necessarily be valid outside southern Britain)—in this case generally more than *c* 250 sherds of pottery. Of the 13 probable settlement sites (including Thurnham and Bower Road) all but two (Lodge Wood and Blind Lane, both slightly uncertain) were defined as principal sites in the main programme of HS1 site reporting. A further five principal sites were considered not to represent settlement directly, although four probably lay close to settlement (the fifth was the cemetery at Pepper Hill, see below). Late Iron Age and/or Roman features and finds came from a minimum of 13 further locations not included in the principal site

reporting programme. One of these was a small cemetery at Boys Hall, Sevington (but see further below), while for the remainder the evidence was insufficient (on the criteria given above) to allow confident attribution to the settlement category. These sites, as well as many of the definite settlements, included elements of roads or trackways and field systems, though the relationship of such features to some of the settlements is unclear. One of these minor roads, close to the Roman ‘small town’ of Springhead, proved to have a major cemetery (Pepper Hill) alongside it, an unexpected and extremely important discovery. The data from this site can be set alongside the evidence from elsewhere on the route for burials of individuals or small groups of people in association with rural settlements.

The main emphases of the HS1 evidence are therefore largely complementary to those of previous studies of Roman Kent, and this discussion will attempt to concentrate on these aspects—rural settlement, economy and society in particular. An attempt will be made to understand the use of the landscape by farming and (perhaps) other communities, not only as the location for settlements and fields, but also for the dead and for religious practices, and to understand how settlements related both to one another, to their surrounding landscapes and to the wider network of nucleated sites and major roads. These last were important in sustaining the archaeologically visible trade that is so characteristic of the Roman period. Here, however, the quantities of many classes of artefacts appear to have been relatively modest and analysis will rely heavily on ceramic evidence, the study of which has an honourable tradition in Kent (eg Monaghan 1987; Pollard 1988). The application of a uniform system for recording the HS1 pottery allows ready comparison of the evidence across the route, enabling patterns of distribution to be discerned.

The value of the HS1 project in providing a transect through the rural landscape with its various settlement types is clear. It should be remembered, however, that the transect is not a totally random one (see also Chapter 1 above). It inevitably avoids modern centres of population as far as possible, with the implication that some locations favourable to settlement in earlier periods as well as today might also have been avoided. Moreover, although divided into eight geographical units as an aid to analysis, much of the Section 1 route (some 60% on a conservative estimate) lies in a single broad topographical zone, on the Greensand belt of the Vale of Holmesdale and the Chart Hills at or towards the foot of the North Downs (Zones 4–8 of the landscape zones defined for the purposes of this project; Fig. 5.3). It is not possible to assess the precise significance that this might have had for limiting the type and number of Late Iron Age and Roman sites encountered, but the possibility that the route location did have some effect on these aspects should be borne in mind. As a single example, the Greensand belt, close to the north-eastern fringes of the low Weald, was always likely to be marginal to settlement patterns which included villas (with the obvious exception of Thurnham), and so



Figure 5.3 Thurnham: View of site looking north-east across aisled building to the North Downs

it proved, but the impression of settlement homogeneity in this area may be exaggerated because of the physical location of the transect.

Chronology

Late Iron Age and Romano-British chronology, albeit more closely-defined than that of preceding periods, still involves uncertainties and variable degrees of precision. Pottery was the principal dating tool for all of the HS1 sites of this period, and the only one for some of them (see Fig. 5.6). Indeed the definition of the 'Late Iron Age' as an entity is largely a ceramic one, since the evidence of settlement form in characterising the period is imprecise (though it does play a part) and other aspects of material culture were generally in such short supply as to add almost nothing to the wider picture. Such evidence did include occasional coins, since Iron Age coins came from four sites, of which two (Hockers Lane and Little Stock Farm) had coins exclusively of this date. The total number of Iron Age coins recovered was only six, however. Even the distribution of Roman coins was limited; they only occurred on six sites, and quantities were always quite small (see Table 5.6). Coins were therefore of little help in constructing the chronological framework of most sites, and completely irrelevant for many.

At the Pepper Hill cemetery radiocarbon dating was used in an attempt to refine the dating of particular

sequences of burials in order to elucidate the overall development of the site. The close correlation of this work with the relatively detailed ceramic dating available for some of the graves is discussed in the site report (Biddulph 2006a), but it was not intended to provide an alternative to the ceramic framework. The latter was therefore applied elsewhere across the route. It is for this reason that the framework of the ceramic chronology of the area is set out here in some detail, so that the rationale for dating of individual sites can be understood. The framework rests on the traditional props of samian and other imported wares in both the Late Iron Age (very occasionally) and the Early Roman period, as well as the overall pattern of ceramic chronology for Kent developed by Pollard (1988). In addition the work of Monaghan (1987) on the products of the North Kent industries was very important, particularly at Pepper Hill.

The development of trends in supply and the introduction of new ceramic styles need not have been synchronous across the region, however. Not only might north Kent have received products of its local Roman pottery industries earlier than sites in the Folkestone area, for example, but it is probably also true to say that the chronology of local ceramic production in the Roman period is better understood in north Kent than further south, with the result that sites in the north have a chance of being more precisely dated. Close estimates of absolute chronology based on the pottery need always to be treated with caution. This is particularly the case with

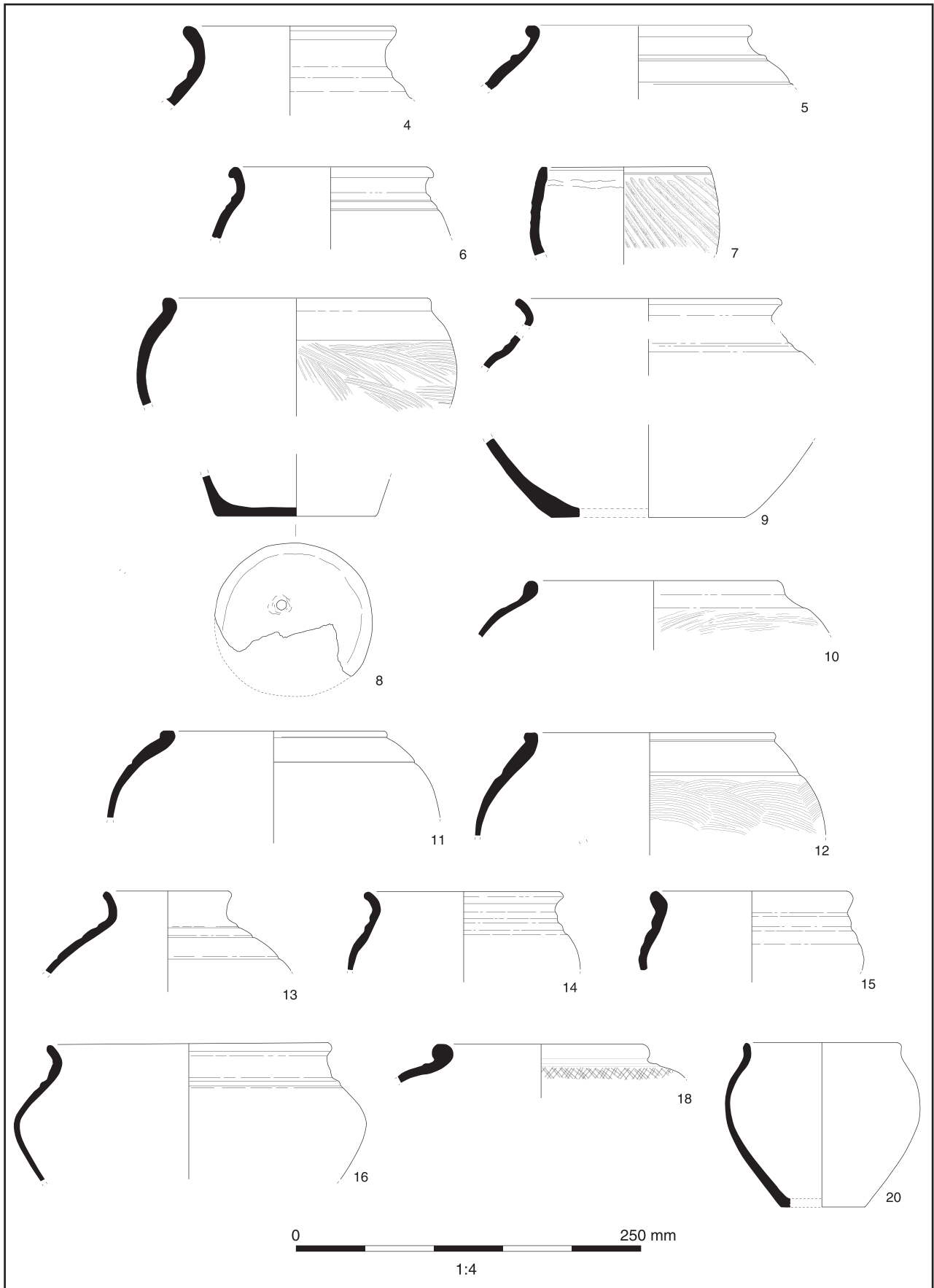


Figure 5.4 Grog-tempered 'Belgic type' pottery from Beechbrook Wood

regard to the pottery of the late pre-Roman Iron Age (see Booth 2006b). Despite the fairly regular occurrence of relatively well-dated continental pottery in pre-conquest contexts in Kent, very little such material was encountered on HS1 sites (and some of the few examples occurred residually in Roman contexts), leaving the locally produced coarse wares with no supporting framework. Pottery of ‘Belgic’ type (*sensu* Thompson 1982, 4) and related material was therefore the key material and chronological indicator (Fig. 5.4). The principal Late Iron Age ceramics in the region are fairly clearly identified, and consist mainly of vessels in grog and glauconite tempering traditions (although flint and shell traditions also occur), but the precise interrelationship of these remains to be elucidated and their chronological and spatial patterning may be quite complex. Sites defined as ‘Late Iron Age’ on ceramic criteria will have material in one or more of these traditions and could date from as early as the beginning of the 1st century BC, the date suggested by Champion (Chapter 4) on the basis of metalwork and other associations. This chronology would merit more detailed consideration than has been possible in the present chapter and may be subject to change in the light of future work. If the inception of the Late Iron Age ceramic traditions(s) of the region is placed in the early 1st century BC, however, it does not follow that all sites defined as Late Iron Age on ceramic criteria will necessarily have been established so early.

The date of the earliest appearance of the most widespread of the Late Iron Age ceramic traditions, grog-tempering, is difficult to establish precisely. The problem is exacerbated by the relative lack of independently dated assemblages with a significant Middle Iron Age as well as a Late Iron Age component. At one of the few such sites, Little Stock Farm, the latest groups appear to have been dominated by grog-tempered fabrics (cf. Morris 2006, fig. 3.9). At Beechbrook Wood, there is a radiocarbon date of 100 cal BC–130 cal AD (NZA-21220; Allen 2006) for a ditch group dominated by grog-tempered ‘Belgic’ pottery. This is entirely consistent with the suggested ‘ceramic’ date of *c.* AD 25–60 for this group, but hardly helps address the issue of the earliest appearance of grog-tempered pottery in the region. At Beechbrook Wood this problem is exacerbated by the realisation that here, and at other sites in the Ashford area at least, the grog-tempered tradition was already in use in the Middle Iron Age—sites in this area cannot be assigned to the Late Iron Age simply on the basis of the presence of grog-tempered pottery fabrics alone; these have to occur in the vessel types typical of the period. In view of the evidence for the existence of distinct sub-regional Late Iron Age traditions such as the glauconite tempering of the Medway valley and a separate south-east Kent sand-tempered tradition (Thompson 1982, 14–15; Pollard 1988, 31), as well as flint-tempered and shell-tempered traditions in the northern part of the county (cf. Thompson 1982, 6–7, maps 1 and 2), the introduction or continued use of grog-tempering in the Late Iron Age need not have been synchronous across Kent (Booth 2006b; see also below). This complexity of ceramic traditions is highlighted by the

recent identification of the probable use of Kentish Ragstone as temper in a distinctive group of material of mid 1st century AD date from Leybourne Grange, near West Malling (Biddulph 2011), although pottery of this type was not identified on HS1 sites.

Both grog and glauconite tempering traditions continued to be used up to and after the Roman conquest; indeed, grog-tempering in one form or another survived to the very end of the Roman period in Kent. Here as elsewhere the conquest is not reflected immediately in the ceramic record, but the Thameside industry started to develop quite early in the post-conquest period. It concentrated mainly on sand-tempered fabrics, amongst which the fine ‘Upchurch’ reduced ware fabric R16 (pottery fabric codes are derived from the Canterbury Archaeological Trust fabric series; for details of fabric codes and more extended discussion see Booth 2006b) is the most characteristic and also one of the earliest to appear, perhaps as early as *c.* AD 50. It supplemented, rather than supplanted, the existing ceramic repertoire and it is possible that some sites saw little of this material before about AD 70, after which time it seems to have been ubiquitous, at least as far as the HS1 sites are concerned. It was particularly well-represented in the cemetery at Pepper Hill, and characteristic vessels constitute all the grave goods in the two mid-late 1st century graves from that site shown in the lower half of Figure 5.5.

Flavian to mid-2nd-century pottery assemblages are therefore characterised by the presence of fine ‘Upchurch-type’ grey wares, though they are far from being dominated by them. By the later 1st century, if not a little earlier, this production was augmented by both oxidised and reduced sandy wares from the Canterbury kilns. As with the Thameside products, the supply of Canterbury pottery to the HS1 sites, where it was never as common as Thameside material, spanned the early 2nd century, which seems to mark the transition from an ‘Early’ to a ‘Middle’ Roman ceramic phase. At the majority of sites the most obvious marker of this change was the appearance of Thameside BB2-type ware (fabric R14) after about AD 120.

The Thameside and Upchurch industries continued to be a significant source of pottery for the region through the first half of the 3rd century, but Canterbury coarse ware production did not significantly outlast the 2nd century (Pollard 1988, 93–7). From the end of the 2nd century onwards grog-tempered ‘native coarse ware’ (fabric R1; *ibid.*, 98) was a component of many assemblages. Although it was not very common on HS1 sites, nor always easily separated from other grog-tempered fabrics, it is characteristic, alongside Thameside products, of the later part of the ‘Middle Roman’ ceramic phase, up to about the middle of the 3rd century.

A Late Roman ceramic phase is marked by the appearance of characteristic widely-distributed indicators such as Oxfordshire products, which may have reached the region as early as the mid 3rd century, although certain evidence of this is scarce (Pollard 1988, 121–2; cf. Young 1977, 133). The most readily identifiable contem-

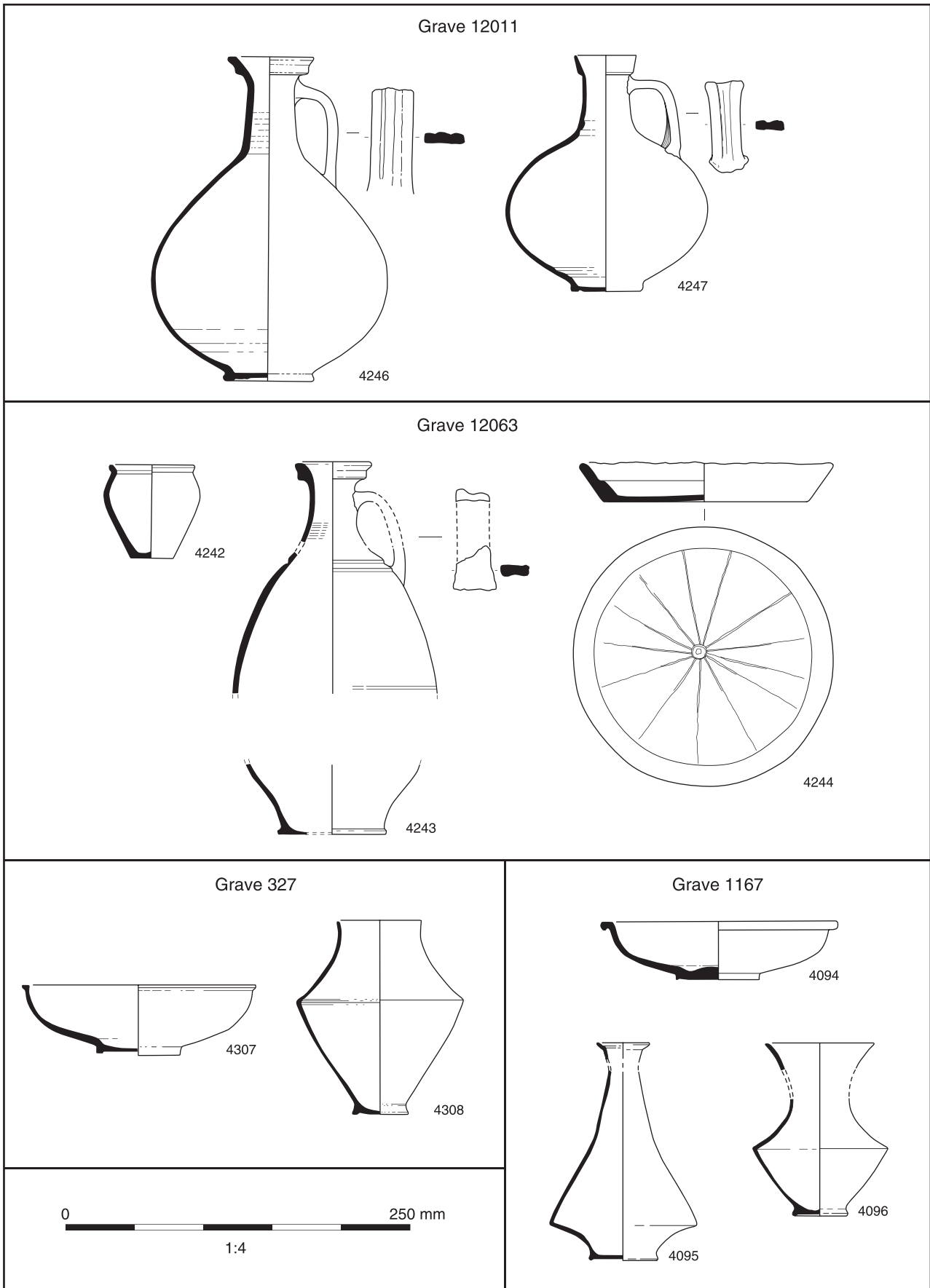


Figure 5.5 Pottery assemblages from mid 1st and mid-late 1st century graves at Pepper Hill

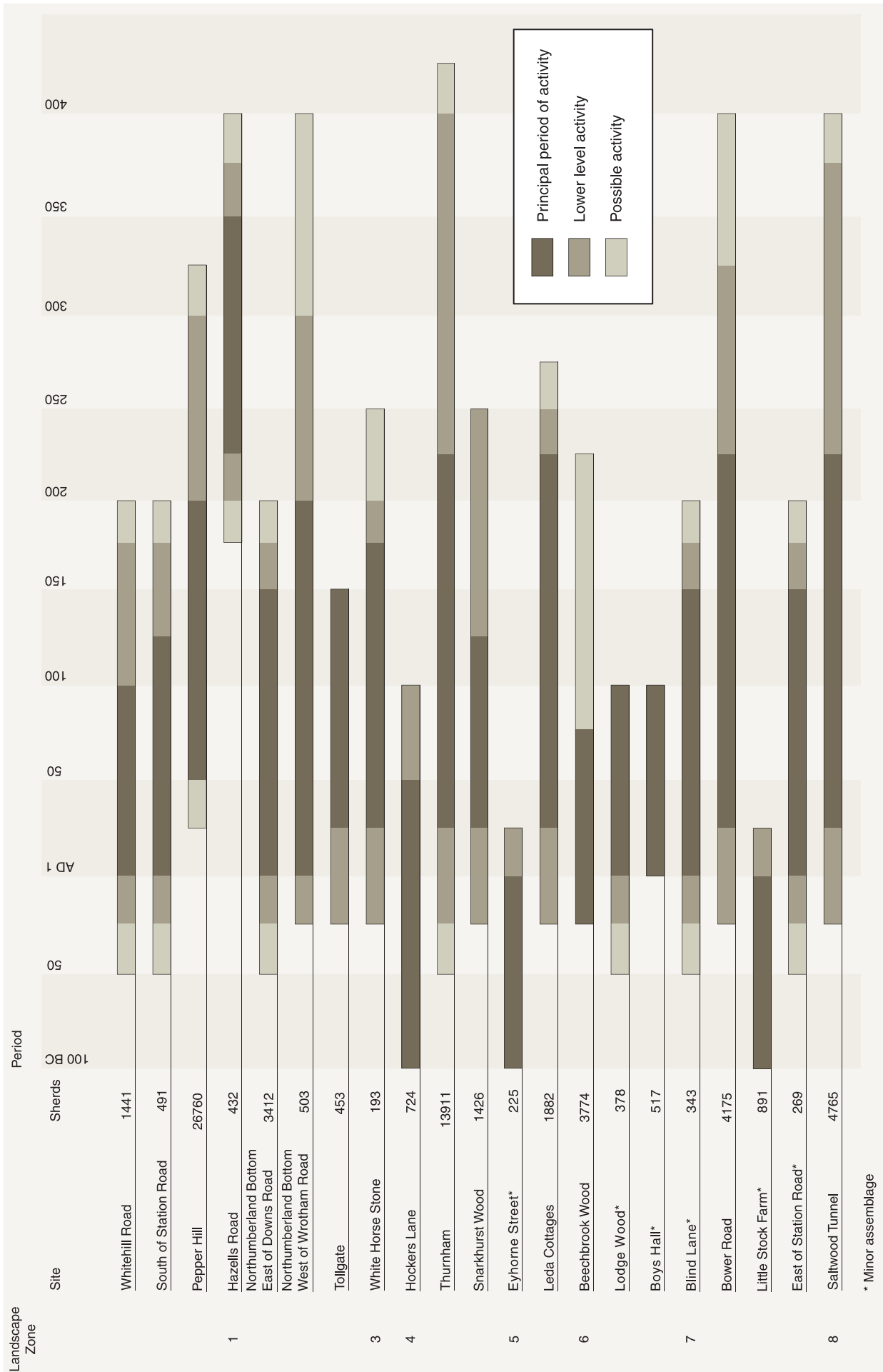


Figure 5.6 Late Iron Age-Roman ceramic chronology by site along the HSI route

porary coarse wares are the Late Roman grog-tempered wares of the LR1 family and, to a lesser extent, sand-tempered fabrics of the LR2 group, neither of which can be assigned to a particular source area but are likely to have been produced within the county from the later 3rd century onwards. Non-local coarse wares consisted mainly of Alice Holt grey ware (fabric LR5), supplemented to a lesser extent by oxidised 'Portchester D' fabric (LR6) and other occasional fabrics. Some of these fabrics, including the local ones LR1.3–LR1.6 and the 'imported' LR6, may have belonged exclusively to the mid/late 4th to early 5th century and mark the latest identifiable stage in the evolution of the Roman pottery of the region.

The ceramic outline just discussed provides the basis for the individual site chronologies set out in Fig. 5.6. This shows a certain amount of variability in site histories within a relatively consistent broader framework, with a heavy emphasis on settlement activity in the Late Iron Age and Early Roman periods and more variable evidence for continuing activity from the mid 2nd century onwards. Assemblages were rarely large enough to allow detailed consideration of potential variability in intensity of occupation within the overall site date ranges and no such evidence (for temporary abandonment or significant reduction of settlement activity, for example) was recorded. The resulting 'broad brush' chronological frameworks may therefore fail to reflect nuances in the sequence of development of individual sites, but this could only have been achieved with substantially larger pottery assemblages, ideally supplemented by non-ceramic evidence. Generally, however, individual sites seem to have had continuous sequences of development (even where this involved significant spatial reconfiguration, as for example at Snarkhurst Wood or Bower Road). In only a single case, at Hazells Road, does the dating evidence suggest that a site may have developed in a new location, potentially as a successor to an earlier component of the local settlement pattern, now disused. The Northumberland Bottom site at East of Downs Road may have been the predecessor in this instance.

Environmental setting

Evidence for the character of the environment/landscape during the Late Iron Age and Roman periods comes from animal bones, charred and waterlogged plant remains, pollen, insects and molluscs, although some of these categories of material were only examined at a very small number of sites as a consequence of considerable variation in degree of survival. The evidence overall is reviewed by Giorgi and Stafford (2006). One of the main problems is that the environmental conditions implied by the biological remains may vary significantly over short distances (*ibid.*). Nevertheless a few key sites produced evidence that sheds significant light on the local/regional environment. Data include molluscan assemblages, particularly from dry-valley deposits along the Kent Plain

and North Downs section of the route, a wide range of remains from Thurnham, 'waterlogged' plant remains from Parsonage Farm and pollen and macro-plant remains from East of Station Road.

The landscapes of the North Kent Plain and North Downs section of the HS1 route probably carried very little woodland by this period. Molluscan assemblages from colluvial sequences in the dry valleys of the area invariably comprise species with open-country affinities suggestive of arable and short-turfed grassland. These deposits probably resulted from soil erosion as a consequence of agricultural intensification and the practice of autumn sowing adopted in many areas during the later prehistoric and Roman periods.

On the south-west side of the Downs Road dry valley a distinct change in colluviation, marked by the presence of relatively coarse chalk inclusions, may have been of Late Iron Age or Early Roman date and may represent intensification of agricultural activity (ploughing) on the upper parts of the valley slopes. In contrast, molluscan remains from Middle to Late Iron Age features on the higher ground to the east, at Northumberland Bottom, comprised predominately shade-demanding taxa with a small open-country element indicating the persistence of some scrub or woodland environments during this period. The Late Iron Age to Early Roman assemblages, however, demonstrated more open conditions, containing mixed assemblages of open country and shade-demanding taxa. Further east again the Roman molluscan assemblages suggested the presence of established, dry open conditions, either open pasture or arable habitats in the vicinity, indicated also by the presence of colluvial deposits in the Wrotham Road dry valley. A possible exception to this pattern of open ground might, however, be suggested in landscape Zone 2, where there was a striking absence of Late Iron Age and Roman sites. Although this absence may relate in part to the presence of the closely adjacent Cobham villa, which could have dominated the local landscape to the exclusion of other settlement types, another possibility is that parts of this landscape were occupied by woodland, suggested by the presence of large tracts of historic woodland in the area today. There is, however, no direct evidence for this.

Much more certain is the fact that the molluscan assemblages from the scarp slope of the Downs at White Horse Stone generally indicated short turfed grassland and arable environments within the catchment. Molluscs from a ditched trackway of Roman date stratified within colluvial deposits in the valley bottom suggested the presence of scrub, possibly a hedge line, but in an otherwise open environment. A possible stabilisation horizon at the top of the Roman colluvium at White Horse Stone was indicated by peaks in magnetic susceptibility and shell abundance. The absence of colluviation during the post-Roman period is possibly linked to a change in land use that may have been initiated sometime in the Roman period, perhaps indicating a heavier emphasis on pastoralism.

Five kilometres south-east of White Horse Stone, at Thurnham in the Vale of Holmesdale, good environ-

mental evidence was recovered from the late Roman well. The waterlogged plant remains (including mosses), pollen, insects and molluscs all suggested a fairly consistent pattern of woodland regeneration during this period, but here it is difficult to determine the extent to which this reflects wider conditions rather than the character of the immediate vicinity of the well itself.

The insects indicated partly wooded conditions, the majority coming from a range of habitats in the surrounding landscape including woodland and grassland. Scarabaeoid beetles pointed to the presence of domestic animals. There were relatively few, mainly small, water beetles, which would have lived in the well itself.

The molluscs included both land and freshwater species, with evidence for an environment of broadleaf deciduous woodland with an abundance of shade-loving species. There were almost no dry land open country snails. Freshwater slum species reflected damp conditions; stagnant or standing water within the well or possibly puddles around it, while the presence of lush vegetation was suggested by marsh species that are found on erect vegetation such as reeds and sedges. There were also damp tolerant terrestrial molluscs.

Plant remains from the well also point to a wooded environment, with macroscopic evidence of 'large' trees, such as oak and ash as well as smaller trees including species which were both tolerant and intolerant of shade (for example holly (*Ilex aquifolium*) and sloe respectively). There was a moderate range of ruderals, especially stinging nettle (*Urtica dioica*), suggesting human disturbance around the well, but there were few wetland plants, for example sedges (*Carex* sp.), and only occasional grassland plants. The general picture is of oak/ash (also major components of the charcoal assemblages) woodland and possible trampled areas around the well. Tree pollen was dominant (75–85%), comprising mainly ash but also with evidence for oak, lime (*Tilia* sp.) and alder (*Alnus* sp.). Shrubs (15%) were dominated by hazel. There were only small counts of herb (grass) pollen and few records for aquatic/marshland plants. Mosses from within the well probably grew on its walls (on both dry and wet areas) and on overhanging trees. *Leucodon sciuriodes*, which is often associated with ash trees, was common.

Together the evidence for woodland at Thurnham is very strong, but the picture is likely to have been skewed by the clear indications that the well was overhung by one or more ash trees, resulting in the unusual quantities of pollen of this species (which is usually underrepresented) and of other taxa closely associated with ash trees. The extent to which this distinctive environment was representative of the surroundings of the villa as a whole is therefore very uncertain.

Another very localised environment was examined at Parsonage Farm, a site with no major Roman settlement component but close to Beechbrook Wood. Here plant remains from a stream channel represented at least three discrete habitats (woodland, wetland and disturbed ground). There was less definite evidence for woodland

in the (?)Late Iron Age period (compared with earlier deposits) and a brushwood platform built on or close to the stream bank at about this time was associated with wetland plants representing a relatively disturbed environment, but also showing that the channel was submerged in winter, drying out seasonally. Evidence for mixed broad-leaved woodland came from a channel fill cutting deposits that sealed the platform, but a change to wetter conditions is also suggested by the wetland plants here, indicative of water standing for all or almost all of the time. However, this particular channel was undated and may have been substantially later than the earlier deposits (and very likely not of Roman date at all). In contrast, both the pollen and waterlogged plant remains from East of Station Road, with some evidence for Late Iron Age activity, suggest a fairly open environment in the vicinity of that site.

Further light is shed on the character of the woodland environment in this period by the charcoal remains, recovered from nine sites covering all the landscape zones except the North Downs Zones 2 and 3. A range of taxa was present. The best-represented species in most of the zones were oak and ash, suggesting the widespread availability of these woodland resources. Oak was typically dominant in deposits relating to metalworking (eg at Leda Cottages, Beechbrook Wood and Thurnham), although one sample from a furnace at Leda Cottages produced a large amount of alder. The preference for oak charcoal in iron-working is matched elsewhere in the region, for example at Westhawk Farm, Ashford (Challinor 2008) and beyond (eg Figueiral 1992), but was not universal in the Wealden iron industry (Cleere and Crossley 1985, 37; Sim and Ridge 2002, 38–9).

Oak was equally the preferred fuel for cremation pyres, for example at Pepper Hill, Northumberland Bottom, Beechbrook Wood and Boys Hill Balancing Pond, although there were occasional exceptions. The assemblage from a Late Iron Age cremation pit at Chapel Mill was dominated by ash, with a little oak and also tubers (presumably for kindling), while another cremation burial from this site yielded alder/hazel charcoal. Another unusual charcoal assemblage was from a Late Iron Age cremation burial at Beechbrook Wood in which the greater part of the charcoal was from gorse/broom (*Ulex europaeus/Sarothamnus scoparius*), while hazel was also well-represented. At Pepper Hill, three unurned cremation burial groups were dominated by ash, one of the urned cremations had 30% alder charcoal and a pyre deposit had mixed oak, ash and field maple (*Acer campestre*) charcoal. Overall, however, oak was the dominant species in 36 of the 40 assemblages examined in detail at Pepper Hill (Challinor 2006) and it is clear that it was usually the fuel of choice there.

Evidence from agricultural structures shows the use of oak and ash in an oven at Thurnham and mainly ash with oak and Maloideae (hawthorn, apple, pear etc), maple and hazel in the corn drier from the same site. Ash was also the dominant charcoal in a late Roman oven from Saltwood Tunnel, together with a small amount of Prunoideae (cherries, blackthorn etc) and hazel, while in

the late Roman corn drier at Hazells Road the stokehole was full of oak but charcoal from within the structure was dominated by hazel.

The charcoal evidence suggests that there was a ready supply of oak at many HS1 sites, for example through the Roman period at Thurnham and throughout the use of the cemetery at Pepper Hill. While the wide range of other woodland taxa represented at sites such as Bower Road might suggest a scarcity of oak resulting in use of other species it is, rather, considered to indicate that locally available material was exploited and, in tandem with the widespread evidence for the use of oak elsewhere, to suggest that there was relatively little pressure on woodland resources, where present, during this period (Giorgi and Stafford 2006). The one possible exception was at Saltwood Tunnel at the south-east end of the HS1 route, where oak was widely used in the early prehistoric but ash was the main charcoal recovered from contexts of Late Iron Age–Early Roman date. A reduction in the range of taxa in the Late Roman period, and the presence of large quantities of charcoal of Rosaceae, characteristic of open, scrub woodland, suggest that there was less woodland cover at this time (*ibid.*).

The overall picture, though patchy, therefore suggests a landscape not vastly different from that seen today; the northern and southern coastal zones (Zones 1, perhaps 2 (for which there is very little evidence in this period) and 8) and the North Downs were therefore largely open and used for mixed agriculture, though there was probably an emphasis on pasture on the upper part of the Downs in Zone 3 and perhaps even in parts of Zone 1. Occasional woodland was encountered and some of the numerous trackways were probably lined with hedges. Elsewhere, in the Vale of Holmesdale and the Chart Hills (Zones 4–7), more woodland was in evidence, but the density of settlement, particularly in Zone 6, suggests that this may have been, at least locally, quite limited in extent. Here the fields associated with individual settlements perhaps formed substantial contiguous areas of open ground, rather than presenting a picture of localised woodland clearance around individual farmsteads—a pattern of settlement more characteristic, for example, of parts of the Weald in later periods (and perhaps also in the Roman period (Aldridge 1998), though the evidence is still slight). Generally, however, while the data suggest the ready availability of woodland resources, they are insufficient to allow firm conclusions to be drawn on the exact balance between the extent of woodland, arable and pasture in these areas.

The data also provide relatively little time depth within the Roman period. It seems almost certain that the apparent expansion of settlement in the Late Iron Age–Early Roman period would have led to increased woodland clearance at this time, but only at Saltwood are there indications that this may have resulted in a change in the character as well as simply the extent of woodland. One interesting aspect is the general scarcity of evidence for woodland management practices. The widespread availability of woodland resources suggested above may

mean that there was little need for such practices, in contrast to the situation in the vicinity of major towns such as London (see eg Brigham *et al.* 1995, 39–41). In the Weald, where the demand for timber for conversion to charcoal for use in iron smelting would have been enormous, there is nevertheless no consistent picture of woodland management (Cleere and Crossley 1985, 37; Sim and Ridge 2002, 39–42) and at Westhawk Farm, close to the HS1 line, detailed analysis of charcoal associated with iron-production features provided no indication of the use of coppice material (Challinor 2008). Existing evidence therefore suggests that processes of natural regeneration may have been relied upon to maintain supply in an extensive resource. Less clear is the extent of possible specific woodland regeneration in the Late Roman period, which has been suggested at Thurnham, although the evidence there could reflect very local conditions. In broader terms regeneration must be considered a possibility in view of the apparent decline in rural settlement at this time. This is discussed further below.

Infrastructure and the pattern of major settlements

Present evidence gives little scope for establishing the existence of significant variation in site character in the Late Iron Age (for morphological variation see below), and therefore provides no basis for construction of site type hierarchies. There is equally relatively little evidence from the surrounding area through which the HS1 transect runs to provide a basis for any hierarchical framework of settlement. Overall, Kent has few obvious ‘central places’ in the Middle Iron Age. By the Late Iron Age hillforts remained in use in the extreme west of Kent and at Bigbury Camp near Canterbury. The latter, possibly abandoned after the invasion of Julius Caesar in 54 BC (Thompson 1983, 258–9), was probably superseded by an extensive, nucleated open settlement at Canterbury itself, characterised as an unenclosed oppidum (Blockley *et al.* 1995, 458). Other sites of broadly comparable type, and of more direct relevance for the understanding of developments in the HS1 area, are at Quarry Wood, Loose (most of the site is within the parish of Boughton Monchelsea) and perhaps at Rochester, the latter sometimes thought to have succeeded the former as a regional focus (eg Detsicas 1983, 2; Parfitt 2004a, 16). The site of Quarry Wood, just south of Maidstone, lies some 6.5km south-west of the HS1 line at Thurnham. In contrast to Canterbury it has a substantial single rampart and ditch (Kelly 1971), which probably defined one component of a larger complex, indicated by other linear earthworks (*ibid.*, 73). Apart from the earthworks the site is only poorly known, but recent work at Furfield Quarry nearby has revealed a major rectilinear enclosure probably of Late Iron Age date (Mackinder 2005) and other features very likely forming part of the Quarry Wood oppidum complex. It is not yet clear if these discoveries will refine understanding of the chronology of the oppidum-related

features, but the occurrence of substantial Early Roman structures and features at the same site (see further below) must be significant. An apparent concentration of Iron Age coin finds in this area, including a hoard of potin coins from Thurnham (Richardson 2003), may underline the role of Quarry Wood as a local power centre. The importance of Rochester is also demonstrated by the discovery in excavation of, amongst other items, 'coin moulds' and Iron Age coins (Chaplin 1962), but the overall extent of this activity is unknown and the attribution of some other Iron Age coins to Rochester is less certain (Holman 2000, 227–8).

In the case of each of these three centres the nature of their relationships with other elements of the settlement pattern remains elusive. They may have served for example as centres of trade, although socially-controlled distribution mechanisms could have been just as important (but these might well have operated from the same locations, in which case distinguishing between these mechanisms on the basis of distribution patterns would be impossible). In commenting on the increasing similarity of Iron Age coin type ratios east of the Medway after *c.* 50 BC, however, Holman (2000, 224–5) suggests that this indicates potential economic unity, implying a market function for at least some of these types. Imported pottery is amongst the few classes of material for which distribution can be demonstrated clearly, but the quantities of such material reaching HS1 sites are such that the nature of the dissemination remains speculative—though the quantities themselves might suggest that this was not through normal trade.

Subsequent to the Roman conquest two of the three possible centres were directly incorporated into the Roman infrastructure system, Canterbury and Rochester both becoming major urban centres on the line of Watling Street, although the urban character of Canterbury in the Early Roman period, in particular, is unclear and it may have been seen principally as a religious sanctuary at this time (eg Millett 2007, 158). There is no clear evidence that the Loose/Boughton Monchelsea oppidum site retained a role as a significant nucleated settlement in the Roman period (see below), but its focal enclosed area lay only just over 1km west of the line of the road from Rochester to the Weald, while the Furfield Quarry site was even closer to this road and would have been easily accessible from it.

The relative and absolute chronology of the pattern of major Roman roads is uncertain, but it is likely that the Watling Street route, joined at Canterbury by the road (Margary (1973) route 10) originating at Richborough (for discussion of the Richborough to Canterbury part of this route see Bennett *et al.* 2010, 328–35), was the earliest, and it was certainly the most important in strategic terms (Detsicas 1983, 33, 35). Most of the other major Roman roads ran from the two Watling Street 'hubs' of Canterbury and Rochester (see Fig. 5.1). Of these the most important in terms of the HS1 sites were Margary roads 12, 130 and 13. The first of these, Stone Street, connected Canterbury with the coastal installations at Lympne, but although intersected by the HS1

route it was not seen during work in the vicinity. Road 130 ran south-westwards from Canterbury up the Stour valley towards the Weald and would have been traversed by the HS1 route at Ashford, though the details of its course through the later town are obscure and opportunities for observation in this area were extremely limited. Road 13 ran south from Rochester, leaving the valley of the Medway to cross the North Downs, where it was almost certainly encountered (in the form of north-south aligned roadside ditches, 11–13m apart) at White Horse Stone, roughly 100m east of the alignment proposed by Margary (1973, 44) (Fig. 5.7).

Road 13 descends into the Medway Valley at Maidstone, whence it trends slightly south-eastwards before turning south again, close to the Loose/Boughton Monchelsea oppidum, a change of alignment that may be significant, to a course into the Weald, where it is met by road 130 near Benenden. The 'hypotenuse' of the approximately right-angled triangle formed by these two roads was made by road 131, Margary's Maidstone-Dover road (1973, 49–50). As Margary says, the exact course of this road between Dover and Lympne has never been established, although a likely route is shown on Figs 5.1 and 5.2. From Lympne, however, the line north-westwards is clear as far as south Ashford, where it met the line of road 130 at what is now known to be the major roadside settlement of Westhawk Farm (see below). There is no evidence for the crossroads which Margary envisaged here (*ibid.*, 49) and it appears that the north-westerly continuation of this road towards Maidstone was from a point some distance further west along the line of road 130, in the vicinity of Stubbs Cross (Aldridge 2006, 180). Amongst other things this evidence is useful in demonstrating that the construction of road 131 was subsequent to that of road 130, which at Westhawk Farm can be seen to have been in existence perhaps as early as the mid 1st century AD (Booth *et al.* 2008).

The line of road 131 roughly mirrors the NW-SE trend of the successive topographical zones in this part of the county, but at some distance from what seem likely to have been the more extensively settled *pays* of Holmesdale and the Chart Hills. There is, however, no evidence for a major road running along these zones, although the presence of tracks linking settlements here must be considered almost certain. While it is possible that the prehistoric 'North Downs trackway' (Parfitt 2004a, 16) remained in use, this route did not link major settlements and was in character substantially different from the other principal Roman roads. It may have retained only local significance.

All the main centres of the Roman settlement pattern of Kent were linked by elements of the major road system. Canterbury, the largest, became the centre of the *civitas Cantiacorum*. It and Rochester were the only Roman towns to be defended (although the possibility that London was also part of the *civitas Cantiacorum* (Millett 1996, 35) should be remembered), but Canterbury apparently never had earthwork defences (unlike Rochester) and was not enclosed with a wall until the later 3rd century. Unfortunately, the defences are the best-

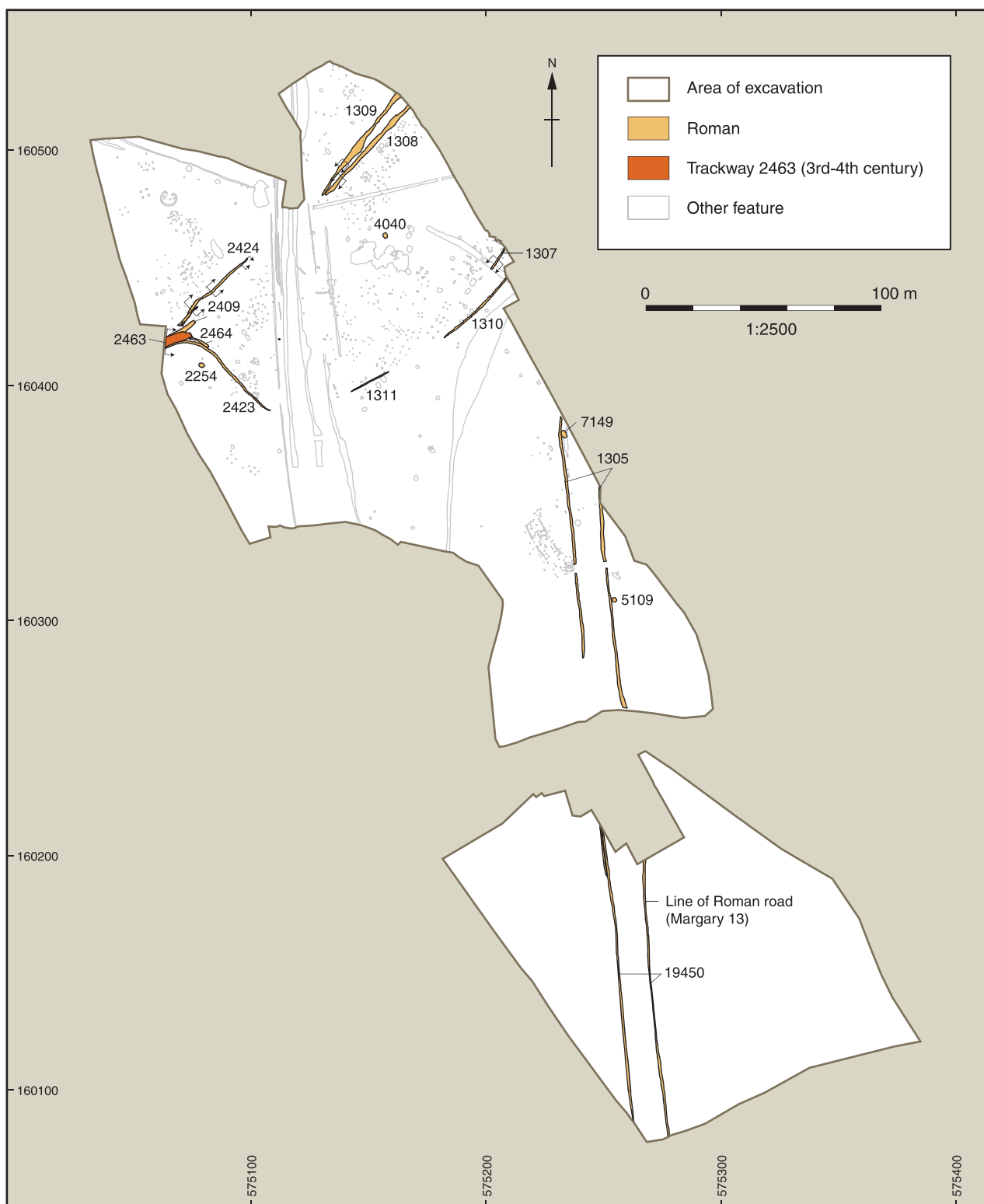


Figure 5.7 White Horse Stone: plan of Roman features, showing line of Roman Road (Margary 13)

known aspect of Roman Rochester (Ward 2004; for longer summaries of the town see Detsicas 1983, 54–9; Burnham and Wachter 1990, 76–81), although it is clear that the interior may have contained a significant density of buildings, some of them substantial. There has been much speculation about the status of Rochester. The idea that it may have served as the centre of a western pagus of the Cantiaci is plausible but, as Detsicas (1983, 38, 59)

admits, not supported by any direct evidence. Burnham and Wachter’s elevation of the town to the status of ‘potential city’ (1990, 76–81) therefore appears rather arbitrary (cf Booth 1998, 615). As a port and a major river crossing (the name *Durobriuae* means at ‘bridge(s)-fort’ (Rivet and Smith 1979, 347; for the bridge itself see Flight 1997)), however, it was clearly of great regional importance. Whether there was a significant perceived or

actual distinction between Rochester and other nucleated settlements along the line of Watling Street is less clear. Of these sites, named in the sources, that near Syndale Park, Ospringe, between Canterbury and Rochester, was probably the *Durolevum* of the Antonine Itinerary (Rivet and Smith 1979, 351), and extended some 400m along the line of Watling Street (its east and west limits defined by cemeteries) and at most *c* 100m south of that road line (Sibun 2001, 191). West of Rochester the site of *Vagniacis* is certainly Springhead (Rivet and Smith 1979, 485), the small town which lies close to the west end of HS1 Section 1 and formed the focus for the settlement encountered in topographical Zone 1 of the project, while *Noviomagus* (probably Crayford; Bird 2000, 156; Rivet and Smith 1979, 428), still relatively little known as a major settlement, lay some 11km further west and probably exerted little influence on the HS1 rural settlements.

This was clearly not the case with Springhead, however. Already well known for its temple complex and other structures (summarised by Burnham and Wachter (1990, 192–8) and more critically by Detsicas (1983, 60–76)), understanding of the site has been significantly enhanced by the excavation of the Pepper Hill cemetery, almost certainly directly associated with it, and by fieldwork undertaken for Section 2 of HS1 (Biddulph 2006a; OWA 2006; Andrews *et al.* 2011) (Fig. 5.8). In particular the latter has added immensely to our knowledge of the religious aspects of the site. The head of the Ebbsfleet River was enclosed on the eastern side by a substantial, curving ditch dug in the Late Iron Age and remaining open into the Early Roman period. Late Iron Age features were absent from within this area, but contemporary finds included a substantial number of coins. Running north from this feature two parallel ditches defined a trackway, possibly a ‘ceremonial’ or processional way close to, but not on the crest of the slope on the east side of the valley. This extended for *c* 450m and led up from the edge of the river, terminating at a point high up on the slope whence the springs and the whole of the surrounding area could have been seen. A large Late Iron Age rectilinear enclosure extended eastwards from the ‘processional way’ to the top of the slope and onto the adjacent plateau.

Elements of what appears to have been a large, Early Roman, sub-rectangular enclosure lying just south of the head of the Ebbsfleet have been identified on several occasions during previous investigations at Springhead. Possible components of this enclosure may have related to the curving Late Iron Age–Early Roman ditch which enclosed the area around the east side of the springs and may have formed an integral element of the Early Roman enclosure.

In the Early Roman period a metalled road, flanked by re-cut ditches, led SSE from the head of the Ebbsfleet towards the enclosure. It was subsequently buried beneath up to a metre of dumped deposits, upon which were small structures of late 1st to early 2nd century AD date. These were succeeded by a sanctuary complex of two main phases, the central part within an area partly defined by fence and pit lines. The earlier phase was of

timber and the later and more fully-developed phase was built partly in stone. Both included a temple building facing the spring head from the south-east. A variety of ancillary structures and features, including pits with special deposits, was present. Finds indicate use of the complex into the 4th century but the majority of the structural evidence is no later than 2nd century in date.

West of the head of the Ebbsfleet, part of Watling Street, a subsidiary road heading north-west, associated property boundaries and a variety of structures, including a possible bathhouse, a further temple, a late Roman wayside shrine, timber buildings of several phases and burials were examined.

Springhead can now be seen as both more extensive and more complex than previously understood. The religious activity within the settlement is clearly polyfocal, having significant components outside the previously-known temple enclosure, and there can be little doubt that the principal importance of the settlement lies in this aspect.

The major settlements of Roman Kent lay principally on Watling Street and in coastal locations at the ends of the roads radiating from Canterbury—Reculver, Richborough, Dover and Lympne. Further west a substantial roadside settlement with an estimated area of *c* 15 hectares has now been identified at Westhawk Farm, just south-west of Ashford at the junction of Margary’s roads 130 and 131. This lacks the stone buildings found in the other sites of this category, but incorporated elements of regular planning in its layout (Booth *et al.* 2008). The structural evidence included an irregular polygonal shrine (Booth 2001). Further north, Maidstone has been discussed as the possible site of a further nucleated settlement, for example by Wheeler (1932, 98–101, agnostic), Webster (1975, fig. 8, optimistic) and Detsicas (1983, 78–9, dismissive). The evidence is at best inconclusive and has been summarised most recently by Houliston (1999, 158) ‘all that can be said is that there is an intensification of activity along the routes of the Medway and the main Rochester road in the Maidstone area’. In terms of the distribution of major settlement, however, Maidstone remains a plausible location for at least a modest nucleated site (Booth and Howard-Davis 2003, 26), perhaps related in some way to the nearby presence of the Late Iron Age centre at Loose/Boughton Monchelsea, and this aspect of the area merits further attention.

The major coastal sites all have an important military aspect, in the case of Richborough from the conquest period onwards, but there is little indication of significant military activity associated with any of the other towns and nucleated settlements. An early ditched enclosure at Springhead, sometimes thought to be of military origin (Penn 1965; cf Detsicas 1983, 60–2) was partly examined in HS1 Section 2 work, which does not indicate a specific military character (OWA 2006), although the suggestion of some military presence at Springhead is not inherently improbable. Military involvement in road and bridge construction (eg over the Medway at Rochester) is likely, but need not have been

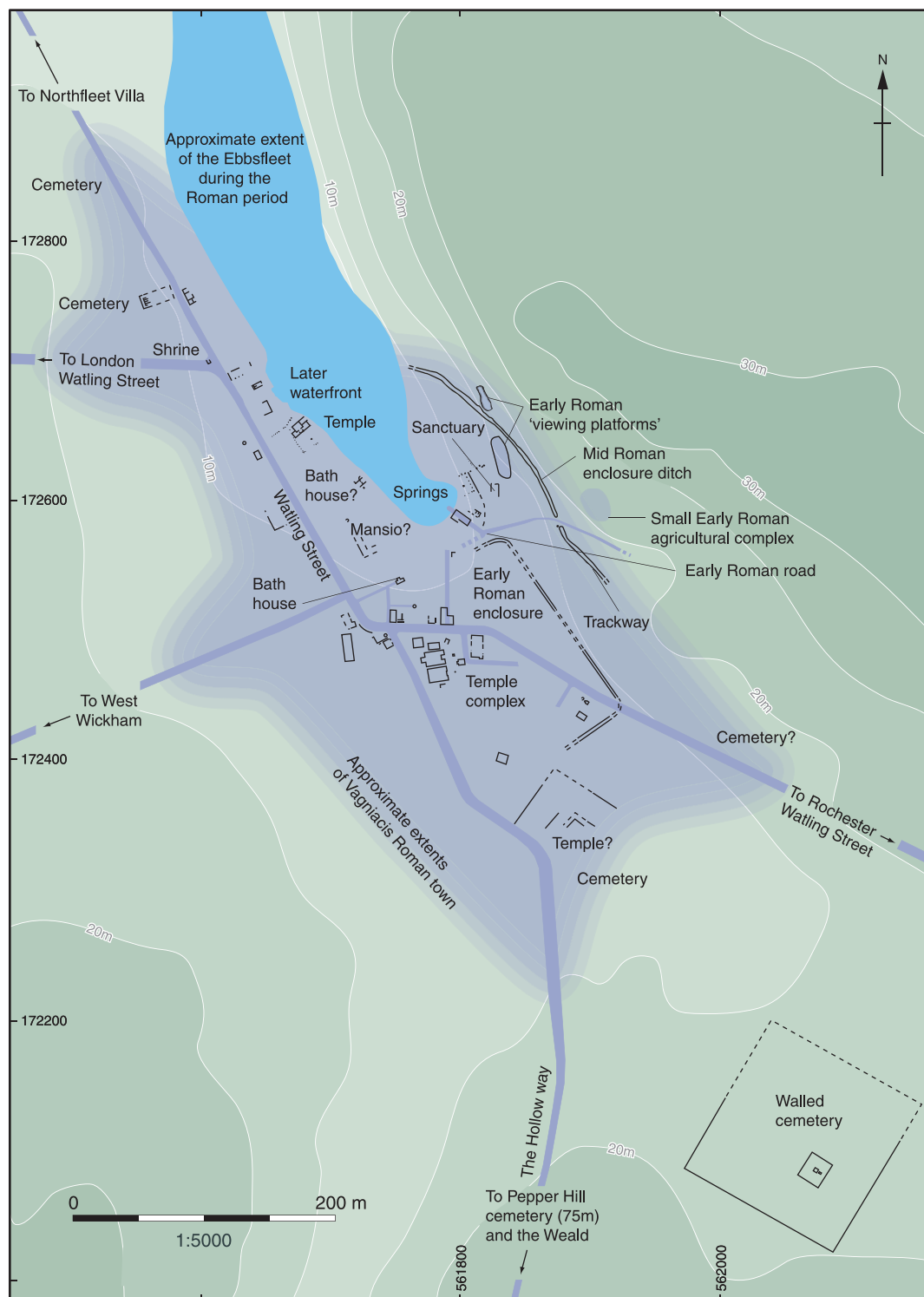


Figure 5.8 Plan of Roman Springhead (after Andrews *et al.* 2011, fig. 4.2)

long term. The impact of the military after the immediate conquest period (regardless of the location of the invasion of AD 43) may therefore have been relatively slight in many cases. It could have been felt most specifically in relation to iron production in the south-western part of the county; this is discussed further below. An alternative view, however, is that 'military control of the terminal points of the route through Kent from the Channel ports to London could

have given Early Roman Kent a profoundly military character' (Mattingly 2006, 138). There is no evidence from the HS1 sites that would support such a perspective, but possible evidence of military activity close to the line of Watling Street is known a little further west, near Dartford, where a potential temporary camp has been identified (Philp and Chenery 2001; Simmonds *et al.* 2011, 76, 194–5). This is not closely dated, but can almost certainly be assigned to the 1st century AD.

The Late Iron Age and Roman settlement pattern

There was notably little connection between those HS1 sites which produced Late Iron Age (as defined above) and later pottery, and those which produced material in earlier traditions analysed as part of the later prehistoric ceramics programme. Many sites had evidence for activity of one or the other major period, but few had evidence for both, and where this did occur there was often spatial discontinuity between features assigned to the two periods, as for example at Beechbrook Wood (see below). The implication of this is that there was significant discontinuity of settlement patterns, at least at very local level, between the Middle and Late Iron Age, although occasional exceptions exist, notably a recently-excavated site at Ashford Orbital Park very close to the HS1 site of Boys Hall Moat, which has Middle and Late Iron Age but no Roman occupation (Anker and Biddulph 2011). Such sites apart, the absolute chronology of Middle to Late Iron Age settlement discontinuity is uncertain, however, for ceramic-related reasons such as a lack of closely-dated imports outlined above and because the problem has not been addressed by a concerted programme of radiocarbon dating.

The clearest example of a close but slightly indirect relationship between settlements of Middle Iron Age and Late Iron Age–Early Roman date amongst the HS1 sites

is seen in the southern part of the large site at Beechbrook Wood (Fig. 5.9). Here a double-ditched oval enclosure (Enclosure 3072) assigned to the Middle Iron Age was succeeded by ditched features close by to the west and south-west, the alignments of some of which make it clear that they respected the outer enclosure ditch, although the plan is not sufficiently coherent to support the suggestion that these features should be seen as an ‘extension’ of the Middle Iron Age enclosure (Fig. 5.10). More interesting, in terms of the relationship between these two phases of activity, is the suggestion that the placing of a small group of Late Iron Age cremation burials close to the entrance of Enclosure 3072 was related to termination of use of the enclosure (Brady 2006a).

The proximity of and spatial relationships between the Middle Iron Age and later features here are sufficient to suggest that continuity of community may be envisaged, even though the absolute chronology of the pottery is insufficiently precise to demonstrate this. A similar situation may have existed at Little Stock Farm where Late Iron Age enclosures overlay a Middle Iron Age trackway and other features (see Fig. 5.15). In general, however, such patterns are notable for their rarity in the HS1 transect.

There is equally relatively little evidence for continuity of more extensive landscape features, some of which might have been expected to survive whatever the



Figure 5.9 Beechbrook Wood: plan of Middle Iron Age to Roman features

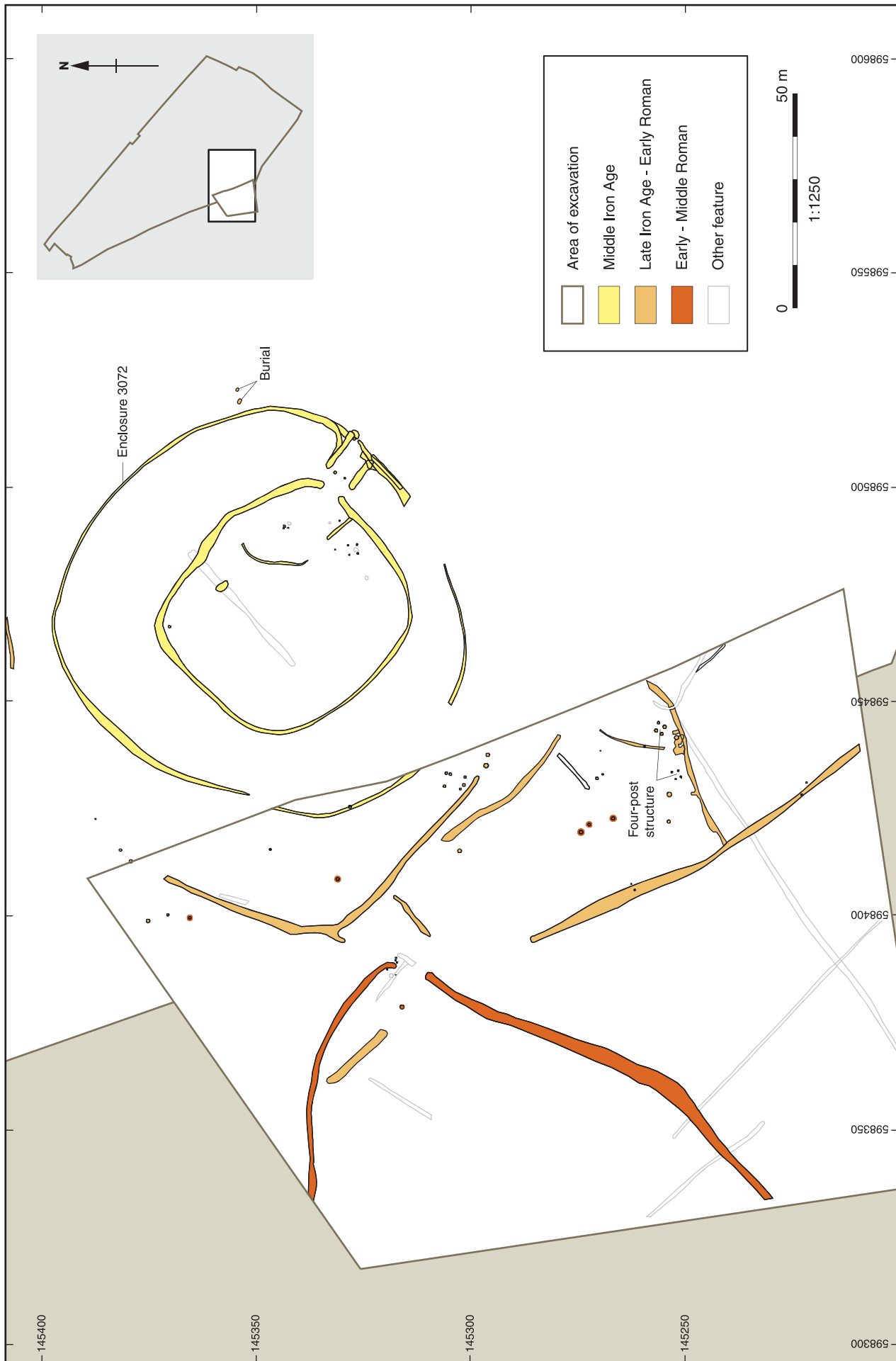


Figure 5.10 Beechbrook Wood South: plan of Middle Iron Age to Roman enclosures

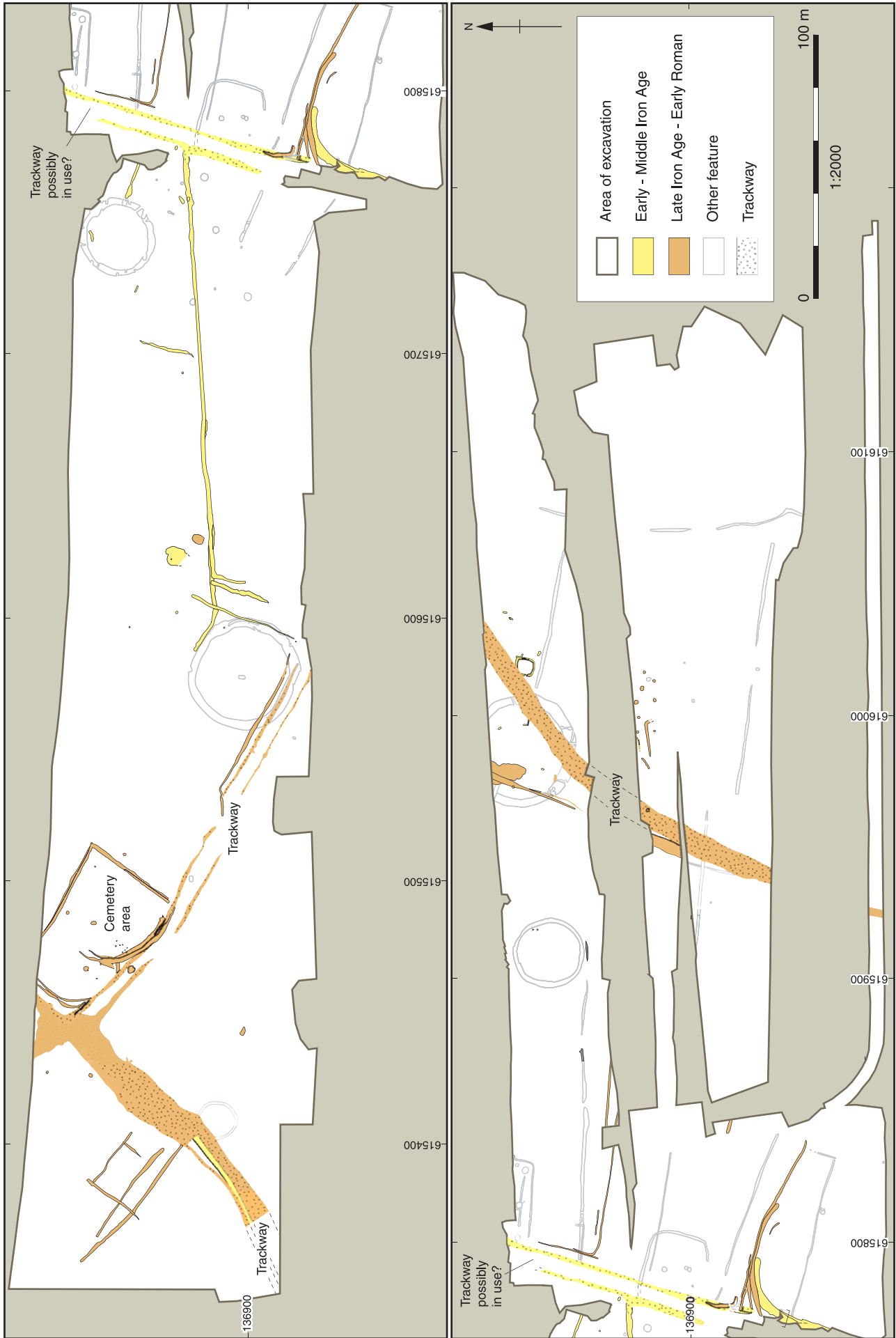


Figure 5.1.1 Saltwood Tunnel: overall plan of Iron Age and Roman features showing location of trackways

causes of settlement relocation may have been. At Saltwood Tunnel, three trackways, all aligned broadly NE-SW, which are thought to have originated in the Early/Middle Iron Age, all survived in use into the Roman period and one (trackway 10156, at the western end of the site) was joined by subsidiary trackways of Roman date (Fig. 5.11).

Again this pattern appears unusual, although this may be a consequence of the inherent difficulty of dating such features, some of which—while apparently of Late Iron Age and later date—might have been established earlier. On balance, however, the consistent association of many trackways with dating material and with settlement components apparently exclusively of Late Iron Age and Roman date suggests that this was indeed the time when they were put in place. Occasionally trackways relate to earlier settlement features but without any indication that the latter were maintained into the Late Iron Age or later. So for example at White Horse Stone (see Fig. 5.7), a trackway entering the site from the south-west led into an area defined by ditches which surrounded the location of the majority of the Iron Age settlement, by now long out of use, but themselves enclosed no significant Roman features. Generally, however, identification of ditched trackways as landscape features of later Iron Age and later date, rather than having earlier origins, is consistent with wider patterns discussed by Taylor (2007, eg 57–65, 113). Overall, therefore, the contrast between Middle and Late Iron Age patterns of activity may represent not discontinuity of settlement location between the two periods but rather a significant and perhaps rapid increase in the density of settlement in the later period, along the lines discussed by Hill, who sees parts of Kent as amongst those regions which ‘seem to have had relatively little permanent settlement *c* 300–100 BC’ (Hill 2007, 24). From a Roman perspective at least, the HS1 Section 1 evidence seems potentially consistent with this view, with an increase in density of settlement implied for the period from the early 1st century BC onwards.

As already mentioned, many HS1 sites may have grown up in the second half of the 1st century BC. At Hockers Lane, Eyhorne Street and perhaps Little Stock Farm, however, occupation probably commenced as early as the beginning of the century. This is best established in the case of Hockers Lane, where the pottery evidence was supplemented by a Class I potin coin, stratified in a ditch of the first phase (although such coins could have circulated right up to the time of the Roman conquest; Holman 2000, 208). The pottery assemblage from Eyhorne Street was smaller and less well characterised and, unusually, activity here (and also at Little Stock Farm, as at Ashford Orbital Park mentioned above) may have ceased in the 1st century AD before the Roman conquest. For the majority of the remaining sites a start date about the middle of the 1st century BC or within the second half of the century seems likely, with continuity of activity thereafter at least into the 2nd century AD in most cases. Of the 30 ‘locations’ of Late Iron Age and/or Roman activity mentioned above (sites more than *c* 500m apart, as in the north and south parts

of Beechbrook Wood, have been considered to be separate locations), pottery evidence indicates that a pre-conquest origin is likely at 27, with only Pepper Hill (effectively), Hazells Road and a minor site at Nashenden Valley being entirely of post-conquest date.

The evidence just discussed suggests a relatively dense pattern of activity, although with a total route length for HS1 Section 1 of *c* 74km (excluding the length of the North Downs Tunnel but including the 5.5km stretch through Ashford and Sevington where archaeological observation was at a minimal level) this represents only one ‘site’ per 2.5km (or 0.4 sites per km) in the Late Iron Age, the period with the greatest number of locations of activity.

Late Iron Age and Roman sites are listed in Table 5.1 in geographical sequence from north-west to south-east, relating them to the sub-regional landscape zones defined for the project as a whole (Zones 1–8).

Presented graphically (Fig. 5.12) it is clear that the distribution of sites across the sub-regional landscape zones was not even. The North Kent plain (Zone 1) was relatively densely occupied, with an average of 0.6 sites per km, but the area immediately west of the Medway and the higher parts of the Downs (Zones 2 and 3) had fewer sites (none at all of this period in Zone 2). Zones 4–8 all occupy a broadly similar topographical location, but closer to the foot of the Downs at the north-west (Zone 4) and moving into the southern coastal area in Zone 8. Within these zones there is, however, considerable variation in settlement density, from typically 0.2–0.3 sites per km up to 0.9 sites per km in Zone 6, north-west of Ashford (site density in the adjacent Zone 7 increases to 0.5 sites per km if the 5.5 km stretch of minimal archaeological intervention through Ashford is excluded from the calculation).

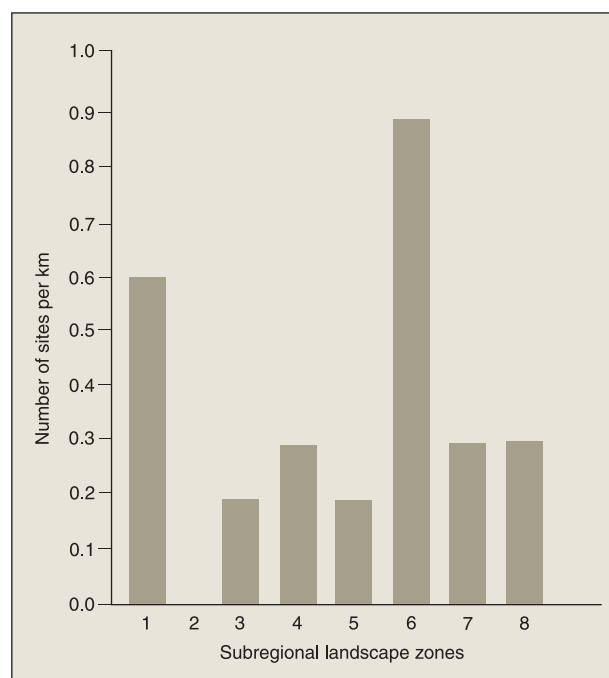


Figure 5.12 Distribution of late Iron Age and Roman sites per km by landscape zone

Table 5.1 Late Iron Age and Roman sites in landscape zone sequence

<i>Landscape Zone</i>	<i>Length (km)</i>	<i>Principal Site element</i>	<i>Minor site</i>	<i>Comments and LIA/RB Context</i>
1. Boundary of North Kent Plain/ North Downs dip slope (Upper Chalk/head deposits)	11	Whitehill Road South of Station Road Pepper Hill Hazells Road Northumberland Bottom, E of Downs Road Northumberland Bottom, W of Wrotham Road Tollgate		Dominated by Springhead and the line of Watling Street. An area of relatively intensive settlement
2. North Downs dip slope (Upper Chalk/head deposits)	5	-		Villa at Cobham Park lies just to the south
3. North Downs scarp slope (Upper Chalk/head deposits)	8.5	White Horse Stone	Nashenden Valley	N-S Rochester to Weald road with probable settlement/temple complex just to the north at Blue Bell Hill and cluster of villas, including Eccles, in the Medway valley to the west
4. Wealden Greensand, Vale of Holmesdale (Gault Clay)	7	Hockers Lane Thurnham		?Oppidum complex at Quarry Wood, Loose to SSW and possible nucleated settlement at Maidstone. A number of villas and other rural settlements in the Maidstone area
5. Wealden Greensand (Lower Greensand – Folkestone and Sandgate Beds)	13	Snarkhurst Wood	Eyhorne Street Chapel Mill	Little known except for Runhams Farm, Lenham, settlement with some iron production
6. Wealden Greensand (Lower Greensand - Folkestone and Sandgate Beds)	8.5	Leda Cottages Beechbrook Wood north Beechbrook Wood south	Hurst Wood Newlands Leacon Lane Westwell Leacon Tutt Hill (Parsonage Farm) Lodge Wood	Small villa north of HS1 line at Charing (Detsicas 1975a) at north end of this zone. Notable concentration of settlement etc in Ashford area to the south (see below)
7. Wealden Greensand (Lower Greensand - Atherfield Clay)	17.5	Bower Road Little Stock Farm	Boys Hall Blind Lane Church Lane E of Station Road	12 km excluding Ashford stretch. Extensive LIA settlement in south Ashford, including sites such as Brisley Farm. Canterbury-Weald road and road from Lympne form junction, with major roadside settlement at Westhawk Farm
8. Wealden Greensand (Lower Greensand - Folkestone and Sandgate Beds). Coastal zone	3.5	Saltwood Tunnel		Canterbury-Lympne road, coastal establishments at Lympne just to SW. Rural settlement in Folkestone area to east

These figures must be used with caution, since a variety of non-archaeological factors could have had a bearing on the visibility and location of sites as well as on wider aspects of the location of the HS1 transect in relation to settlement patterns. Nevertheless, the broad trend is illuminating. Marked concentrations of activity are seen in the northern coastal plain and in the vicinity of the valleys of the Great and East Stour in the Ashford area, while the North Downs are particularly thinly occupied. How are these broad variations to be explained? The physical characteristics of the landscape clearly played a part. The highest parts of the Downs, for example, have never been favoured locations of settlement (Lawson and Killingray 2004 *passim*) and the Late Iron Age and Roman periods would not be expected to

show a marked contradiction of this trend, though the absence of sites in Zone 2, west of the Medway, is less easily accounted for, particularly as the villa at Cobham (Tester 1961) lay just south of the HS1 trace. The villa may have been so close, however, that there were no other settlements in the immediate vicinity. Moreover, the HS1 route is so close to the line of Watling Street over a 2km length that the presence of rural settlements would be unlikely in this stretch since such settlements do not typically front directly onto major roads.

The figures can be compared with general data on Romano-British site distribution. Data from a variety of regions in lowland Britain assembled by Millett (1990, 184) suggested a mean of 0.8 (± 0.5) sites per km². This is quite close to a crude figure of 0.9 sites per km² for

England overall, obtained by dividing the total area by a notional figure of some 117,000 'possible sites' quoted by Taylor (2007, 23). The figures are of course not intended to stand up to detailed analysis, but are useful as potential indicators of order of magnitude. The HS1 data can be adjusted to bring them into line with these estimates; on the assumption that the average width of the HS1 transect was *c* 200m (perhaps a generous estimate), the figures given above (per linear km) can be multiplied by five to give numbers of sites per km². This could suggest figures of up to 4.5 'sites' per km², or densities (except in Zone 2) consistently equivalent to and in places up to five times the mean suggested by Millett, if each of the 'sites' constituted a settlement. Such figures are not impossible at a local level; the highest could suggest the presence of multiple small farmsteads each on average about 20 hectares in extent (or almost 50 acres—for comparison it may be noted that a large majority of landholders in the Weald in the 16th–early 17th century held 50 acres or (often considerably) less (Zell 1994, 22–9)) and in turn implies a densely settled landscape. Alternatively the high figures may reflect a particularly favourable topographical/environmental niche preferentially occupied by settlements and coincidentally by the HS1 transect, thus exaggerating estimates of settlement density. However, while the densities suggested around Ashford probably are high in comparison with the Wealden clays and the Downs to the south-west and north-east respectively, there is no particular reason to believe that they are not representative of the Vale of Holmesdale/Chart Hills area, and they are supported by other evidence for intensive Late Iron Age–Early Roman activity in the Ashford area (eg Johnson 2002; Philp 1991; Rady 1992; 1996).

Such a concentration of settlement, and its potential contrast with adjacent areas, suggests considerable local variation in intensity of exploitation, in part reflecting the diversity of the landscapes encountered. Such an interpretation may imply a degree of environmental determinism in relation to settlement location, although it is notable that a number of the sites close to HS1 in south-east Ashford are in low lying areas recently characterised by relatively poor drainage, so this explanation may have limited validity. The environmental picture drawn from the HS1 evidence itself does not seem to show enough variability to account for the most pronounced differences in settlement density along the route (although there are insufficient data for this to be certain). Social factors were therefore presumably also important in determining variations in settlement density and character.

Rural settlement: physical characteristics and development

Rigid categorisation of the rural settlements encountered by HS1 has not been attempted as it is unlikely to be very meaningful, particularly in view of the incomplete nature of most site plans; there is not one single

complete settlement enclosure from the whole of the scheme. Distinctions can be made, however, on the basis of characteristics of overall site morphology, the form of enclosure elements, architecture and the range of social end economic contacts and practices suggested by artefactual and ecofactual evidence. A combination of these factors allows the separation of Thurnham, unsurprisingly, from most of the other sites. This is based principally on architectural criteria, however, because as will be seen there are some aspects in which Thurnham is not readily distinguished from other HS1 settlements. Bower Road is in many respects similar to Thurnham and could perhaps represent part of a villa complex, the domestic focus of which lay outside the HS1 line. Traces of the regular rectilinear site layout of Thurnham and Bower Road may also be seen in the eastern part of the Northumberland Bottom complex (west of Wrotham Road). While only the margins of this site fell within the HS1 footprint, parts of the northern side of what is fairly certainly the same enclosure complex were subsequently revealed in excavations on the line of a new route for the A2 (Allen *et al.* forthcoming) and confirm the firmly rectilinear nature of its layout. That this was probably a site of relatively high status is strongly suggested by the associated burials also discovered on the A2 (*ibid.*; see further below). Elsewhere, settlements appear to be characterised by layouts of enclosures and other boundaries of varying degrees of regularity and do not lend themselves to detailed typological subdivision.

Chronology and character of development from the Late Iron Age onwards

Late Iron Age settlements were not only for the most part chronologically and spatially distinct from those of the Middle Iron Age, and correspondingly chronologically continuous with Early Roman activity, but in terms of physical form and location they are rarely distinguished from the latter in any meaningful way. These Late Iron Age–Early Roman sites were generally characterised by linear features and enclosed elements, sometimes of quite irregular plan. A tendency for settlement layouts to become more regular, with enclosures laid out on more nearly rectilinear lines in their later phases, which is seen in some parts of Roman Britain (for example in some parts of the Upper Thames Valley from the early 2nd century AD; Booth *et al.* 2007, 43) and in northern France (Haselgrove 2007, 506) was not commonly observed here.

Enclosures

Enclosure is very often a dominant characteristic of both Late Iron Age and Romano-British rural settlement (eg Hingley 1989, 55–9; Taylor 2007, 24) and the HS1 sites are no exception to this, although Taylor (*ibid.*) notes their (apparent) relative scarcity in Kent (except for the

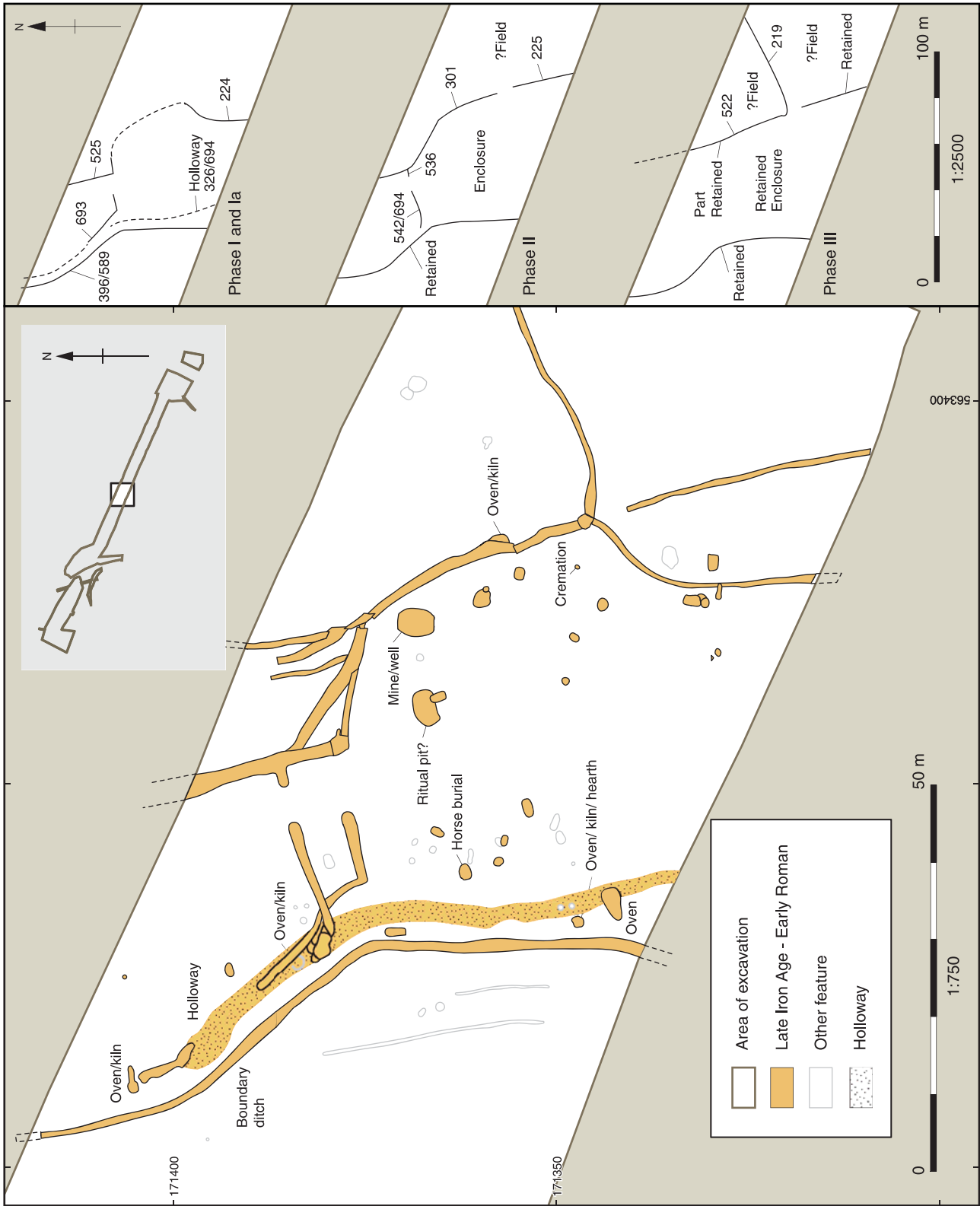


Figure 5.13 West of Northumberland Bottom (East of Downs Road): overall plan of Late Iron Age–Early Roman features and schematic representation of phase development

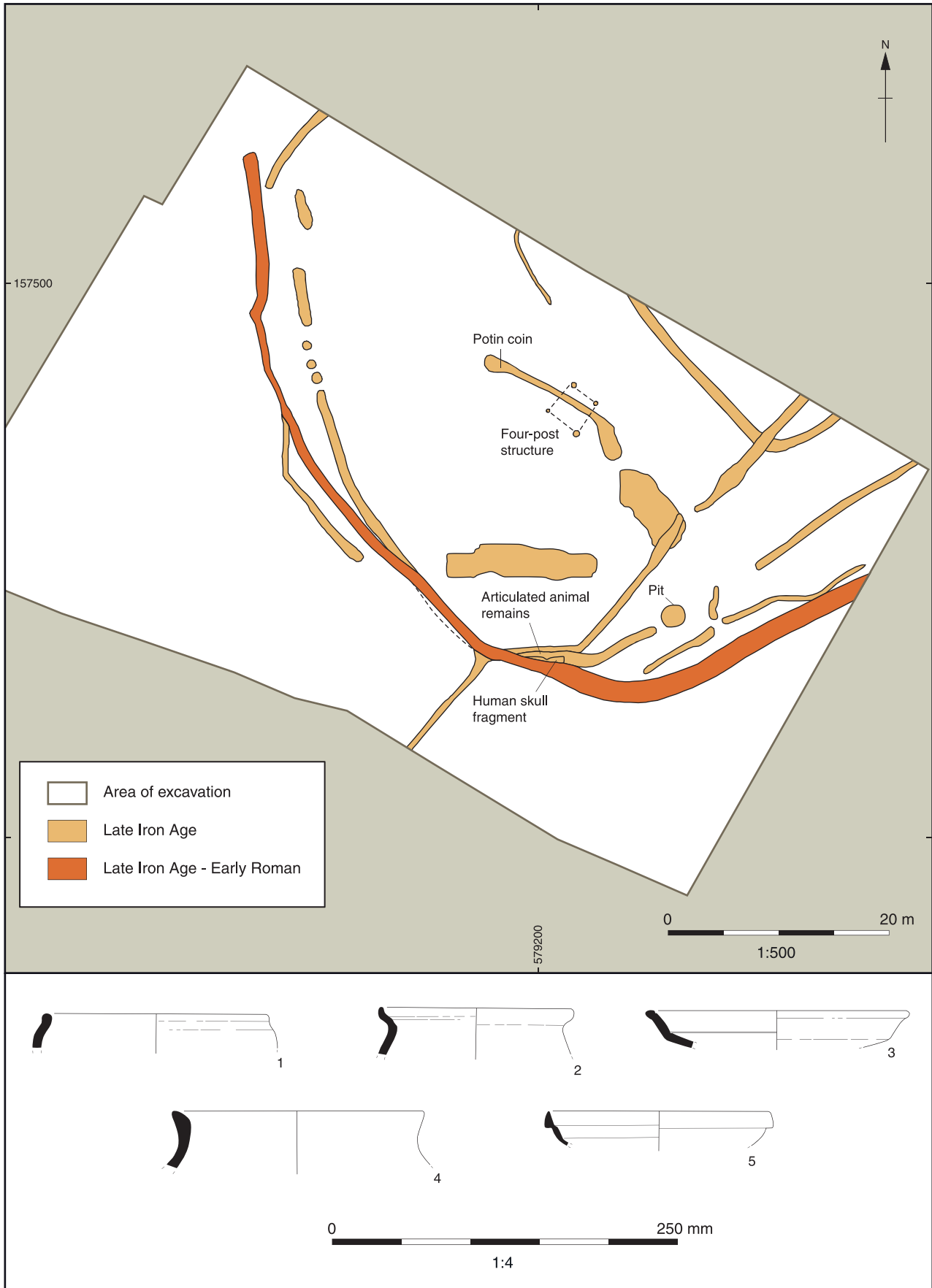


Figure 5.14 Hockers Lane: overall plan of Late Iron Age–Early Roman features and selected Late Iron Age pottery

eastern extremity of the county) and other parts of the South-East. Enclosures (of one shape and another) are a consistent feature of all the main HS1 settlements and variations in their plan constitute one of the most obvious (but not necessarily the most meaningful) ways of considering settlement form. The occasional survival of simple ditched enclosures from the Middle Iron Age into the Late Iron Age is seen at sites such as Farningham Hill (Philp 1984, 7–71), though there is still insufficient evidence from the area for it to be certain that such enclosures were typical of the Middle Iron Age. Not all Late Iron Age and later enclosures necessarily related strictly to settlement; the ditches that defined the Pepper Hill cemetery (see Fig. 5.44) are the most obvious exception, though they did not constitute a coherent enclosure form. The small rectangular enclosure at the trackway crossing at the west end of Saltwood Tunnel, which defined the cemetery there (see Fig. 5.11), whether or not this was its primary intended function, is a clearer example. The northern enclosure at Beechbrook Wood, which seems to have been associated specifically with iron production, may have been another (see Fig. 5.39).

There seem to have been two broad groupings of enclosure types, although the distinction between them is not always clearly drawn. The first group may be defined as ‘irregular and evolving’ and the second as sub-rectilinear and rectilinear. Sites in the first category include Northumberland Bottom (East of Downs Road) (Fig. 5.13), Hockers Lane (Fig. 5.14) and Beechbrook Wood, particularly the southern area (see Fig. 5.10), although the extent to which the features there can be defined as an enclosure at all might be questioned.

The sinuous character of the East of Downs Road site may be linked to its position on the chalk hillside and was also partly determined by the line of an adjacent trackway which may have predated the domestic site. These conditions did not apply at Hockers Lane and Beechbrook Wood, but in the southern settlement area at the latter site the location of the rather irregular linear features reflected the presence of the adjacent Iron Age enclosure. This,

however, was of unusually clearly-defined concentric circular form. None of the enclosures in question was completely excavated, so little more can be said.

Sub-rectilinear and rectilinear enclosures are encountered more widely, but again the incomplete nature of site plans may render this category of limited value. At Little Stock Farm a sequence of relatively rectangular enclosures, probably entirely of Late Iron Age date, overlay a fairly rectilinear Early–Middle Iron Age arrangement of possible trackways and other linear features (Fig. 5.15; Ritchie 2006). The Late Iron Age enclosures were superseded by a track or droveway on a similar east-west alignment. Dating evidence was almost non-existent, so the timespan during which the trackway was in use is unknown, but survival at least into the Early Roman period is distinctly likely. The Little Stock Farm enclosures may have been agricultural in function rather than relating strictly to settlement, and as a result of the paucity of associated artefacts, dating of subphases of the enclosures is difficult. A comparable arrangement, in which successive stages of rectilinear enclosure can be seen clearly, is found at South of Station Road. Here only one corner of the enclosures projected into the excavated area, but it was noticeably angular in plan. An oven with associated cereal remains was set in what may have been the latest phase of the ditch, an association that is noted quite commonly in the HS1 rural settlement sites, as for example at Northumberland Bottom West of Wrotham Road (see Fig. 5.34).

Other approximately rectilinear enclosures are seen at Northumberland Bottom (West of Wrotham Road) (Fig. 5.16), Thurnham (see Figs 5.20, 5.23), Snarkhurst Wood (see Fig. 5.18) and Leda Cottages (see Fig. 5.17).

Of these, the West of Wrotham Road enclosures appear markedly rectilinear (see above). As at Downs Road to the west, one side of the enclosure lies alongside a trackway, but the regular layout appears to be much less conditioned by nuances of topography than in the former site. While only the southern edge of this enclosure system was encountered within the HS1 trace,

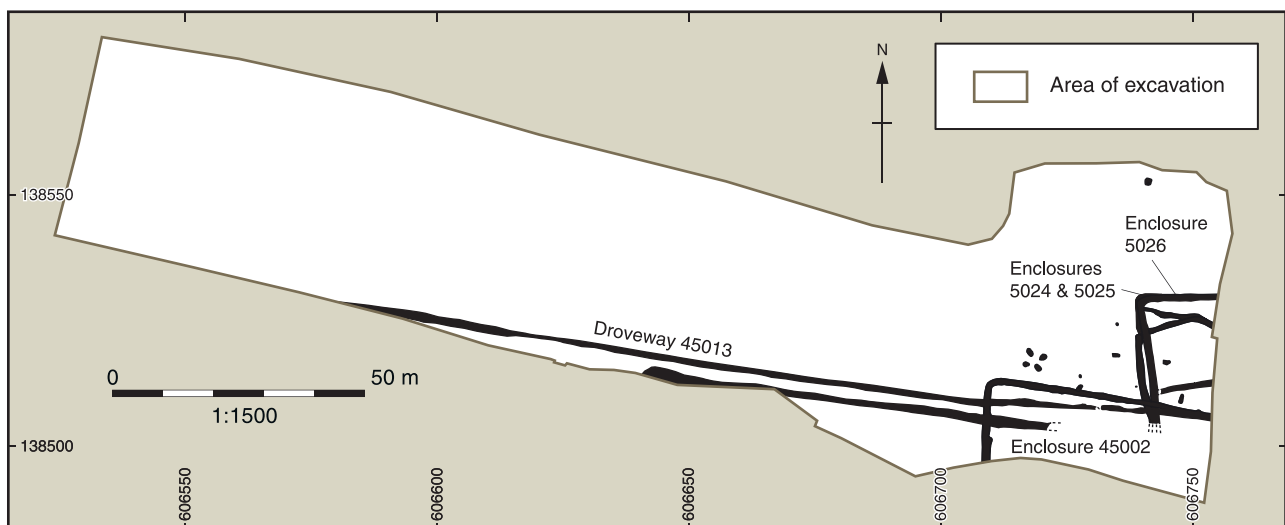


Figure 5.15 Little Stock Farm: Late Iron Age trackway and enclosures

it is clear that to the north a similarly rectilinear layout was maintained. It is likely that this was broadly the case at Thurnham, but here the definition of the north-east side of the settlement enclosure was never very clear, except in the Late Iron Age phase. It is possible, however,

that in the later phases this boundary lay beyond the limit of the excavated area. This was always true of the south-western part of the enclosure, where it has been plausibly suggested that the alignment of the ditch would have lain at the break of slope at the top of the small plateau upon

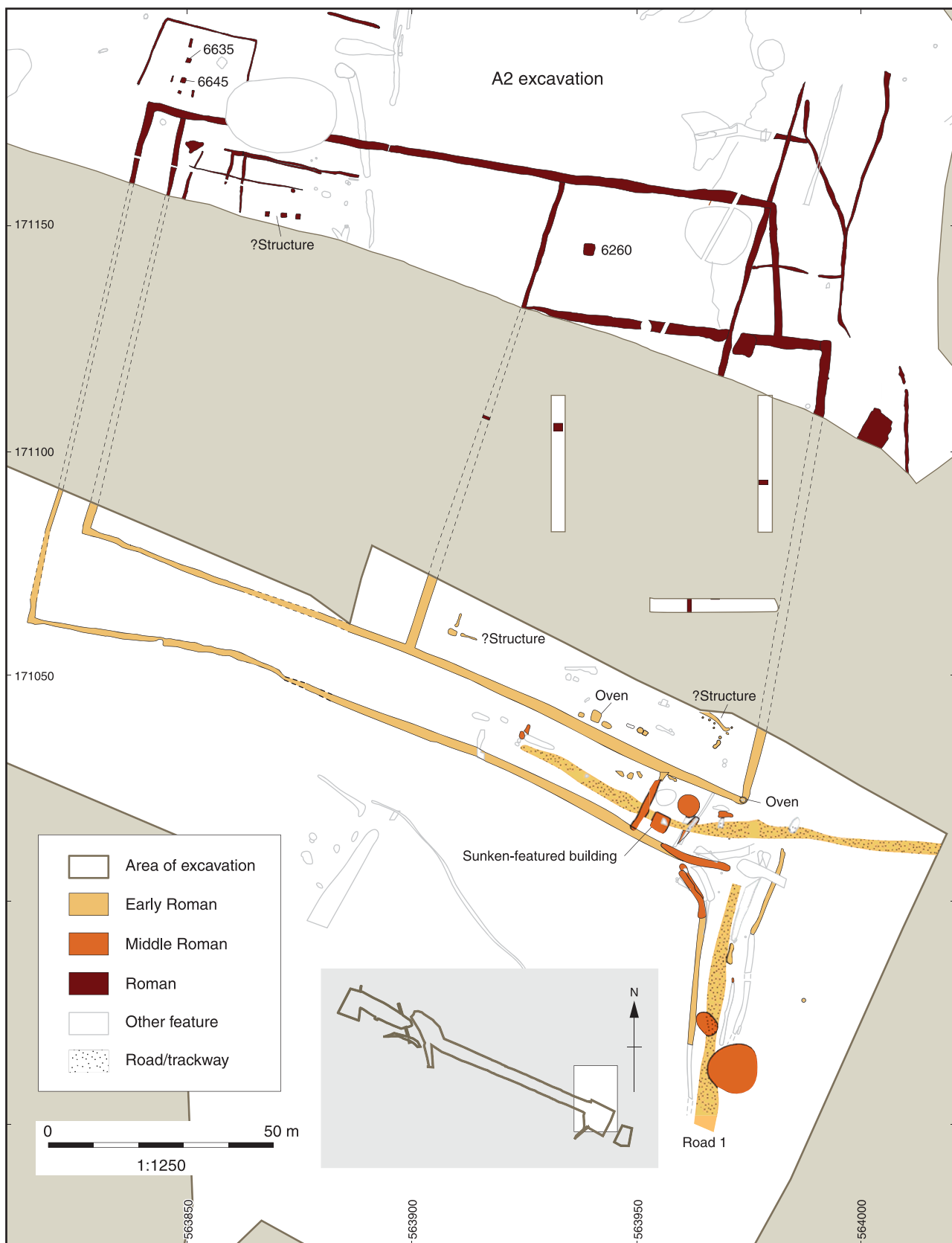


Figure 5.16 West of Northumberland Bottom (West of Wrotham Road): overall plan of Roman features

which the main buildings were situated (Lawrence 2006). Also of interest at Thurnham is the relationship of the successive phases of the enclosure to what seems to have been a more extensive boundary feature to the north-west. Apparently separate from the enclosure ditch itself in the Late Iron Age phase, this feature was realigned to accommodate the proto-villa house (see Fig. 5.23) and realigned again to provide space for the Middle Roman villa (see Fig. 5.26), the foundations of the latter being

carefully placed right to the bottom of the Early Roman ditch. In these phases the ditch defined the north-western limit of the occupied area and formed that side of the settlement enclosure, though it seems likely to have continued both north and south of the enclosure. It was only in the Middle Roman period that further enclosures to the east of the main villa complex reached their most developed form, surrounding a subsidiary building and defining other aspects of the approach to the villa.

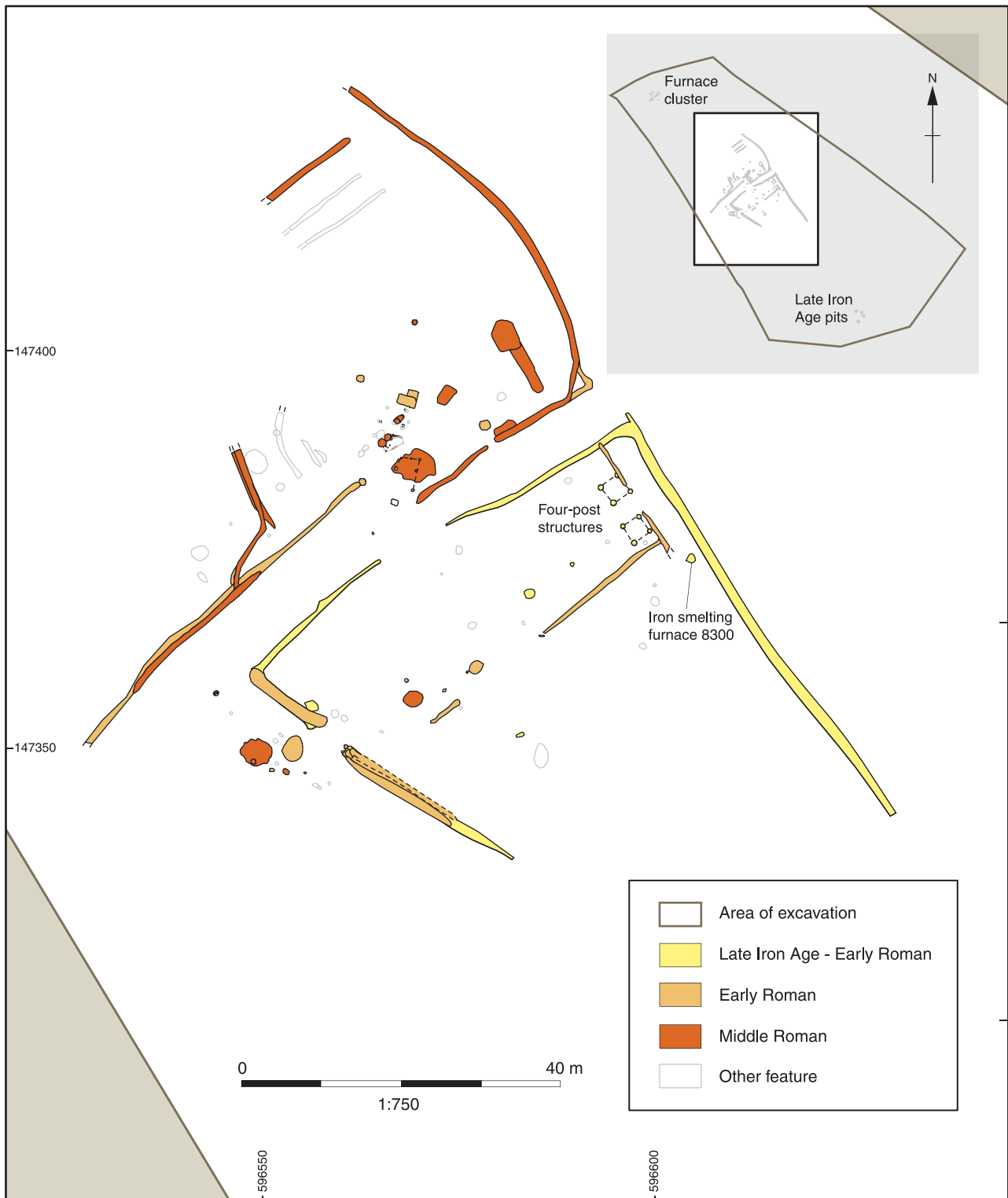


Figure 5.17 Leda Cottages: overall plan of Late Iron Age and Roman features

At both Snarkhurst Wood and Leda Cottages it looks as if the Early–Middle Roman layout of principal linear features was actually less regular than that which had been in use earlier. At Leda Cottages (Fig. 5.17) the main Late Iron Age ‘enclosure’ was a three-sided feature with gaps in two of the sides, but no trace of the fourth (south-east) side. It is possible that this was simply a result of variable preservation, but sections excavated toward the south-east ends of the north-east and south-west sides showed that these ditches were about 0.5m deep (Diez 2006a), ie they were not becoming increasingly shallow towards their termini, so erosion does not seem a likely explanation. It is perhaps more likely that the ‘missing’ side of the enclosure was formed by an organic feature such as a substantial hedge or a patch of woodland which has left no distinct trace in the archaeological record. To the north, however, it is clear that the survival of linear features is very much more variable and the vagaries of the plan of the north-west ‘enclosure’, again separated from the original one by a trackway, are probably explained by preservation factors.

At Snarkhurst Wood (Fig. 5.18) a trackway was again an important component of the plan, but here in the Late Iron Age phase it ran into the principal enclosure, rather than lying alongside it. A curious feature was an arrangement of postholes between the trackway ditches just outside the point at which these ran into the enclosure. The positioning seems too precise to be coincidental, and it is possible that these features formed part of a system of control of stock movement into and out of the enclosure (Diez 2006b). As already mentioned, the later features at Snarkhurst Wood suggest less of a concern with enclosure definition than in the Late Iron Age. In particular, the well-defined trackway from the west was suppressed and the western side of the enclosure redefined with slighter ditches of more irregular layout. There is little indication of significant changes in the character of activity within the enclosure, however; four-post structures, for example, were present in both Late Iron Age and Early to Mid Roman phases.

Overall, therefore, there is little indication of systematic development of enclosure form, for example from irregular to more rectilinear plans. Such a sequence is only seen clearly at one site, Bower Road (Fig. 5.19). Here an irregular layout of Late Iron Age and Early Roman ditches was directly replaced by a much more orthogonal series of enclosure ditches and other features in the Middle Roman period (Diez 2006c). The extent to which the early features themselves formed part of settlement enclosures is uncertain, however, and it is possible that most related to an evolving sequence of trackways adjacent to settlement, rather than defining the settlement itself. Either way, the rectilinearity of the subsequent features is particularly marked and implies at least local reorganisation of the landscape in the way that was seen rather earlier, for example, at nearby Little Stock Farm.

The scale of enclosure ditches is consistently fairly modest. There is no indication that these were ever seen as defensive in character; as a broad generalisation they

rarely exceeded 2m in width and 1m in depth. The emphasis of the enclosures was presumably on definition of occupation and other areas and containment/exclusion of stock. Only at Thurnham is there clear evidence for the provision of relatively substantial gateway structures, and these were almost certainly associated with status display and reinforcing the monumental aspect of the approach to the site. The potential stock control arrangements at Snarkhurst Wood (see above) were of very different character.

The incomplete nature of most of the HS1 enclosures is mirrored at other sites in the county where, even in recent relatively large scale projects, completely exposed settlement enclosures are lacking (again reflecting the largely linear character of such projects). Comparable sites include the West Malling and Leybourne Bypass, just west of Maidstone, where well-defined rectilinear ditched enclosures were dated to the Late Iron Age–Early Roman period (Ellis 2009, 9). Further enclosures of similar date and character have also recently been examined just south of there at Leybourne Grange (Biddulph 2011).

Buildings

A general lack of structural evidence is typical of the Late Iron Age and Roman settlement sites of HS1, although there is limited evidence for a variety of structural types. Four-post structures are the most significant exception to this lack, with a total of thirteen examples from six different sites assigned a Late Iron Age to Roman date range (Table 5.2). This structural tradition was well established in Kent as elsewhere in the country, with some 55 examples of Early–Middle Iron Age date at White Horse Stone alone (see Chapter 4). Two examples probably of later Middle Iron Age date were encountered on HS1 east of Downs Road (part of the Northumberland Bottom complex) and a further one of similar date was found at Beechbrook Wood; these provide the chronological link with Late Iron Age and later examples of this structural type.

The Late Iron Age and Roman four-post structures varied considerably in size, from noticeably small pre-conquest examples at Snarkhurst Wood (two *c* 1.2 x 1.5m; Diez 2006c) up to a broadly contemporary one at Hockers Lane measuring almost 3m square. The latter therefore provided five times the floor area of the Snarkhurst Wood structures, assuming that the conventional reconstruction as raised floor ‘granaries’ is followed. At Leda Cottages the largest assemblages of charred grain and chaff from the site came from the two four-post structures (8402 and 8403) (see Fig. 5.17). These remains indicate that cereal processing activities were taking place in the vicinity, and in addition structure 8402 produced some small weathered lava quern fragments. While suggestive, this evidence does not prove that these structures had a granary function because the grain and chaff-rich samples derived from the fills of the postholes and will generally have been

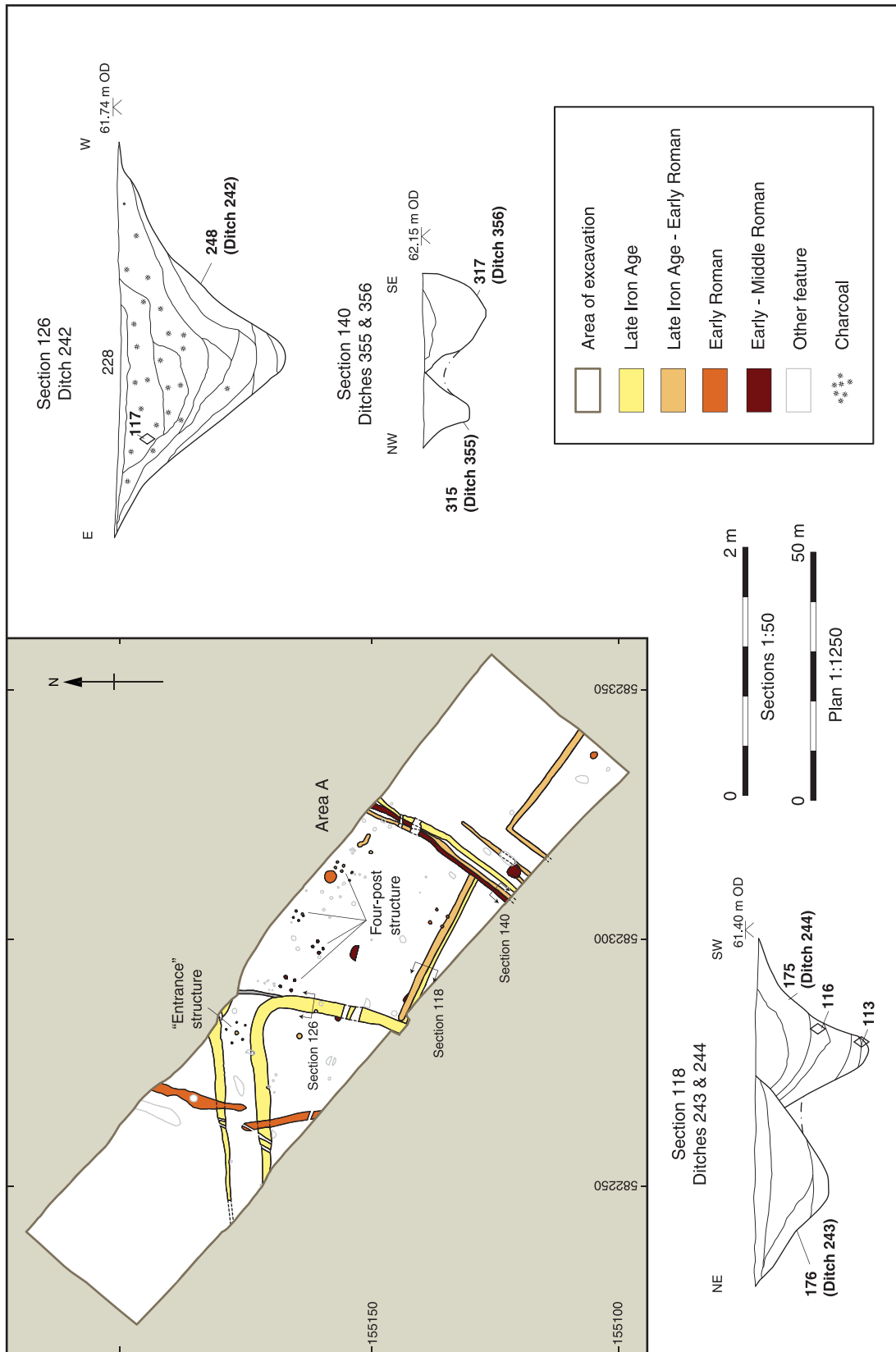


Figure 5.18. Snarkhurst Wood: overall plan of Late Iron Age and Roman features and selected sections

deposited after the disuse of the structures. Dating of the four-post structures was typically imprecise, though few are likely to have been later than the late 1st century AD. Three of the examples from Snarkhurst Wood, however, may have been in use (or even have been constructed) later than this, but they are not closely dated and could equally have been of mid-late 1st century date as later.

Only at Thurnham was there evidence for a contemporary association of four-post structures with other building types, in the Late Iron Age–Early Roman phase (perhaps *c* AD 20–60/70; Fig. 5.20).

Here one certain and one possible roundhouse were indicated by surviving lengths of drainage gully. One four-post structure lay within 2m of the incomplete gully, with the other some 10m east of it. Exact contempo-

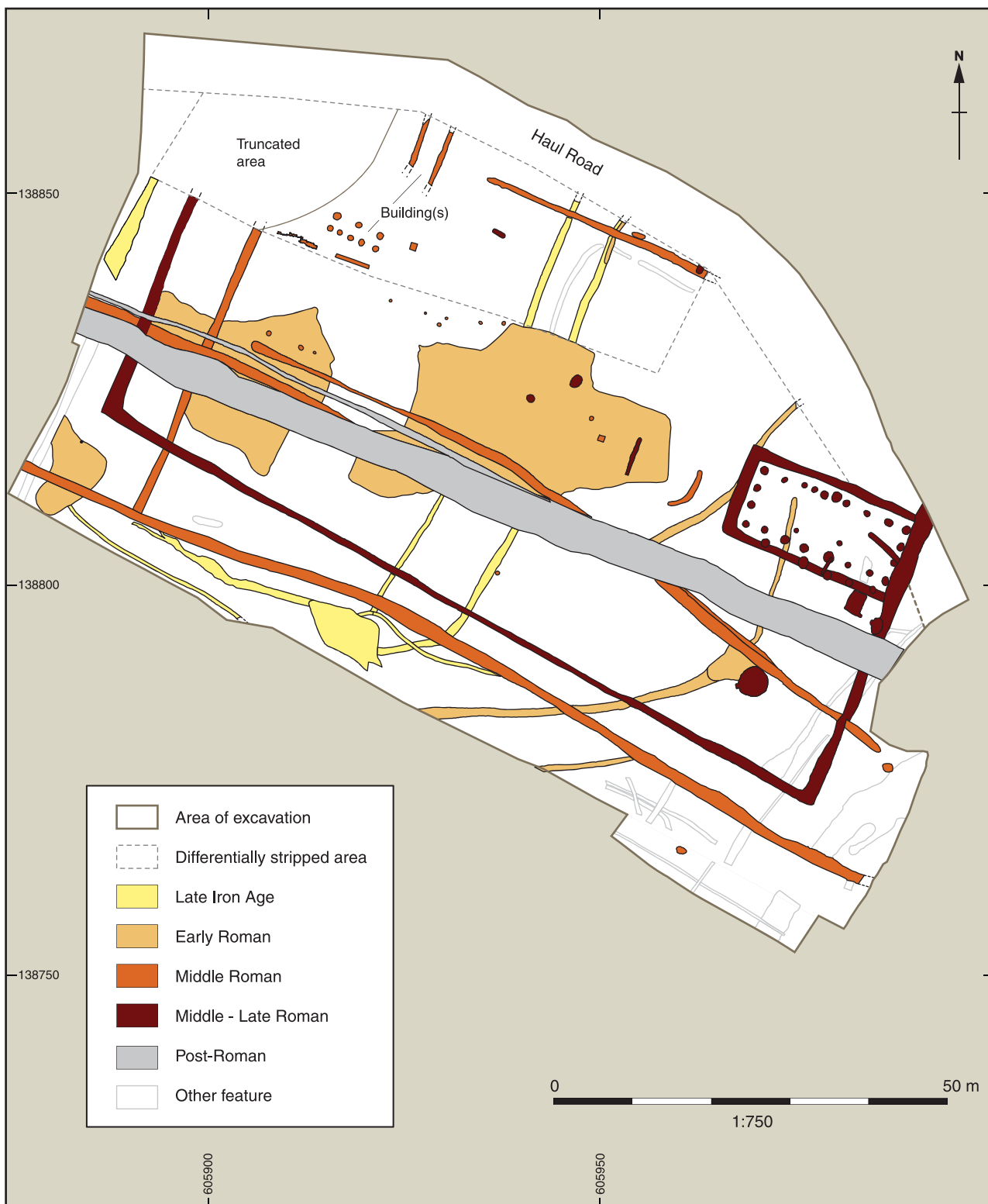


Figure 5.19 Bower Road: overall plan of Late Iron Age and Roman features

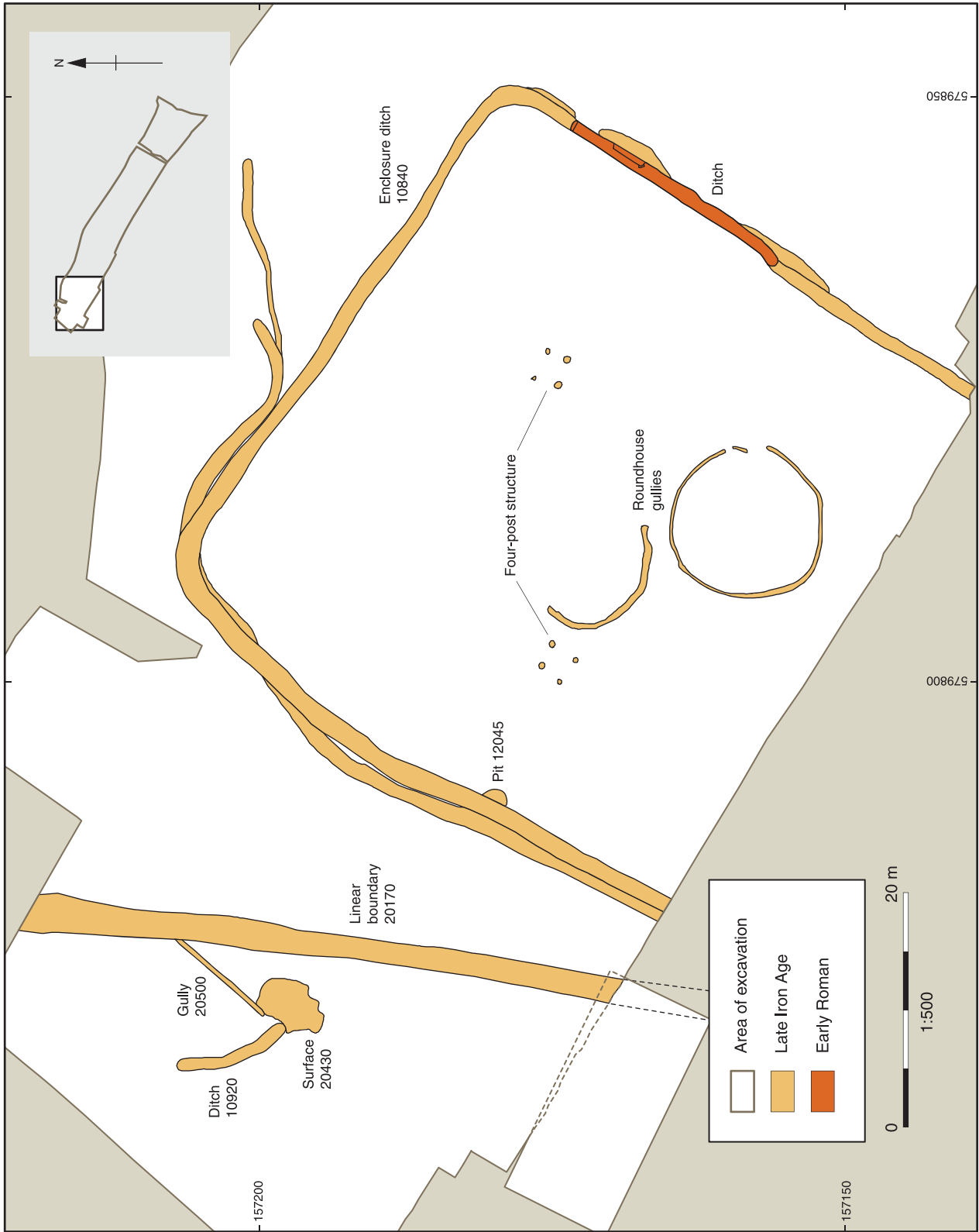


Figure 5.20 Thurnham: Late Iron Age phase plan

Table 5.2 Four-post structures, late Middle Iron Age to Early Roman

Site	Feature	Size	Date	Comment
Northumberland Bottom (east of Downs Road)	group 40578	2.3m square	?late MIA	
	group 40578	2.8m square	?late MIA	next to above
Hockers Lane	341	2.9–3m square	LIA (?50–1 BC)	
Thurnham	12710	2.5m square	LIA/ERB (?c AD 20–60)	
	12450	2.5m square	LIA/ERB (?c AD 20–60)	
Snarkhurst Wood	205	1.2 x 1.5m	LIA/ERB (50 BC–AD 30)	
	204	1.2 x 1.45m	LIA/ERB (AD 30–50)	
	206	1.15 x 1.75m	E-MRB (AD 50–250)	
	207	2.12 x 2.33m	E-MRB (AD 50–250)	
	366	2.6 x 2.95m	E-MRB (AD 50–250)	
Leda Cottages	8402	1.9 x 1.5m	LIA/ERB (50 BC–AD 70)	in corner of enclosure
	8403	1.9 x 1.75m	LIA/ERB (50 BC–AD 70)	ditto - next to above
Beechbrook Wood	2203	c 2m square	?late MIA	Inside concentric enclosure
	6043	1.8m square	LIA/ERB (?50 BC–AD 100+)	
	6044	1.5m square	LIA/ERB (?50 BC–AD 100+)	fairly close to above, but on different alignment
Little Stock Farm	5015	2.6m square	LIA (120 BC–AD 43)	

raneity between these structures cannot be proven, but seems very likely. The better preserved penannular gully was roughly circular with an internal diameter of 12.3m and an entrance 3.5m wide facing due east. A short gully segment between the entrance terminals reduced the width to 1.6m, but it is not clear if this was a subsequent addition to restrict entry or part of an original arrangement for controlling access to the building. The feature to the north consisted of a 13m portion of gully, with an estimated internal diameter of 10m and a well-defined terminal at its eastern end, suggesting a south-east facing entrance. The gullies were of virtually identical form, both having U-shaped profiles 0.4–0.6m wide and up to 0.2m deep.

No internal structural traces or other features were associated with either of the Thurnham gullies. This, alongside the total lack of evidence for round buildings on any of the other Late Iron Age–Early Roman HS1 sites, presumably indicates something of the character of such buildings. While it is possible that domestic buildings in this period were of a totally different (non-circular) form, there is even less evidence to support this view than there is for the problematic round buildings. It is most likely, therefore, that the latter was indeed the prevailing plan form for Late Iron Age–Early Roman domestic buildings, but that the buildings were probably of above-ground construction, possibly utilising interior post-pads and an ephemeral exterior wall such as simple wattle panels, or (perhaps more likely) of mass wall (eg cob) construction (see further below).

Site preservation factors will have been crucially important in relation to the identification of such structures—ephemeral in terms of the archaeological record although potentially substantial in terms of their form as built. The continued use of the round building tradition is clear at sites such as Westhawk Farm, Ashford, where ten such structures, not necessarily all domestic buildings, were identified, entirely or in part, on the basis of the existence of gullies (Booth *et al.* 2008).

The profiles and the character of their fills suggested that most if not all of these features are likely to have been for drainage around the structure rather than being wall trenches. The internal diameters of identified circular gullies, or diameters extrapolated from surviving gully segments, varied widely from c 7m to c 12m. There was no clear chronological patterning with relation to variation in gully diameter (eg an increase in size through time), and circular structures were in use through out the life of the settlement, from the early post-conquest period up to about AD 250. In one case only, arcs of stakeholes survived at three points around the perimeter of the structure and suggested the position of the wall line of a building of c 10m diameter, with the wall set very close to the associated drainage gully. A probable stake-supported wall construction, 7.8m in diameter and probably with a central post, was assigned to the Late Iron Age–Early Roman Period 1 at the Marlowe Car Park, Canterbury (Blockley *et al.* 1995, 33–34), while Early Roman circular buildings from Newgate Street in London included examples with wattle and daub walls, but at least one other was defined by a gully with no clear indication of the nature of the structure which it surrounded (Perring *et al.* 1991, 3–6, 101).

The best evidence for circular buildings of Early Roman date in the region therefore comes from the larger nucleated settlements, including further examples from Springhead (HS12) and Heybridge in Essex (Atkinson and Preston 1998, 94, 105). It is uncertain if the better survival sometimes found in these contexts provides a reliable guide to the nature of structures: were the majority in fact of stake and wattle and daub construction, or was cob or some other mass-walling technique widely used in this period, as has been suggested for example for the Upper Thames Valley (Allen *et al.* 1984), perhaps particularly in rural contexts? As a structural medium, cob would leave no below-ground traces. An alternative interpretation is to postulate the use of a box-frame building tradition (Bird 2000, 159). It might still

be expected, however, that provision for drainage would be needed around most buildings of these (or indeed any other) construction type, but it is notably lacking.

The apparent contrast between the incidence of circular and four-post structures in rural and nucleated settlements is seen elsewhere in Kent, for example at Keston, where one six-post and ten four-post structures were assigned to the Late Iron Age (Philp *et al.* 1991, 13, 25–9) but there was no indication of circular buildings. Likewise at Queen Elizabeth Square, Maidstone, two ‘four-posters’ formed the only Late Iron Age–Early Roman structural evidence (Booth and Howard-Davis 2003, 5–6, 11). At Hawkinge, near Folkestone, a recently excavated Late Iron Age–Early Roman site had at least a dozen four-post structures and additional larger posthole buildings, but only one possible circular structure, also post-built (House 2005, 1).

Apart from the substantial buildings of Thurnham and Bower Road there are slight traces of other Early Roman structural types elsewhere on HS1, particularly at Northumberland Bottom where, however, they were mostly poorly-defined. Structural features of probable mid–late 1st century date within the rectangular enclosure on the north side of the east–west Roman road west of Wrotham Road included two gullies at right angles to each other defining an area of *c* 5 m x 4 m, and a further comparable arrangement of gullies further east (see Fig. 5.16). In both cases these are suggested as forming structures, though the second pairing of gullies may have been directly associated with a small group of burials (Askew 2006). South of the Roman road at about the same date was another possible timber structure, consisting of a group of postholes which may have been associated with a cut hollow. Slightly later than both of these (assigned to the mid Roman phase, dated AD 120–250), and lying between them, was a feature *c* 4 m square cut into the fills of a holloway and interpreted as a sunken-featured building (see Fig. 5.16). Its details are somewhat obscure but it is broadly reminiscent of the features of comparable late 1st–2nd century date from Monkton (Bennett *et al.* 2008, 107–50, 273–7). Recent work on the East Kent Access Road in Thanet has revealed further examples of this type of structure at several different locations (K Welsh pers. comm.). The type was clearly particularly common in north-east Kent, and the apparent occurrence of occasional examples further west is of some interest. The Northumberland

Bottom feature contained no other structural elements or finds that shed light upon its function. It lay between two ditches some 9 m apart which cut across the line of the former holloway and could have defined the location of a building of which the sunken-feature formed a part. A further possible structure of this type was recorded in the nearby A2 works in 2007, but this is not well dated; a Late Roman or an Early Anglo-Saxon date is possible (Allen *et al.* forthcoming).

Elsewhere, even structures as ephemeral as these are scarce. There is nevertheless some evidence for the existence of a widespread tradition of posthole construction across the area, as seen for example at Westhawk Farm, where a total of eight, mostly simple, rectilinear buildings of posthole construction were found and numerous other groups of postholes could have formed parts of fence lines or of further very poorly-preserved rectilinear buildings (substantial fence lines based on individual upright posts are a regular feature of sites in the region and are often better defined than comparably built buildings; examples are seen at Thurnham, Keston and Furfield Quarry, Boughton Monchelsea (Mackinder 2005, 14), and Westhawk Farm as well as at other sites). Amongst the more substantial structures of this type are the probable aisled buildings at Furfield Quarry, Boughton Monchelsea (*ibid.*). The Westhawk posthole buildings included an example of what appears to be a distinct regional tradition, two more of which were excavated on HS1, at Bower Road (Fig. 5.21) and Thurnham. The type has some similarities with aisled buildings, and at Thurnham it was noted that the plan dimensions of the ‘fourteen-post building’ were almost exactly the same as the area defined by the nave arcade posts of the aisled building at the same site.

The characteristics of the type are carefully paired post settings (as in most aisled buildings), but these appear to define the line of the main walls, with no aisles. In addition one or two post settings of similar size to those in the long sides are found in the short sides. The function of these additional posts is unclear, but they are a distinctive component of the plan and help to distinguish these buildings from those of aisled type or of simple paired-post construction, the latter seen widely across Roman Britain, including at Keston (the South Timber Building; Philp *et al.* 1991, 55–8), alongside the type under discussion here (examples of paired-post buildings (amongst many others) occur at sites such as

Table 5.3 Paired-post structures with additional posts in short axes

Site	Structure	Dimensions (m)	Alignment	Posts in long axis	‘Inner’ posts in short axis	Date	Comment
Westhawk Farm	Structure D	<i>c</i> 14 x 7	NW-SE	5	2	150-250	
Thurnham	Building 11250	<i>c</i> 15 x 7	WNW-ESE	6	1	2C-?e 3C	
Bower Road, Smeeth	Building 550	<i>c</i> 20 x 7.5	WNW-ESE	8	2	late 2C	2 additional posts in NE side
Keston	Centre timber building	<i>c</i> 14.6 x 6.8	W-E	6	1	Period Va <i>c</i> m-l 2C	
Keston	North timber building	<i>c</i> 21.4 x 7.5 without additions	W-E	10	2	Period VI end 2C-e 4C	‘corridors’ added to N and W sides subsequently



Figure 5.21 Bower Road multiple post structure viewed looking WNW

Alcester (Mahany 1994, 150–1, 155), Baldock Building I (Stead and Rigby 1986, 33–4, 37) and Carmarthen (James 2003, 165)). Excavated buildings clearly conforming to the type with additional posts in the short sides appear to be few and are possibly confined to south-eastern Britain. In addition to the three examples mentioned so far there are two further ones, the Centre Timber Building and North Timber Building, at the villa site at Warbank, Keston (Philp *et al.* 1991, 59–61, 81–7). Details are given in Table 5.3 and comparative plans on Fig. 5.22.

The Thurnham building is one of the most important in this group, having a preserved *in situ* floor surface and lacking the extensive truncation of the upper deposits seen at some of the other sites. Based upon the posthole arrangement the building covers a little over 100 sq m, which is only slightly smaller than the example at Bower Road but almost identical to Westhawk Farm and the Centre Timber Building at Keston. Interestingly the floor surface at Thurnham extended beyond the south-east end wall and up to the edge of the eaves drip gully to the north-east. There is no evidence that the walls extended this far (drainage gullies set close to the postholes were a feature of the buildings both at Bower Road and Westhawk Farm), and it is quite likely that the walls comprised planking attached to the posts in a manner similar to that of a timber building excavated at Southwark (Brigham *et al.* 1995, 31–2). A scatter of iron nails along the gully and from the floor surface at Thurnham might indicate that

the walls were attached in this way rather than being of (for example) wattle and daub construction. If so, the floor surface extending up to the drainage gully may have been an extra means of draining the external surface adjacent to the wall. The extension of the cobbles beyond the south-east gable end would also have created an external yard-like surface.

The buildings could have been gable-ended, although it has been tentatively suggested that the centrally-positioned gable post(s) might reflect a hipped roof construction (Booth *et al.* 2008, 376). The nature of the roofing material remains uncertain. A moderate amount of roof tile was recovered from the vicinity of the Thurnham building (though much of it may have been recycled) and the size of the posts suggests that all were capable of carrying a tiled roof. At Bower Road and Westhawk Farm, however, a general absence of tile suggests the use of organic material (shingles or thatch) and these could have been used at Thurnham as well.

This building type did not necessarily have a specific functional association, but the majority of such associations are, unsurprisingly, agricultural. Building D at Westhawk Farm fronted onto the main road through the settlement and a mixed domestic/trade-related function has been suggested in that instance (Booth *et al.* 2008, 376). At Thurnham some of the finds suggest that there was also a domestic component to its use, but its location and other associations indicate that it had a primarily agricultural function. The view that the domestic element was of relatively minor importance is

reinforced by the lack of domestic hearths or ovens within the building and by the utilitarian appearance of the surfaces and drains. The dominant evidence indicates an association with crop-processing activities, and it is quite likely that it was used for the storage of

processed cereals. The comparable building at Bower Road produced convincing evidence of a similar function in relation to the storage of processed cereals, although the wider context is less clear (Diez 2006b). Again there was a lack of material suggesting significant

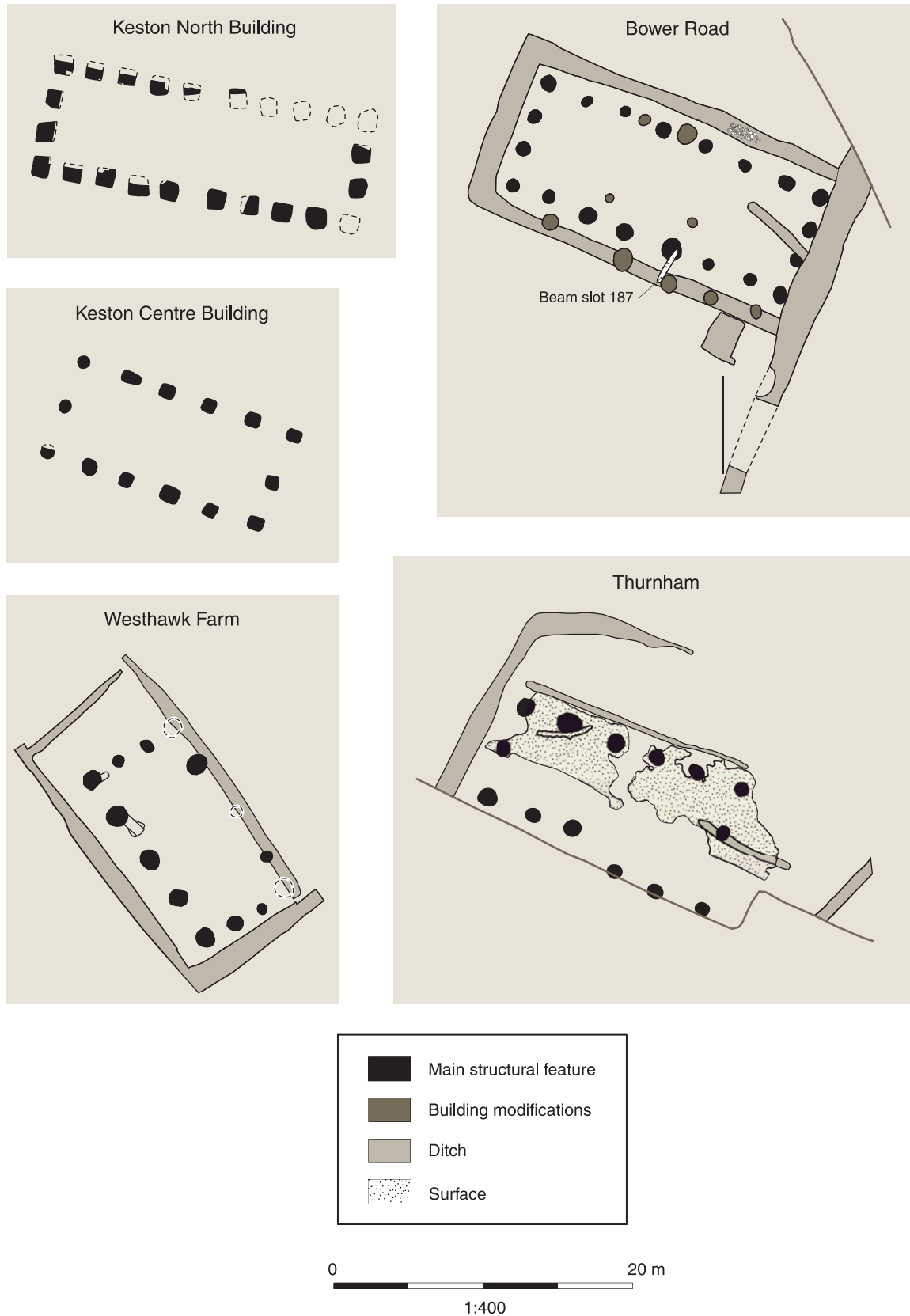


Figure 5.22 Comparative plans of '14 post' and related buildings (Thurnham, Bower Road, Westhawk Farm, Keston)

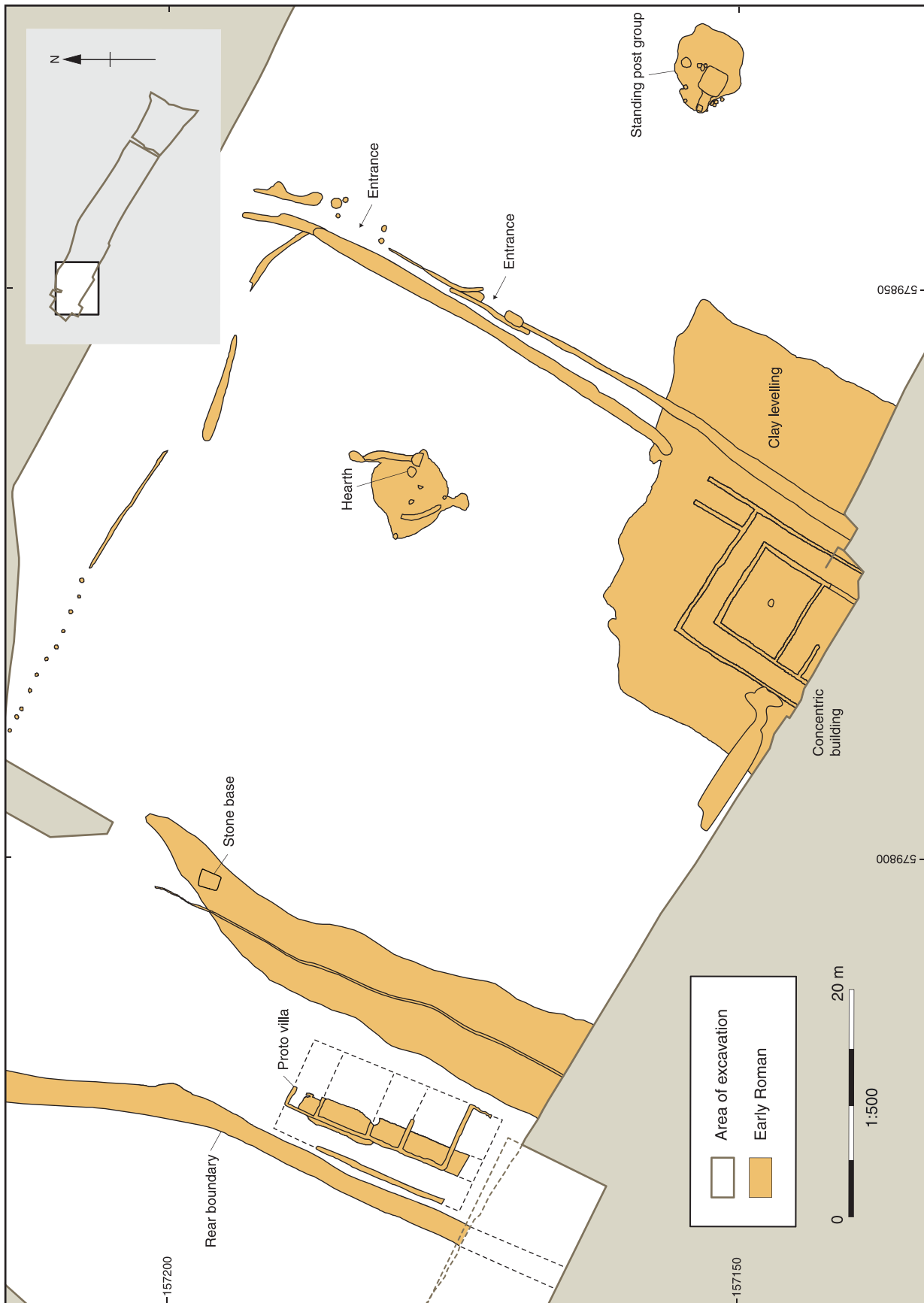


Figure 5.23 Thurnham: Early Roman ('proto-villa') phase plan

domestic activity. Agricultural functions are clearly implied by the context of the Keston buildings. The North Timber Building there, uniquely amongst the other buildings of this group, saw external additions and the insertion of corn-drying ovens in a manner very reminiscent of the development of some aisled buildings.

The Keston and Thurnham structures were clearly subsidiary to other components of their respective villa complexes. The situation at Bower Road is less clear, but the posthole building there was clearly not the only significant structure. It is particularly unfortunate that a second building, and possibly others, lay within an area of the site which was damaged by machine activity (see Fig. 5.19). Structure 686 comprised eight substantial postholes in two parallel east-west rows, five to the south and three to the north, covering an area (measured from the centre of the post-pipes) of 6.4m by 1.8m. Remnants of ragstone footings were identified in the vicinity, one roughly parallel to the southern row of posts and 2m south of it, and others perpendicular to the two rows of postholes to the east and further north (parallel and *c* 2.5m apart). The dating of all these features was very poor but their alignment corresponded well with the more securely dated Middle Roman ditches and therefore suggests broad contemporaneity with the post-structure to the south-east.

It is unclear if the wall foundations formed part of the same building as the postholes or belonged to a subsequent structure in the same location. The arrangement of posts in itself seems incomplete if considered as a free-standing structure, but it is unlikely that further comparable posts could have been completely removed without trace. The layout of the extant posts is reminiscent of an arrangement, equally 'incomplete' as the Bower Road one, found at Runhams Farm, Lenham (Philp 1994, 11–13), where it formed the only structure on the site. The wall foundations at Bower Road are equally problematic, but were so shallow that other comparable walls could have been completely removed without trace. It therefore remains uncertain if they represented one or more large structures, or perhaps a walled yard with small buildings set against it on one side.

The evidence of enclosure form, enhanced by the high-status burials found on the A2, suggests that substantial structures might have been expected within the Northumberland Bottom (West of Wrotham Road) enclosure. Hints of such structures, particularly involving a substantial posthole and probable beam-slots in the centre of the southern side of the enclosure (see above), are suggestive, as is a group of postholes located in the northern part of the enclosure in the A2 Tollgate excavations, but unfortunately the evidence is not sufficiently clear to allow further interpretation (see Fig. 5.16).

The HS1 buildings that were both the most substantial and the most readily recognised in terms of form are from the villa complex at Thurnham. It should be noted, however, that ceramic building material: bricks, roofing tiles (both tegulae and imbrices), box-flue tiles, and

voussoir tiles, reused in the corn-drier structure at Hazells Road, must have derived from a building with a hypocaust heating system and perhaps with a vaulted roof. If not brought from Springhead, only just over 1km distant to the west, this material suggests the presence of a substantial building, perhaps of villa type, close to the HS1 site in this area.

The plans of the main houses and the aisled building at Thurnham are quite conventional. The principal Early Roman domestic building, the 'proto-villa', was probably constructed as early as *c* AD 60–70 (Lawrence 2006) (Figs 5.23–4). It was located at the rear of the settlement space, rather than towards its centre as had been the case with the earlier roundhouses, and had a south-easterly frontal aspect, contrasting with the roughly east-facing alignment of the entrance of the better-preserved of the two Late Iron Age roundhouses. The general south-eastern aspect of the site was shared by a large number of villas in northern Gaul, where Haselgrove (1995, 73–4) argues that these alignments were related to pre-Roman patterns, as was also the case at Thurnham (see also the prevailing alignment of the multiple-post structures in Fig. 5.22). The Thurnham building was of a rectilinear form totally new to the site, but it was not much larger than its predecessor; including the possible rear corridor its ground plan occupied roughly 113 sq m, while a roundhouse of 11.5m diameter within gully 12500 would have covered roughly 104 sq m. It is of course impossible to be certain if the proto-villa had more than one storey, but if it did not the differences between it and its likely predecessor were more to do with external appearance and the organisation and presentation of internal space than with a significant increase in the scale of the accommodation.

A further aspect of the site worth consideration is the possible provision of a bath-house in this period. There is no direct evidence for such a structure, but it is suggested by the presence of tiles, particularly box-flue tiles and voussoirs, in red-brown fabric 3226, thought by Betts (2006) to date to the period *c* AD 70–100. A piece of the former was stratified beneath the Middle Roman aisled building, while the voussoirs came from late 3rd century deposits in Room F in the main villa. They may have been taken there after the demolition of the bath component at the south-west end of the main house, but that was not built until after the mid 2nd century at the earliest, by which time it is likely that tiles in fabric 3226 were already old. Possible half box-flue tiles also occurred in Eccles fabric 2454 (this fabric/form combination was a pre-Flavian phenomenon in London, Betts 2006), and bricks, presumably from a hypocaust, occurred in both Eccles fabric and in fabric 3226. As there is no evidence for a heated room or rooms in the proto-villa the most likely source of all this material may therefore be an early detached bath-house. Such buildings are found at a number of sites such as Gadebridge Park, dated *c* AD 75, and Gorhambury, in the 2nd century (Neal *et al.* 1990, 48–9). In a Kentish context potential detached or isolated bath houses were discussed by Detsicas (1983, 139–44), but the setting and



Figure 5.24 Thurnham. The foundations of the proto-villa beneath the corridor wall of the later house, looking WNW

chronology of a number of these are unclear. Examples at Hayes and Foot's Cray (*ibid.*, 140–1 and 118, fig. 24) may be valid analogies, although both are dated to the 2nd century rather than earlier. A more certain example occurs at Minster-in-Thamet, where a small building 9.55 x 7.15m was built closely adjacent to the villa house in the late 1st or early 2nd century (Parfitt 2004b, 33) and may suggest what could have occurred at Thurnham. However small, such a building would have been a significant addition to the site layout and perhaps alters the perception of the importance of the domestic components. It would presumably have been located in the south-western part of the enclosure. If this interpretation is correct, the fact that baths were not added to the Middle Roman villa until the later 2nd century might suggest that a detached bath-house outlived the associated proto-villa structure.

The Middle Roman house completely replaced the proto-villa in the early 2nd century (Figs 5.25 and 5.26). Combination of the evidence from the present excavation with the ground plan recovered in 1958 shows that the core of the building had a symmetrical arrangement of rooms at each end, joined at the rear by a range of slightly unequally-sized rooms. The overall size in this phase, 32m x 14.8m, is modest, but not unduly so. It is broadly comparable to buildings at Cobham (Tester 1961), Sandwich (Bennett 1978) and Lullingstone (period 1; Meates 1979, 138), for example, although much smaller than the nearby villa at Eccles (Detsicas 1963–1977a), which was probably contemporary with the proto-villa at Thurnham. The plan incorporates

elements long recognised as forming a 'set' of rooms (set S5, Drury 1982, 295–8), the component here being rooms B–E, the last of these interpreted by Drury (and J T Smith (1997, 49–50)) as a 'vestibule' or 'lobby' serving a principal room (D) with paired subsidiary rooms (B and C) on the other side. The formation of the core of a domestic unit using such a room set with an additional larger room at each end, as seen here at Thurnham, has several parallels amongst Romano-British villas, for example at Little Milton, Ditchley and probably Barton Court Farm, all in Oxfordshire, the early villa at Ditches, Gloucestershire (Trow *et al.* 2009, 53–5) and at Boxmoor, Herts (Drury 1982, 295–8), while in Kent such an arrangement was incorporated into the Farningham II villa (*ibid.*; Meates 1973, 4). Apart from Barton Court Farm, all these examples may be assigned to the late 1st or early 2nd century (Drury 1982, 298).

The similarities between Thurnham and Boxmoor (Neal 1977, 53–110) are particularly marked (Fig. 5.27). Their central blocks, consisting of the same room 'set' (the 'vestibule' is to the right of the central room at Thurnham (as seen from the front of the building) and to the left at Boxmoor) with a larger room at each end, are respectively *c.* 25.2 x 8m and 26.2 x 8m. Both had projecting two-room wings with their front walls linked by a corridor foundation. The principal difference between the two buildings is that the wing rooms at Boxmoor were wider and did not extend behind the rear of the main rooms—the back of the building being occupied by a single continuous corridor, while at Thurnham the rear 'corridor', apparently subdivided



Figure 5.25 Thurnham: view of main villa house looking SSW

from the beginning, ran between the rearward projecting wings in the same manner as the front corridor.

The significance in a domestic context of the room sets identified by Drury remains debatable, but he rejected (1982, 299) the idea that they indicate the unit system of villa occupation as advocated by Smith (1978; 1997). Neither addressed in detail the question of the function of the two smaller rooms (although Smith (1997, 50) again uses the term 'lobby' in this context), or considered the question of the relationship of any of these rooms to possible upper floors—a concept dismissed more or less out of hand by Smith (*ibid.*, 128–9). At Thurnham the very solid construction of the core part of the building and its internal walls certainly indicate a more substantial superstructure for this part of the building than for the wings and corridors, and may suggest that it had an upper storey. It seems likely that the slighter outer foundations supported a lean-to style of construction with a tiled roof, effectively enveloping the core.

The Thurnham sequence is one of very few from Kent to show probably continuous progression from Late Iron Age roundhouse to Early Roman proto-villa to more substantial 2nd-century villa house. Such sequences may have been relatively common in the region, but cannot usually be demonstrated. Iron Age occupation and two

pre-villa buildings were present at Eccles (Detsicas 1983, 120). The latter were already substantial structures with stone foundations, one interpreted as a granary (Detsicas 1989, 87–8). Buildings at Orpington, Farningham II and East Malling, for example, superseded pre-Roman activity (Detsicas 1983, 86, 88, 94), though the nature of the associations is unclear, and at Otford a building first occupied at about the end of the 1st century 'succeeded an earlier round hut' (*ibid.*, 90). At Keston, however, where there was clearly continuity of activity from the Late Iron Age onwards, there are no certain domestic structures assigned to the early phases.

A notable feature of the Thurnham sequence is the continuity not only of the general location of the principal domestic structures but also of significant elements of the associated enclosure. In particular, the position of the south-east side of the Late Iron Age enclosure, once established, was retained throughout the life of the site. The corresponding north-west side was realigned in successive periods, but without fundamental alteration of the character of the enclosure. The successive houses, proto-villa and 2nd century house (the latter more than four times the plan size of the proto-villa), occupied a position towards the rear of the enclosure characteristic of such buildings in relation to associated

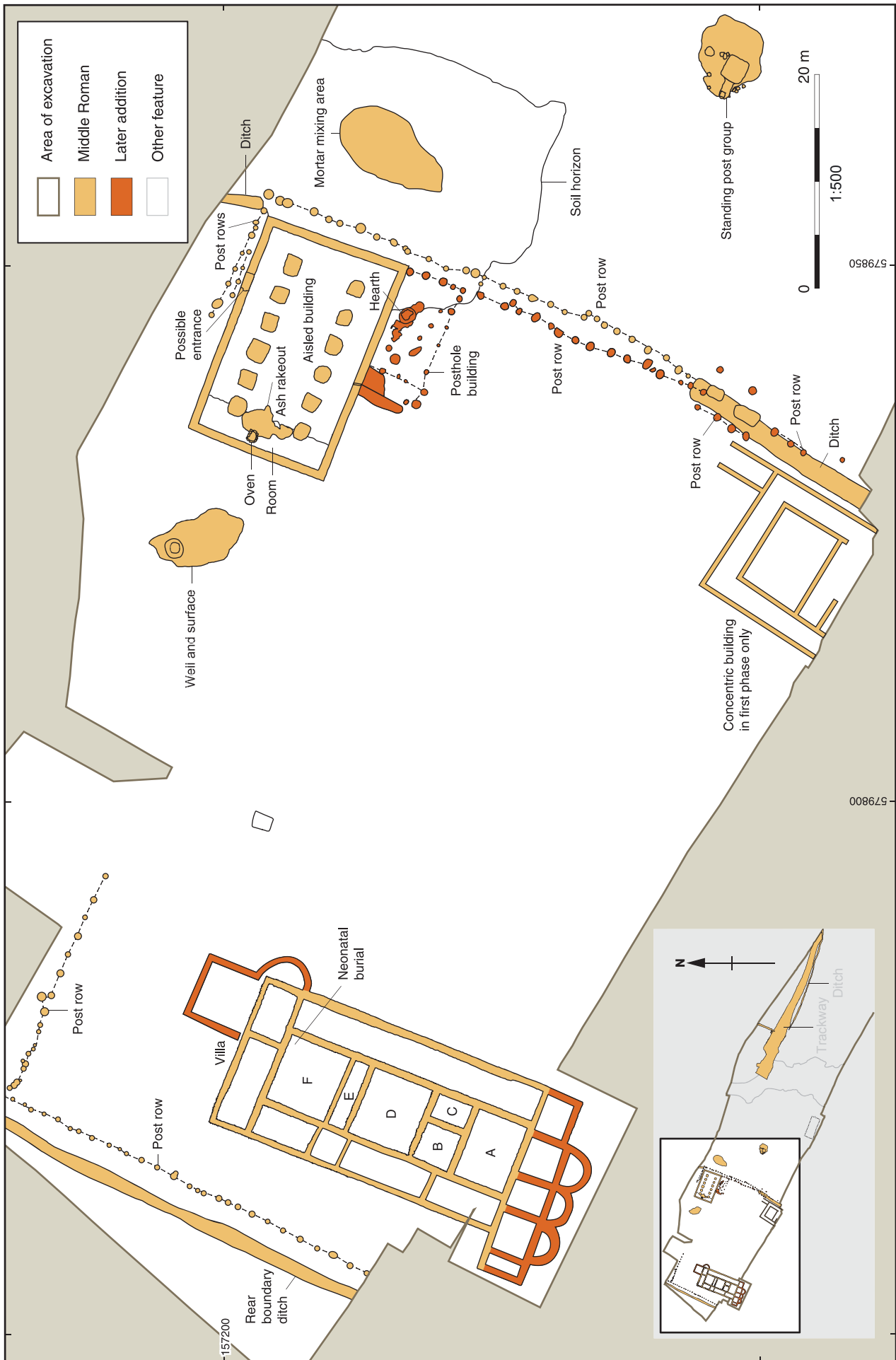


Figure 5.26 Thurnham: Middle Roman phase plan

enclosures or (often, particularly in the later Roman period) walled courtyards, as seen in Kent at Minster in Thanet (eg Perkins 2004b, 31) and (for the later period) at Darenth (eg Philp 1984, fig. 23) and more widely elsewhere, but by no means universally adopted.

This continuity of location strongly suggests that the building identified as the ‘proto-villa’ at Thurnham was in fact the principal house. It was, however, substantially smaller in plan area than the approximately contemporary building lying south-east of it (see Fig. 5.23). This would probably have framed the left hand side, and been

the most striking component, of the view of the visitor approaching the site from the south-east, the likely main axis of approach (allowing for the fact that there could have been other structures, perhaps including a small bathhouse, in the lost south-western part of the enclosure; the aisled building, which would have formed the corresponding right hand side of the frame, was added in the 2nd century and did not form part of the proto-villa phase). Partly on this basis, and more particularly in view of some aspects of its plan, this building was interpreted, albeit tentatively, as a Romano-Celtic temple during the

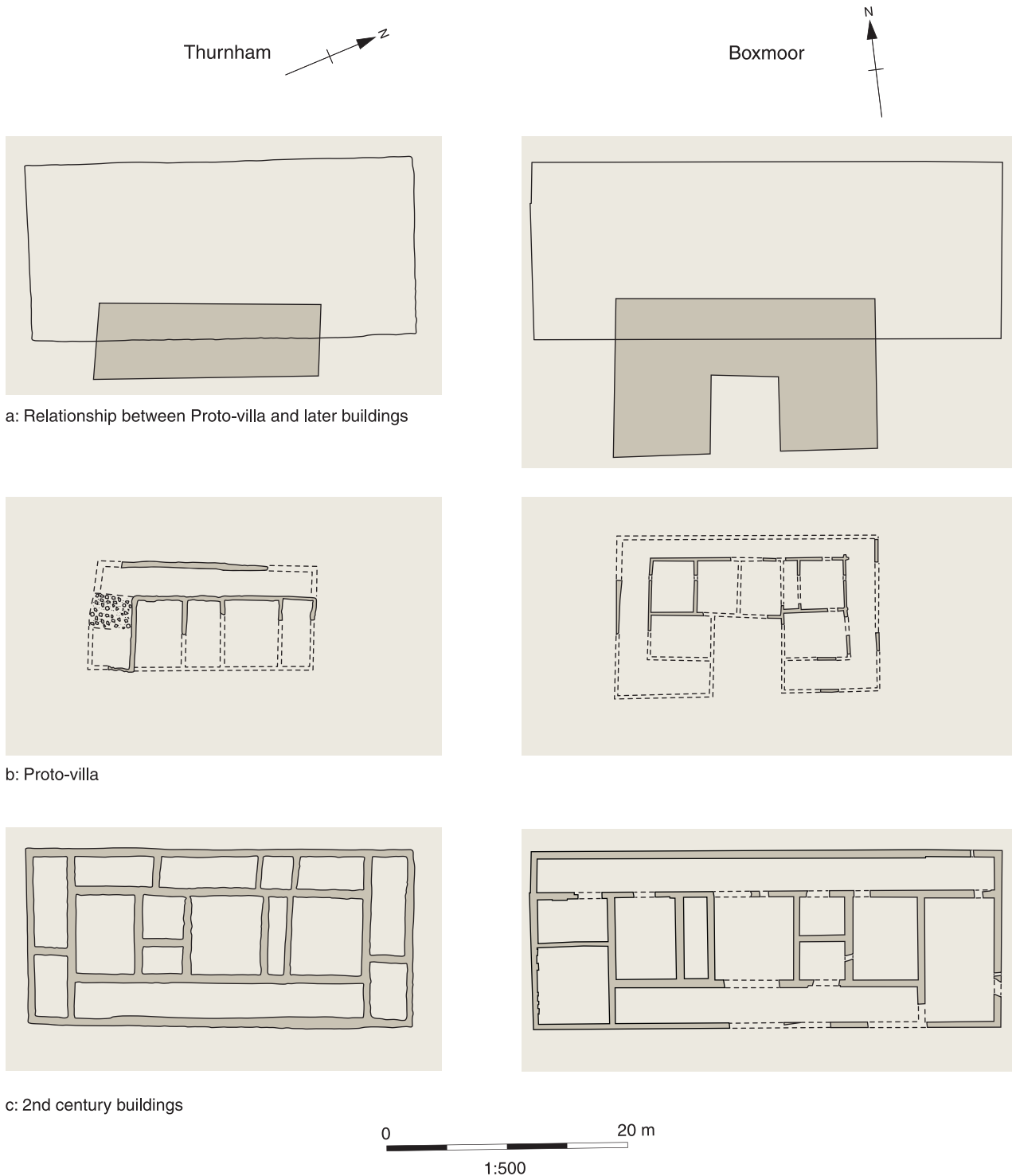


Figure 5.27 Thurnham and Boxmoor: comparative development of villa house plans

excavation, an interpretation followed in the site report (Lawrence 2006; see discussion below). This interpretation is questionable, however, because the building plan is not complete and its exact form is therefore uncertain. Moreover, recent work at Minster in Thanet has revealed a building with quite close similarities of plan to the Thurnham structure and in a broadly analogous position in relation to the main villa house and enclosure (Parfitt 2006c). This building was in turn compared by Parfitt to the South Masonry Building at Keston (*ibid.*, 131; Philp *et al.* 1991, 120–5), both being considered domestic in function, as well as to a building at Darenth.

The Minster and Keston structures and, as far as can be seen, the Thurnham building as well, do have a number of features in common, of which the most notable are a general similarity of overall size, and the concentric nature of their plans (Fig. 5.28). The latter is one of the principal characteristics that influenced the interpretation of the Thurnham building as a temple. Whether or not this is correct, the fundamental question about concentricity is whether it is sufficiently characteristic of this group of buildings to suggest that they might have shared a similar function. Alternatively, was an enveloping ‘passage’ simply an architectural feature that could have been used in a variety of contexts? The apparent scarcity of such buildings in villa settings may relate to the concentration of study on the principal houses at the expense of subsidiary buildings; in the former context, however, they are rare. As J T Smith (1997, 142) says, ‘A ... problematic group ... includes porticuses running continuously (or nearly so) around a comparatively small row-house, so that the amount of what is commonly called ‘corridor’ is altogether disproportionate to the amount of living space’. Occasionally the width of the ‘porticus’ is such that it was clearly not just a corridor, as in an example at Ovillers (Somme; *ibid.*, 141–2), but a building at Biha -Založje (Bosnia) of very similar plan but with narrower porticus is placed by Smith in a different group (*ibid.*, 201). A further building at Elchovo/Čatalka (Bulgaria), with a ‘corridor’ of intermediate width between the Ovillers and Biha -Založje examples, is of identical overall form but the central of the three rooms is wider than the flanking ones (unlike the other buildings in this group); the building does not appear to be closely dated (Henning 1994a, 484; 1994b, 163 no. 9, 175). Interestingly, the villa at Ditches, Gloucestershire, assumed a similar form in its early–mid 2nd century phase (Phase 6), when a corridor was placed around the room set discussed above (Trow *et al.* 2009, 46, 55–9).

At Minster the use of the ‘corridor’ as a room may be suggested by the secondary insertion of a small hypocaust into its south-west corner, and also by the widening of the ‘corridor’ in a later phase. Here the concentric element was compared with the later addition of a corridor encircling the main villa house (Parfitt 2006c, 131), a feature thought perhaps to be suggestive of Gallic influence (cf Black 1987, 140). In the South Masonry Building at Keston and in the main house at Minster the ‘corridor’ was subdivided by cross walls, with clear

implications for the use of these units as rooms (it is not clear, however, if these subdivisions were secondary, whereas limited subdivision of the corridor at Ditches certainly seems to have been). Such subdivision was not seen in the first phase of Building 4 at Minster (a single later wall may have performed such a function), nor within the excavated part of the Thurnham building. It is unclear if this has functional implications or may reflect chronological factors—Thurnham and Minster Building 4 being the earliest of the group under discussion, while the South Stone Building at Keston was certainly of late Roman date. Is it possible that these, like the multiple post buildings also discussed above, represent another distinctive regional building type? Other British parallels appear scarce, but as well as Ditches include a possible example in Building B at Gadebridge Park (Neal 1974, 33–5), and in view of the occasional continental examples as well (see above) it would be unwise to claim regional uniqueness.

Minster Building 4 is interpreted as a domestic structure, and glossed as possible accommodation for the estate bailiff (Parfitt 2006c, 132). The Keston building was also interpreted as domestic in function (Philp *et al.* 1991, 124–5), and the continental examples mentioned above are all thought to have been houses, while the Ditches building was clearly the principal domestic structure on that site. Neither at Minster nor at Keston do the associated finds shed much light on functional aspects, although they are potentially more compatible with domestic than with agricultural functions (the main alternatives considered by both Parfitt and Philp). In both cases, however, the buildings were certainly or probably chronologically secondary to existing main houses, and less imposing than them in architectural terms. At Thurnham, however, the ‘concentric’ building was at least broadly contemporary with the proto-villa (although the dating evidence is insufficient to allow the sequence to be precisely determined either way) and, as noted above, substantially larger. If it was of the two room and central passage form of the Keston South Masonry Building, as is possible (the existing elements would allow reconstruction of the plan in this way), it would have been of very similar size and proportions to Keston and a little longer than Minster Building 4 phase 1/1a, but of the same width. Moreover, with an estimated plan area of *c* 275 sq m it would have been two and a half times the size of the proto-villa (on a minimal interpretation it is almost twice as large in area). It seems improbable that there would have been such a disparity in size between the principal dwelling and a subsidiary domestic building, which raises the whole question of the relationship between the two. It may be that the relationship was determined by relative status or function. Unfortunately there is very little material from the building or from contemporary adjacent features that sheds light on its function, whether domestic, agricultural or other. If the building had been a domestic one, identification of its occupants as (for example) of lower status than those of the proto-villa

house leaves unexplained the striking size disparity between the two buildings and the extremely prominent location of the concentric building, unless the building was slightly later than the proto-villa house and reflected a need for much more domestic accommoda-

tion at a time of rapid expansion, perhaps at the end of the Flavian period. From the early 2nd century, however, some additional domestic accommodation was certainly provided by the aisled building (Fig. 5.29), raising the question of whether the concentric

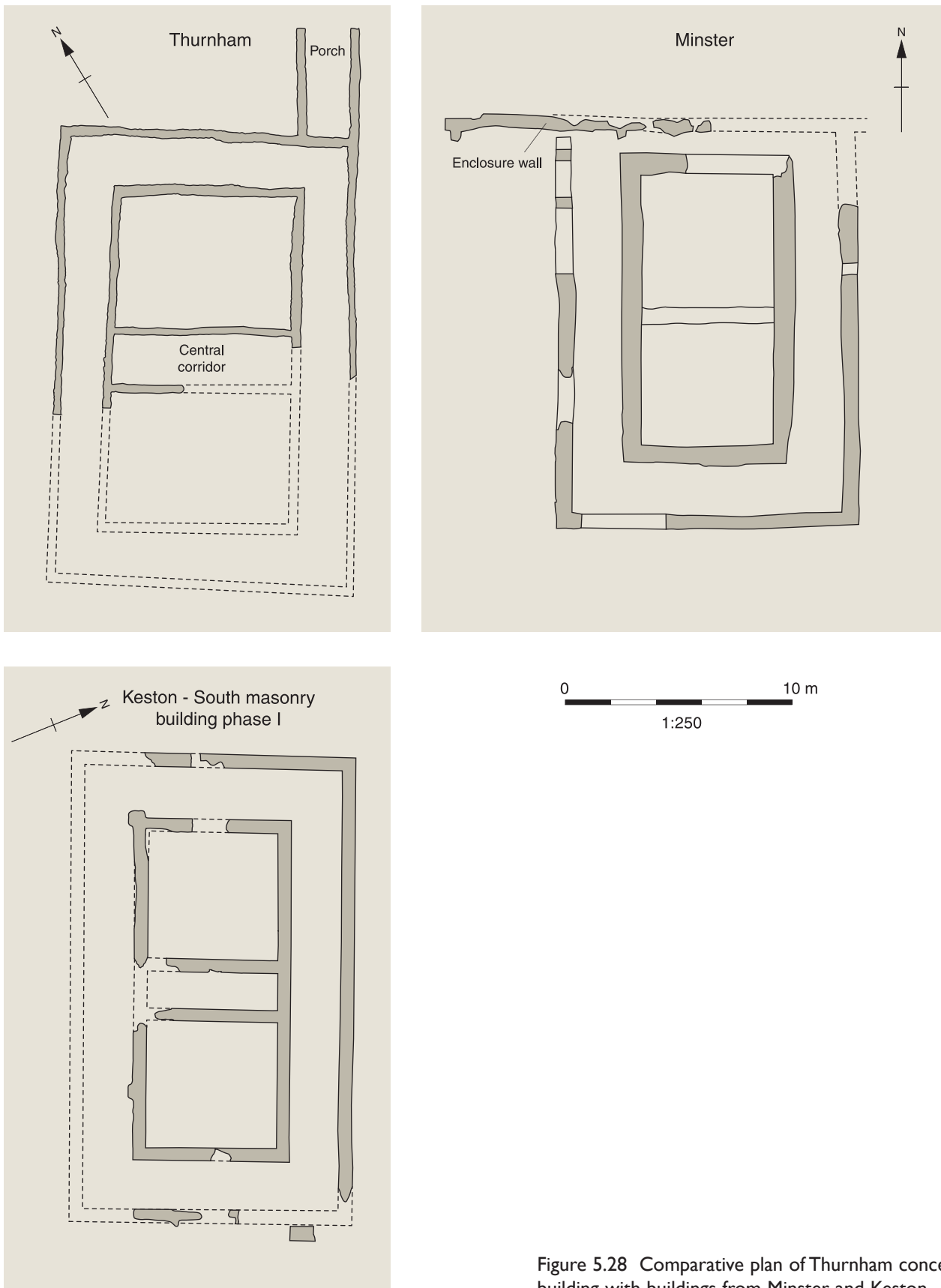


Figure 5.28 Comparative plan of Thurnham concentric building with buildings from Minster and Keston



Figure 5.29 Thurnham: view of aisled building with concentric building in background

building, which continued in use at this time, ever had a domestic function.

It is on this basis that the possibility of a religious function for the Thurnham concentric building is considered. Unfortunately, however, because of the location of the feature at the margin of the excavated area and the difficulties of reconciling the HS1 evidence with information from the previous excavation on the line of the Maidstone Bypass (now M20) in 1958 (Pirie 1960), the plan of the structure, and therefore its interpretation, is not certain (see above). Interpretation as a Romano-Celtic temple of concentric form requires some additions and other features of less typical character to be taken into account. These included the apparent subdivision of the 'cella', the alignment of the building (most unusual for a temple, given that the presence of boundary features appear to preclude the existence of an entrance in the south-east side) and arrangements for access to the building and the small 'porch' projecting from the eastern end of the north-east side, parallel to the main enclosure boundary of the villa complex.

The access questions are relevant whatever the interpretation of the building. There was one clear entrance on the north-west side of the building, presumably reflecting access from the direction of the proto-villa house. Access also seems to have been achieved from the

north-east, although the interpretation of the projecting 'porch' structure on this side remains uncertain. Perhaps the most compelling argument in favour of it providing an access to the building is the way in which its open (north-east) end coincided with an opening in the adjacent enclosure boundary. The presence of a crushed tile surface against the south-east wall of the building suggests a path running between it and the enclosure boundary as far as the open end of the projecting porch, as if it was intended to minimise the visual intrusion of non-residents of the proto-villa house accessing the building. Why this should have been desirable is unknown, however, and why it was necessary to have a projecting porch at all, rather than simply an entrance into the corridor/ambulatory at its eastern corner, is unclear.

In summary the problems are: that the concentric form is neither exclusively religious nor domestic (the domestic examples are few in Britain, but may concentrate in Kent); that the Thurnham building is substantially larger than the contemporary house (which presents some problems for any interpretation); and that the incomplete plan and lack of associated finds preclude a confident attribution of the building's function. On balance, however, the morphological characteristics seem less consistent with a temple than with other types of building.

Evolution of settlement through the Roman period

The Thurnham villa has not only the most varied and distinctive range of structural types but also (and partly for this reason) one of the more readily identifiable sequences of site development in the Roman period. Indeed it is one of the very few HS1 sites that show occupation throughout the period. The development of the HS1 sites can be tracked in a number of different ways, but one of the simplest is in relation to the ceramic evidence. This has been plotted on Fig. 5.6 in terms of the relative frequency of occurrence of material (within the context of the individual site assemblages) divided into approximate quarter-century units. These are of course fairly notional—many fabrics and vessel types are not susceptible to such close dating—but the general picture is clear for most sites. Against the pottery evidence can be set that of the coinage, where present. This has its own patterns of chronological development quite separate from those of the pottery (eg Reece 1995a, 179), but these can be taken into account for comparative purposes. Activity with regard to the structural sequence cannot readily be assessed independently of these chronological indicators, but the peak periods of building activity at each site represented on Fig. 5.6 correlate with the observable ceramic peaks; ie there are no cases of significant construction activity (whether of buildings or enclosure ditches or other features) at times when ceramic deposition is at a low level in relative terms.

As already discussed, almost all the main HS1 sites were probably in existence before the Roman conquest—Hazells Road being the only certain exception to this picture, although there may have been only minimal activity at Pepper Hill at this time. Activity at Eyhorne Street might have already ceased by the time of the conquest, while at Hockers Lane it was probably at a low level by this time, and it is quite likely that this site was eclipsed, if not completely superseded, by the Late Iron Age–Early Roman developments at Thurnham. Activity within the excavated part of Hockers Lane had certainly ceased by the end of the 1st century AD at the very latest, but it is conceivable that it continued in the area to the north beyond the limits of excavation, and the same was true at Lodge Wood and Boys Hall, though both of these were minor sites, the latter represented principally by a small group of cremation burials.

Another site apparently exclusively of Late Iron Age date was Little Stock Farm. However, the much longer-lived site at Bower Road lay only 700m west of the Little Stock Farm enclosures and it is possible that these two sites had a comparable relationship to that postulated for Hockers Lane and Thurnham, the one being in some way succeeded or subsumed by the other. Alternatively, the discovery of small quantities of Early Roman pottery in evaluation just east of Little Stock Farm at Park Wood Cottage may suggest settlement shift in this direction (Ritchie 2006), though the limited date range of this material could still be consistent with a partly sequential relationship with Bower Road. It is, however, even more likely that sites with limited chronological ranges had

sequential relationships with other (unknown) sites lying outside the line of HS1.

Beechbrook Wood, like Lodge Wood and Boys Hall, also had an early peak, but activity there may have continued at a low level as late as the early 3rd century. Elsewhere, the phase of relatively intensive activity at settlement sites lasted at least into the early–mid 2nd century, but continued beyond this time at barely a third of them (7 of the total of 21 HS1 Section 1 sites with ceramic sequences plotted in Fig. 5.6). The sites already out of use or in terminal ‘decline’ by this time were all apparently lower-status rural settlement components, such as Northumberland Bottom (East of Downs Road), Hockers Lane, Snarkhurst Wood and Beechbrook Wood, or had contained elements of related features such as trackways and field systems (Whitehill Road, South of Station Road, Tollgate, Lodge Wood, Blind Land, Little Stock Farm and East of Station Road), or cemeteries (Boys Hall and Beechbrook Wood again). Some of these sites had also carried out specialised activities, particularly iron-working, as at Beechbrook Wood.

The sites surviving in the second half of the 2nd century form an interesting group. In north-west to south-east order the first is the Pepper Hill cemetery, which may have been in decline by this time, and was fairly certainly (allowing for the undated graves) decreasingly used in the 3rd century. At the easterly Northumberland Bottom site (just west of Wrotham Road) the settlement and related trackway system had already undergone considerable development (as had the system of trackways at Tollgate, 1 km further east; Fig. 5.30), including the closing off of one of the more important tracks by ditches surrounding a possible sunken-featured building (see above). The main phase of activity here seems to have continued to the end of the 2nd century, but this may not be representative of the settlement as a whole (its focus clearly lay north of the HS1 trace) as there are (unusually) hints of continuing low-level activity through both the 3rd and 4th centuries. At White Horse Stone, however, the ‘main’ phase of activity (probably quite restricted in time), involving a trackway and enclosures around the former location of Iron Age settlement, seems to have ended within the second half of the 2nd century.

Further south lay three of the most important HS1 settlement sites. At Thurnham and Bower Road significant construction work can be assigned to the later part of the 2nd century, but there is no such evidence for Leda Cottages, where the only identified structural evidence consisted of four-post buildings of Late Iron Age date, although occupation clearly continued at this time (Diez 2006a). At Saltwood Tunnel there was no direct evidence for settlement at all, but a number of trackways were presumably in regular use and nearby activity is indicated by a range of pottery.

Pottery evidence provides the main indication that the most intensive use of all these four sites came to an end in the first half of the 3rd century. Continuing use of buildings thereafter can be demonstrated, for example at Thurnham. Here, however, the main villa house had

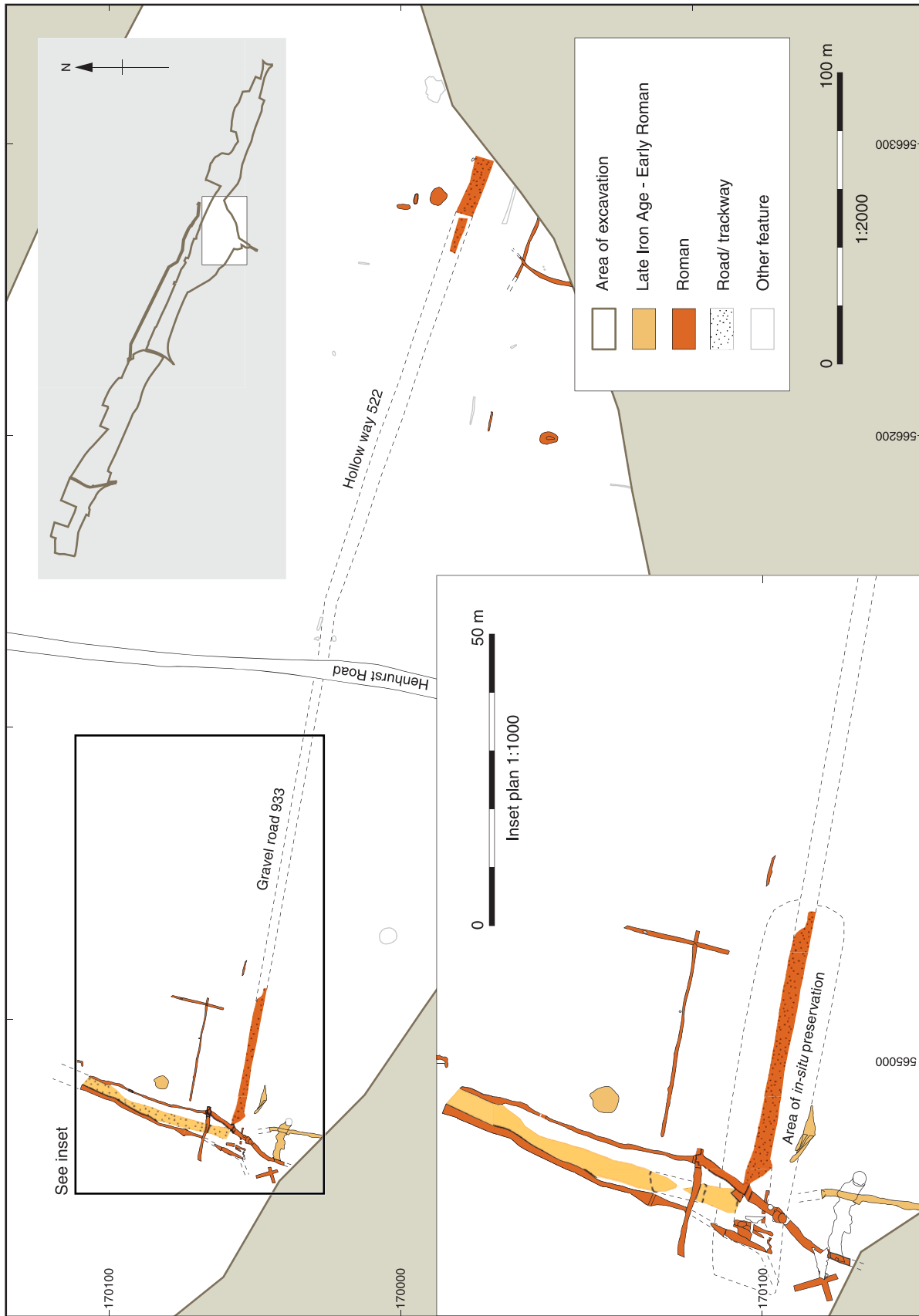


Figure 5.30 Tollgate: overall phase plan with detailed phase plan of road sequence in the western part of site

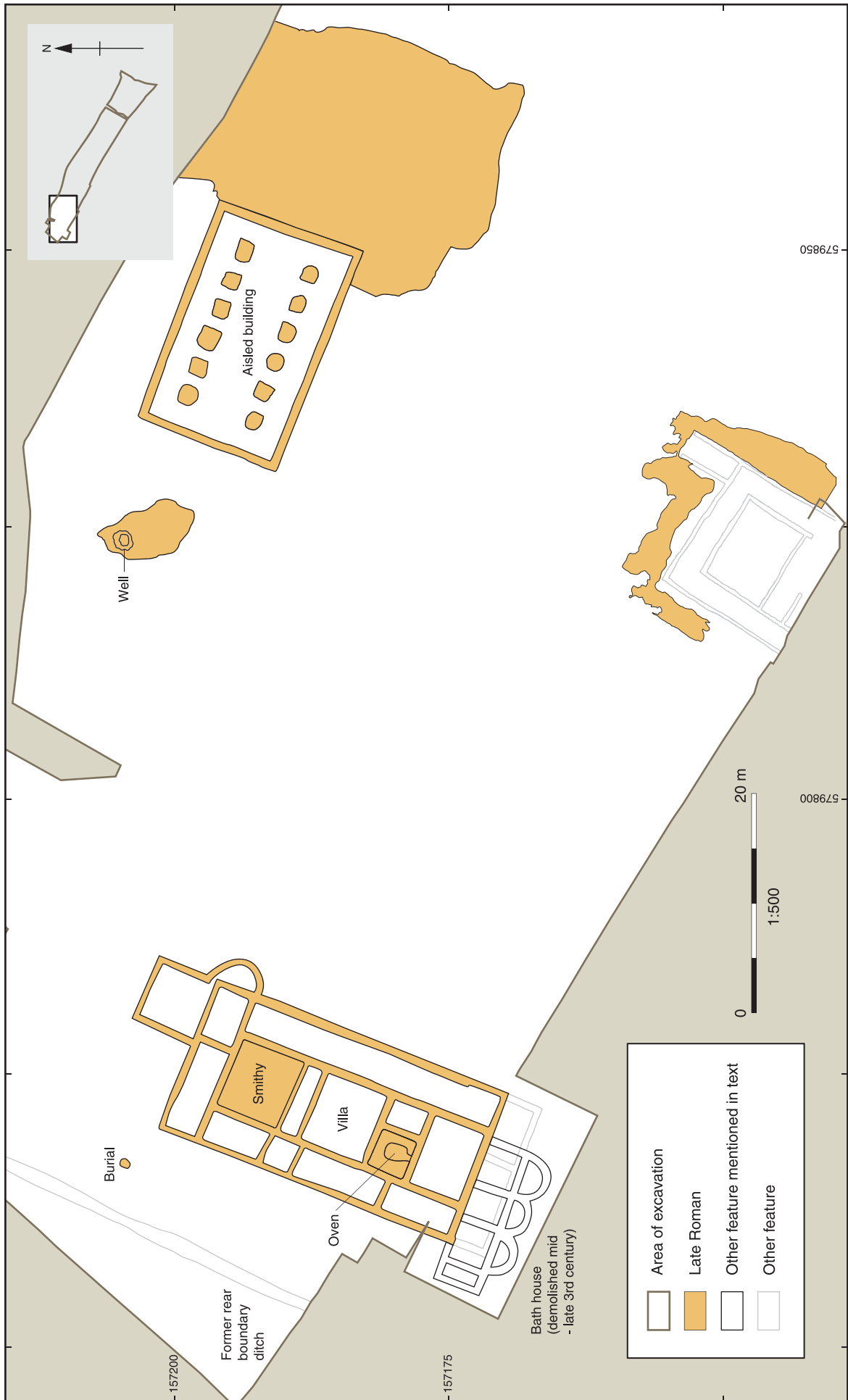


Figure 5.31 Thurnham: Late Roman phase plan

probably ceased to serve this function by the later 3rd century and the bath suite had been demolished, while the multiple-post building outside the villa enclosure may have been removed to make way for a corn-drying oven, probably leaving the aisled building as the principal domestic focus (Fig. 5.31).

At Bower Road the multi-posted structure, probably of late 2nd century date, is likely to have remained in use for much of the 3rd century, but it is uncertain how long it survived thereafter, and evidence for 4th-century activity on the site, while certainly present, is limited. At Saltwood Tunnel, Late Roman pottery and a number of individual objects constitute the main indicator of continued activity, supplemented by a single inhumation burial. Only one site, Hazells Road, was exclusively of later Roman date. Here the pottery indicates activity from the early 3rd century onwards, while a number of coins demonstrate that the site, of agricultural character, its principal feature being a large corn-drying oven located adjacent to a trackway (see Fig. 5.36), continued in use at least through the first half of the 4th century and probably at a lower level up to the end of the century. By this time contemporary activity, again only at a low level, can be suggested further east within the Northumberland Bottom complex at Wrotham Road and at Thurnham, Bower Road and Saltwood Tunnel, ie at about a quarter of all the HS1 sites where Late Iron Age and Roman activity was encountered. This pattern of Late Roman activity is discussed further below.

Rural economy

It is likely that the economy of all the HS1 settlement sites was based on agriculture. There is limited evidence for more specialised activities such as iron production (at Leda Cottages and Beechbrook Wood) and pottery production (also at Beechbrook Wood and possibly at Snarkhurst Wood), but in no case was the scale of this activity sufficient to suggest that it was more than supplementary to agriculture. Characterisation of the rural economy is problematic, however, because of the nature of the soils. On the Greensands and clays of Holmesdale and the Chart Hills, in particular, the acidic soils resulted in a generally very low level of survival of animal bone, and the preservation of charred plant remains was also adversely affected. Preservation was much better on the chalk Downs, but at some sites where chalk formed the solid geology the overlying deposits (for example, the sands, gravels and brickearth at Pepper Hill) were still acidic and resulted in very poor survival of bone.

For many sites it is difficult to determine the extent to which agricultural production rose above subsistence level. Direct evidence even for some of the most basic of domestic activities, such as cooking, is not widespread, and it is notable that the best-preserved evidence for hearths and ovens (probably, but not demonstrably, simply for baking/cooking) comes from the higher-status sites such as Thurnham and Northumberland Bottom, West of Wrotham Road (Figs 5.32–4).



Figure 5.32 Thurnham: Middle Roman oven (15280) in north-westernmost bay of aisled building



Figure 5.33 Northumberland bottom, West of Wrotham Road: well-preserved Early Roman oven in hollow beside enclosure ditch, looking east



Figure 5.34 Northumberland Bottom, West of Wrotham Road: Mid Roman oven cut into south-east corner of Early Roman enclosure ditch

Other structural evidence for agricultural activity has been partly discussed above, and relates most clearly to the storage and processing of grain, with four-post ‘granaries’ a recurring feature. More widely, the evidence for field systems is generally insufficiently coherent to allow their characterisation—were ditches used to define arable fields or were they principally a means of creating stock enclosures? In the absence of evidence for widespread field systems the latter may be more likely, but the linear character of the project limited the ability to define evidence for such systems. There is, however, no indication of the presence of extensive areas of field systems, whether systematically planned or not, to compare for example with those perhaps seen in parts of Essex (Going 1993, 100–1), on the Berkshire Downs (Bowden *et al.* 1993) or in South Yorkshire (Riley 1980). Equally it is not possible to tell if there may have been variation in field sizes related to factors such as subsoil type (cf Bird 2000, 164).

The only examples of ploughmarks of probable Roman date, from west of Wrotham Road in the Northumberland Bottom complex, lay adjacent to an enclosure ditch. The most likely (but speculative) interpretation of this association is that the ploughmarks lay in an arable area that was not itself closely divided by ditched boundaries, but within which small enclosures could have served a variety of purposes. Apparent traces of plough scars at right angles suggest the use of a simple ard-type plough.

The main strands of evidence for the agricultural economy of the HS1 sites are summarised in Table 5.4. Notable evidence for grain processing and or storage (though not necessarily production) has also been mapped alongside other ‘economic’ data on Fig. 5.35, where an attempt has been made to distinguish between this material and evidence for routine household processing and consumption of grain, which is much more widely encountered. It is assumed, however, that arable production was probably practised at all settlement sites, even where there is little or no direct evidence for this.

Plant remains

Charred plant remains were widespread but the best assemblages came from Northumberland Bottom, Thurnham, Bower Road, Little Stock Farm and Saltwood Tunnel. The range of cereals represented at each site was generally similar throughout this period, although there was much more early than later Roman evidence, and the Little Stock Farm assemblage was entirely of Late Iron Age date. Spelt wheat and to a lesser extent hulled barley were the main cereals. Emmer wheat was generally rare in the main assemblages, having been more common in the earlier Iron Age, although larger quantities were recorded at Saltwood Tunnel. Occasional free-threshing wheat grains were recovered from Pepper Hill, Northumberland Bottom, Thurnham, Little Stock Farm, Bower Road and, Saltwood Tunnel, adding to existing

records for sites such as Springhead (Campbell 1998). Oat grains, again in small quantities, were found at Northumberland Bottom, Tollgate, Thurnham, Leda Cottages and Beechbrook Wood, with larger amounts at Bower Road, but it is uncertain if these derived from cultivated or wild plants.

Other plants represented in charred deposits included legumes: occasional horse beans, peas or vetch/bean/pea at Northumberland Bottom, Tollgate, Thurnham, Leda Cottages and Saltwood Tunnel, for example. The Thurnham plants included cultivated pulses, such as broad bean (*Vicia faba*) and large seeded vetch/garden pea (*Vicia sp./Pisum sativum*) as well as non-edible vetches/clovers (eg *Vicia sativa* and *Melilotus sp./Medicago sp./Trifolium sp.*). The latter may have been cultivated for animal fodder, possibly as part of a crop rotation system, or may just have been cereal weeds (Smith and Davis 2006). Carrot (*Daucus carota*) seeds from the well at Thurnham may likewise have been from the wild rather than the cultivated species. Charred flax seeds were found at Northumberland Bottom and Thurnham, where waterlogged flax capsule fragments were also found in the Late Roman well. Wild resources were also utilised, as shown by fruit remains of sloe/blackthorn, apple, blackberry (*Rubus fruticosus*), blackberry/raspberry and hazel nut shell, again from the well at Thurnham. Charred hazel nutshell was found at seven sites and remains of sloe and *Prunus* species at Northumberland Bottom, Thurnham and Little Stock Farm. Mineralised *Rubus* seeds were identified at Bower Road.

Understanding of the way in which arable regimes operated is enhanced by consideration of the weed seeds as well as the cropped species. A wider range of weed seeds was present compared to the previous period, and they suggest that a greater variety of soil types may have been cultivated, for example at Thurnham, Little Stock Farm and Bower Road. Newly-recorded species included stinking mayweed (*Anthemis cotula*), an indicator of waterlogged loams and clay soils, which appeared on a number of sites including Northumberland Bottom, Thurnham, Bower Road and Saltwood Tunnel. It was common in Late Roman samples at Hazells Road, where evidence of free-threshing wheat was also found. Bedstraw, which had been present in the previous period, also grows in clay soils and was again found at Northumberland Bottom and at Little Stock Farm. In contrast, narrow fruited corn salad (*Valerianella dentata*), associated with dry calcareous soils, was identified at Bower Road.

Weeds of acidic soils, widely present in the previous period, were again common at a number of the sites. They included sheep’s sorrel and scentless mayweed at Beechbrook Wood, blinks (*Montia fontana*) and sheep’s sorrel at Little Stock Farm, corn marigold (*Chrysanthemum segetum*), sheep’s sorrel, scentless mayweed and wild radish (*Raphanus raphanistrum*) at Bower Road, and blinks and scentless mayweed at East of Station Road. At Little Stock Farm, Chenopodiaceae (particularly fat hen, *Chenopodium album*), associated

Table 5.4 Outline summary of evidence for agricultural economy from principal sites

Site	Structures	Charred plant remains	Principal crops	?Crop processing	Querns	Animal remains	Principal animals	Comment
Whitehill Road						Kitch 2006a	*cattle, sheep/goat, pig	
South of Station Road		Giorgi 2006a	*spelt/emmer, barley	Y?				
Hazells Road	'corn-drier'	Davis 2006a	spelt (emmer, barley, oats)	Y	1 millstone unstratified	Kitch 2006b	*cattle, sheep/goat, pig	millstone may not be Roman
Northumberland Bottom, E of Downs Road	2 4-post structures	Davis 2006a	spelt, emmer	Y?	7?	Kitch 2006b	*horse, cattle, sheep/goat, pig	
Northumberland Bottom, W of Wrotham Road		Davis 2006a	spelt (barley)	Y				
Tollgate		Davis 2006b	spelt	Y	1	Kitch 2006c	*sheep/goat, cattle	
Hockers Lane	4-post structure					Kitch 2006d	*sheep/goat, cattle, pig	
Thurnham	2 4-post structures multiple-post building, aisled building, 'corn-drier'	Smith and Davis 2006	spelt (barley)	Y	24?+ 2 poss millstones	Kitch 2006d	sheep/goat, cattle, pig	
Snarkhurst Wood	5 4-post structures	URS 2000b	spelt, barley					
Leda Cottages	2 4-post structures	URS 2003	spelt	Y	12?			
Beechbrook Wood	3 4-post structures	Giorgi 2006b	spelt (emmer, oats, barley)		1			CPR from cremation burial
Bower Road	multiple-post building with ?agricultural function	Stevens 2006a	spelt (oats, emmer, barley)	Y		Kitch 2006e	*cattle, sheep/goat, pig	
Little Stock Farm	4-post structure	Stevens 2006b	barley (emmer/spelt)			Kitch 2006f	*sheep/goat, pig, cattle	
Saltwood Tunnel		Stevens 2006c	spelt, emmer, barley (pea)	Y	?	Worley and Nicholson 2006	*cattle, sheep/goat	

Where possible the principal crop and domestic animal species are listed in order of importance, with proportionately minor presences in brackets. An asterisk (*) indicates that the sample sizes are too small for the assessment of relative importance to have any statistical validity

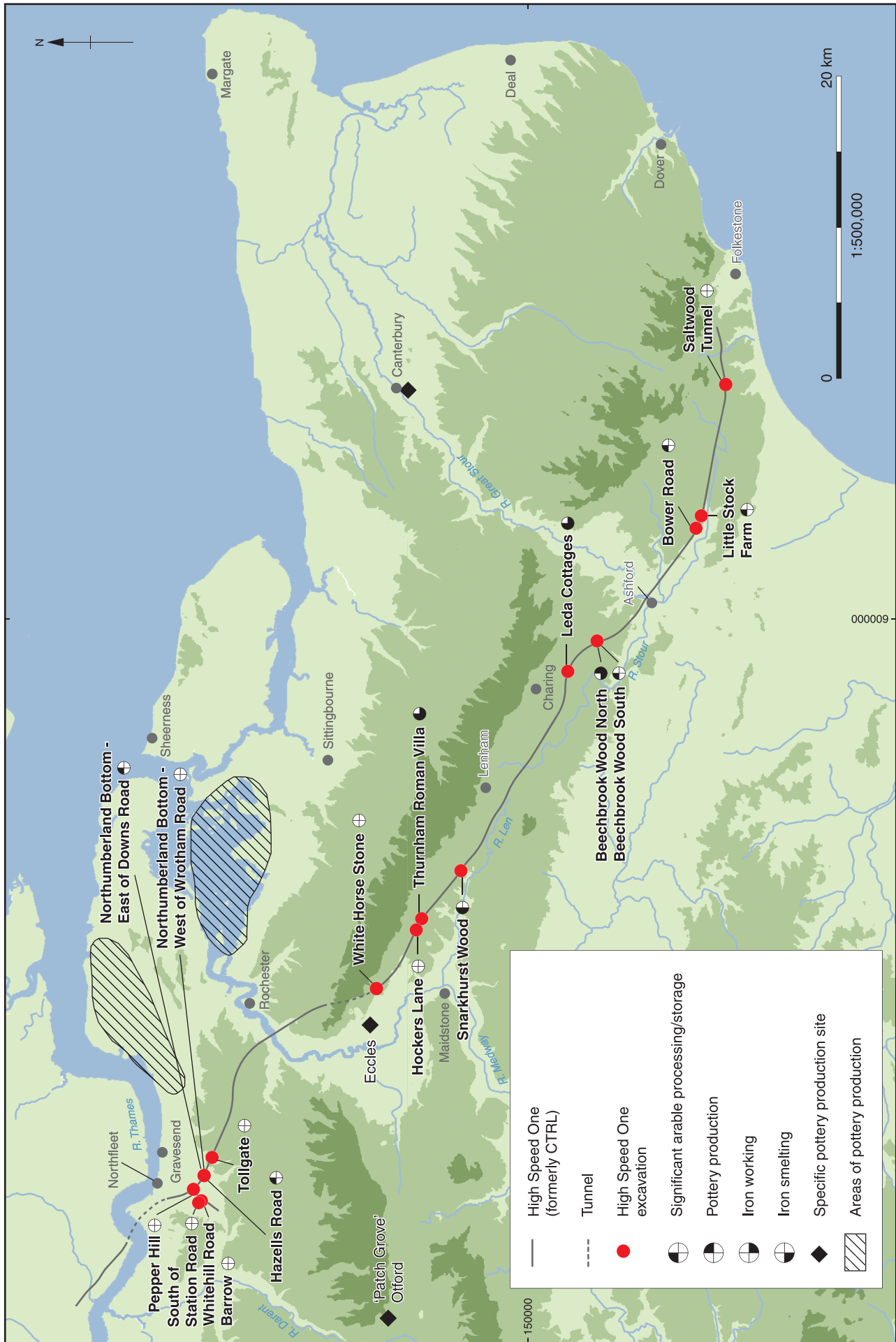


Figure 5.35 Map of principal 'economic' activities from HSI Late Iron Age and Roman sites

with nitrogen-rich soils, declined in importance in the Late Iron Age to Roman period during which there was a corresponding increase in leguminous seeds. This may indicate a decrease in the fertility of the soils around the site, presumably as a result of over-exploitation. That the range of utilised land included wet ground is suggested by the presence of plants such as blinks and spike-rush (*Eleocharis palustris*), particularly at Thurnham and Bower Road, although their occurrence could have been quite localised.

The association of particular weeds and crops sometimes suggests the season of sowing or allows inferences about harvesting technologies to be drawn. The presence of knotgrass, black bindweed and fat hen suggests spring sowing, while corn gromwell may indicate that some crops were winter sown. Equally the presence of monocotyledon rhizomes in a 2nd–4th century deposit at Nashenden Valley might suggest that some cereals were harvested by uprooting, while an iron reaping hook from Hazells Road suggests a different method there. Better evidence is available for post-harvest processing practices since it is charred material derived from these practices which is generally recovered from excavated settlement site contexts. At the HS1 sites these remains were mostly from the final stages of crop-processing and comprise cleaned grain, chaff (from de-husking) and large weed seeds, such as bromes, characteristic of virtually cleaned grain. There was generally less evidence for the fine sievings (small weed seeds) separated at an earlier stage of crop-processing. Crop-processing debris appears to have been used as tinder or kindling in hearths and ovens. The latter were quite widely encountered and in the general absence of evidence for specialised functions for these, such as metalworking (see below), are interpreted as being used for domestic cooking activities.

Most of the grain would have been converted to flour or meal, typically by hand milling. Quern stones were recovered from five Late Iron Age and Roman settlement sites (Northumberland Bottom, Tollgate, Thurnham, Leda Cottages and Beechbrook Wood), of which only Thurnham produced two likely examples of millstones, both in Millstone Grit (a further millstone in the same stone type was an unstratified find at Northumberland Bottom and could have been of Roman or later date). In the absence of evidence for a convenient source of water power at Thurnham it is likely that the millstones there derived from an animal mill, as has been suggested at Keston (Philp *et al.* 1991, 180). The situations of the villas at The Mount, Maidstone (Kelly 1992, 228) and Lullingstone (Meates 1979, 110) are more ambiguous in this respect, and millstones there could have been either animal- or water-powered. The only unambiguous evidence for watermills of Roman date in Kent comes from the site at Ickham, near Canterbury, where there were multiple mill structures (Bennett *et al.* 2010). Either way, there seems to be a broad association of millstones with higher rather than lower status rural settlement sites, as noted for example in the Upper and Middle Thames Valley (Booth *et al.* 2007, 298). Moreover it is

likely that the great majority if not all stones of Millstone Grit occurring in Kent were millstones rather than hand-powered querns (R Shaffrey, pers. comm.). So for example at Home Farm, Eynsford, three out of four stones of Millstone Grit were certainly millstones on the basis of size, while the diameter of the fourth stone could not be determined (Philp and Chenery 2002, 75–6).

An alternative use of grain, for malting, is suggested by one sample at Thurnham but is not convincingly attested elsewhere on HS1 Section 1, although there is some evidence for malting at other sites in the area such as Springhead (Campbell 1998, 37), The Mount villa, Maidstone (Robinson 1999) and Keston (Hillman 1991), and possibly at Westhawk Farm (Pelling 2008), while such evidence is prominent at the Northfleet villa, particularly in the Late Roman period (W Smith in Andrews *et al.* 2011). The relative absence of evidence for malting at the HS1 Section 1 sites is quite striking. The possibility that this reflects the chronological emphasis of the majority of sites was considered, on the basis that malting probably became more widespread in the middle and later Roman periods, after a number of the HS1 sites had gone out of use. However, the potentially relevant material at Thurnham came from a gully of mid–late 1st century date while none of the samples associated with the later ‘corn-drier’ (or with the large Late Roman corn-drier at Hazells Road) contained sprouted grain (Fig. 5.36). On balance it would be surprising if malting was practised at Thurnham in the Early Roman period but not later. A broadly contemporary (*c.* AD 43–70) deposit at Westhawk Farm contained sprouted grains of spelt and barley but particularly also of brome grass, as well as a wide range of weeds, and its interpretation as containing material relating to the malting process also seems problematic. Unfortunately the relevant sample at Springhead was not well-dated (although associated pottery was mostly Early Roman), but the deposits indicative of malting at The Mount were dated *c.* AD 175–225 (Robinson 1999, 149) and the single sample from Keston (small and therefore of slightly uncertain significance) was from a ditch with a *terminus post quem* of *c.* AD 350 but containing residual as well as contemporary material (Philp *et al.* 1991, 130). The villa at Northfleet (HS1 Section 2) has produced significant assemblage of grain sprouts, providing the best evidence yet for malting (of spelt) in the area, in contexts ranging across much of the Roman period, but concentrated in the Mid/Late Roman. The material suggests malting on a substantial scale at this site.

Overall, the charred cereal remains from this period show that spelt was the principal grain with smaller amounts of hulled barley and generally only small amounts of emmer. Spelt and hulled barley are typically the main cereals found in Late Iron Age and Romano-British deposits from southern England (Greig 1991) while emmer is poorly represented (van der Veen and O’Connor 1998; Campbell 2000). It is usually assumed that emmer was no longer being extensively cultivated in southern England during this period, but the presence of reasonably high proportions of emmer in Roman samples

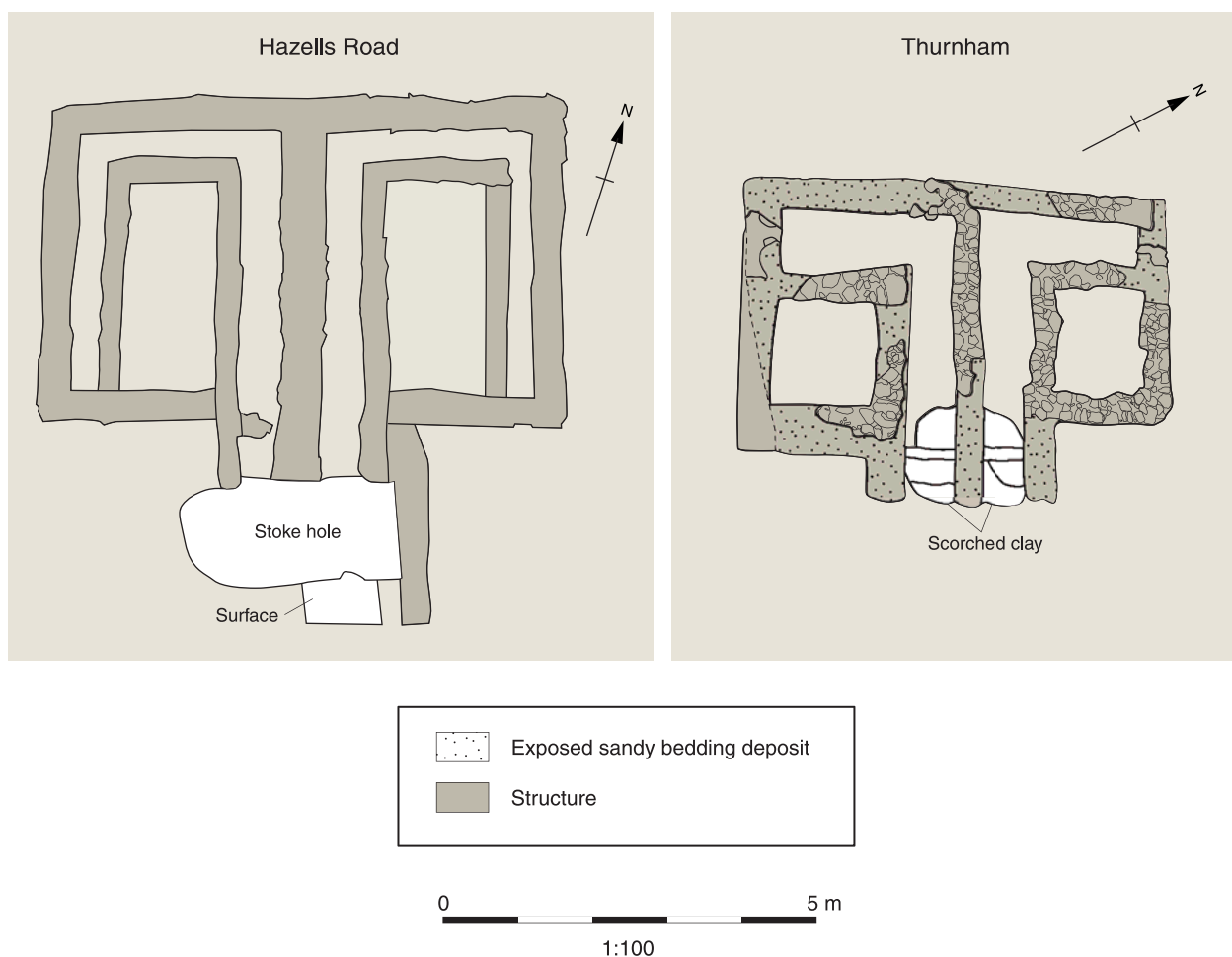


Figure 5.36 Comparative plans of corn-driers (Hazells Road, Thurnham)

from Saltwood Tunnel suggests that it may have continued to play a role in the agricultural economy in Kent. Almost equal proportions of emmer and spelt were recorded in a Late Iron Age pit at Wilmington, near Dartford, for example (Hillman 1982). Such evidence remains in the minority, however, and at Springhead (Campbell 1998, 37–9) and The Mount, Maidstone (Robinson 1999, 149) spelt was certainly or probably dominant (remains can sometimes not be identified more precisely than as spelt/emmer). At the low status settlement at Queen Elizabeth Square, Maidstone, emmer, while less common than spelt, was sufficiently frequent to suggest that it was not just a contaminant (Pelling 2003, 22) in the Late Iron Age and Early Roman periods. At Wingfield Bank, Northfleet, however, immediately east of Springhead, deposits of chaff dominated by spelt were recovered from an oven dated by radiocarbon to the Late Iron Age (Wheaton *et al.* in prep.). Variations in the proportions of these cereals may perhaps have been linked to site status, but there are still insufficient data for this to be tested rigorously.

Pulses and flax are not particularly well represented in this period and there is only limited evidence for the use of wild foods, mainly in the form of hazel nutshell. Recovery of evidence for pulses is, however, much less consistent than for cereals as there are no aspects of the various possible preparation processes (except for

cooking) and reuse (for example of cereal chaff as fuel) that require contact with heat, so the occurrence of charred material will be entirely accidental, as at Queen Elizabeth Square (Pelling 2003, 22, 24), where large quantities of peas were dated to the Late Iron Age phase. Such evidence suggests that the use of such resources could have been quite widespread in the region and the absence of evidence does not necessarily represent the true picture with relation to pulses. Flax is subject to the same biases.

Animal remains

Issues of preservation are reflected in the fact that animal bone assemblages were only examined at ten sites of Late Iron Age and Roman date, in five of the eight landscape zones (1, 3, 4, 7 and 8). The largest assemblages came from Northumberland Bottom and Thurnham, but these amounted to only just over 2000 fragments and *c* 5350 fragments respectively (excluding very fragmentary material from sieved samples) and only at Thurnham are the data (barely) adequate to suggest possible changes in animal husbandry through time.

All four major domesticates, cattle, sheep/goat, pig and horse were identified at most of the sites with cattle and sheep/goat usually the best represented species, as

would be expected. Cattle were the most abundant species at the Early Roman site of Whitehill Road, at the Roman site of Bower Road and at Late Roman Hazells Road. Sheep/goat were most common at the Late Iron Age–Early Roman site of Hockers Lane while both sheep/goat and cattle were abundant at the Late Iron Age site of Little Stock Farm and the Late Iron Age–Roman site of Saltwood Tunnel. In early Roman deposits at Northumberland Bottom, horse was the best represented followed by sheep/goat, cattle and pig, but this phase sample included a large number of the horse bones from a burial with one complete fully articulated skeleton (Giorgi and Stafford 2006). All these assessments are based on very small numbers of fragments, however. Even in the case of Northumberland Bottom the total for the minimum number of individuals (MNI) in the Early Roman phase (14, of which 5 were horses), is less than half that recommended by Hambleton (1999, 39) as a minimum for meaningful discussion of differences in the relative numbers of the main species.

At Thurnham, data for MNI from the Late Iron Age to Late Roman period, although mostly from the Late Iron Age and Early Roman phases, are still not as numerous as would be wished, but appear to show sheep/goat to be predominant in the early phases (*c* 55% of a MNI total of 44), declining to *c* 35% (of a MNI total of 34) in the Middle and Late Roman period, while cattle correspondingly increased from *c* 20% to *c* 30% of MNI (Kitch 2006d). The data are too few to permit any meaningful distinction to be drawn between the Middle and Late Roman phases, although superficially the representation of cattle and sheep/goat is similar in both. The incidence of pig seems to have been fairly consistent, at about 20% of MNI, across the main periods.

The evidence for ages of animals at death provides some indication of husbandry practices at the different sites, but the lack of large datasets means that these are of a rather generalised nature. Mixed strategies are likely to have been pursued. Cattle, for example, were probably used for traction and dairy and meat products. Even where they were less numerous than sheep, cattle typically provided the majority of meat for many settlements because of their much greater body mass. It is impossible to say if this was consistently the case on the HS1 sites, but it is likely. At some sites, for example Northumberland Bottom, no evidence for butchery of sheep was recorded (with the implication that these animals may have made little or no contribution to the meat diet), but the small sample size may limit the value of this observation. Here sheep could have been particularly important for wool and perhaps dairy products, although in general they would also probably have been exploited for meat. Leather, bone and horn would have been useful by-products of cattle (evidence of horn removal, presumably for working, was found at Northumberland Bottom, Thurnham and Bower Road), but their production would rarely if ever have been a primary consideration in stock raising. Pigs were essentially raised for meat, with a few retained for breeding purposes. Horses are most likely to have been

used for riding, with traction as a secondary function. There is no clear indication of inter-site variation in these broad patterns of exploitation. It is likely that animals were kept at most if not all settlements, but evidence of breeding, in the form of the presence of remains of very young animals, came from Whitehill Road (cattle and possibly sheep/goat), Thurnham villa (cattle, sheep/goat and pig) and Bower Road (cattle and sheep/goat). In contrast, the assemblage from Northumberland Bottom was notable for an absence of young animals.

Domestic fowl was the only other economic species encountered, at Northumberland Bottom, Thurnham, Bower Road and Saltwood Tunnel. There were ten instances, including one almost complete carcass, of domestic fowl amongst cremated material at Pepper Hill, where these birds would have been placed on the pyre. It is likely that a majority of the considerably larger number of fragments identified only as ‘bird’ at this site were also of domestic fowl.

Game animals included finds of red and roe deer, represented by occasional bone remains at Hazells Road, antler at Little Stock Farm (both red and roe, respectively sawn and cut), and both at Thurnham villa and Bower Road (including sawn red deer antler). This evidence suggests that deer were hunted, but there was no indication of butchery on any of the post-cranial elements so it remains uncertain if these animals were eaten. It is clear that antler was worked at Little Stock Farm, Thurnham and Bower Road, but much of this could have been carried out using collected shed antler. Hare (*Lepus* sp.) was identified at Thurnham, but whether hunted and eaten, or occurring in some other context, is unknown.

Fish formed part of the diet at some sites. Occasional bones of cod (*Gadus morhua*) were identified at Northumberland Bottom and a few herring bones found at Pepper Hill. Fish bones at Thurnham, mostly from Early Roman contexts, included herring and flatfish (marine) and eel (*Anguilla anguilla* – marine or fresh water). Saltwood Tunnel produced the widest range of fish species, comprising large cod, haddock (*Melanogrammus aeglefinus*), herring or sprat (Clupeidae), eel and flatfish (including Pleuronectidae – plaice, flounder or dab). The Saltwood bone evidence is supplemented by a possible lead net weight and a long iron implement with a forked terminal which may have been a netting needle. A single possible pike (*Esox lucius*) vertebra was the only exclusively freshwater fish bone in the Saltwood assemblage. The presence of cod is the most unusual aspect of this material in a Romano-British context. It has been recorded as occurring only in towns (Locker 2007, 157) and is generally not common in Roman Britain, although Locker (*ibid.*) suggests that this need not have been because of perceived technical difficulties of deep-water fishing. The marine fish from all these sites indicate trade with settlements on the coast; their presence is most notable at Thurnham, the other sites being readily accessible from the coast.

A final feature of the evidence from Thurnham was the recovery of numerous examples of honey bee (*Apis mellifera*) in a late Roman well fill. This important and

rare find (for a recent parallel from Heathrow see Framework Archaeology 2006, 212) suggests that bee-keeping might have been practised within the villa complex.

Production and trade

The main economic activities not falling directly under the umbrella of agriculture consist of small scale production of a variety of commodities, and general patterns of trade, at a variety of scales. In both cases, but particularly the latter, the evidence of ceramics is extremely important, although caution is required in assessing the extent to which pottery evidence can really stand as proxy for the movement of other materials and goods (Greene 2005, 9–11; cf Fulford 2004, 320–1).

Pottery

Pottery production is attested directly at Beechbrook Wood, and seems likely to have been carried out at or close to Snarkhurst Wood, in both cases in the Late Iron Age or possibly (at Beechbrook Wood) into the Early Roman period. The fabrics produced were tempered with grog at Beechbrook Wood and with glauconite at Snarkhurst Wood, representing two of a number of contemporary ceramic traditions of varying character encountered in the HS1 sites in the Late Iron Age and Early Roman periods. Ceramic components of Middle Iron Age handmade character are also identified in the central part of the HS1 transect but these, including fabrics tempered with flint and/or quartz sand, mostly seem to have been contemporary with the ‘Belgic’ fabrics (see above) and represent yet another potting tradition (comparable with, but perhaps distinct from, one widely established across the region in the Early/Middle Iron Age (Morris 2006)), rather than a chronologically distinct phase of activity. Only at Hockers Lane is it likely that a slightly earlier ceramic tradition lay at the beginning of the sequence. There, probable saucepan-type vessels in the most common glauconite-tempered fabric (fabric B9.1) suggest continuity into the Late Iron Age of Middle Iron Age traditions which were well-established in the area around Maidstone. The Late Iron Age–Early Roman glauconitic tradition generally survived in contemporary use with ‘Belgic’ grog-tempered fabrics, although at Queen Elizabeth Square, Maidstone, it was suggested that their use was sequential (Biddulph 2003, 18). Its importance in the area is well known (Pollard 1988, 31) and is indicated for example by its apparent dominance of a group of pottery from Quarry Wood Camp, Loose (Kelly 1971, 78–84), which parallels its occurrence at Hockers Lane, Thurnham and Snarkhurst Wood. The exact sources of this material remain uncertain (cf Peacock and Williams 1978), although Snarkhurst Wood is one possibility, as already mentioned, on the basis of the concentration of fabric B9.1 there. An oven-like feature (Fig. 5.37) examined at this site may have been a fairly simple pottery kiln, although the interpretation is not certain.

Residual or reinvented ceramic traditions broadly of Middle Iron Age character therefore existed alongside grog-tempering, the most widespread of the Late Iron Age traditions (albeit with Middle Iron Age origins), and more localised traditions of sand-tempering in the south-eastern part of the county (Thompson 1982, 14–15; Pollard 1988, 31) and shell-tempering in the north. It was rare for a single tradition to dominate the assemblage from any one site.

These mixed assemblages of Late Iron Age and very Early Roman date thus comprised almost entirely locally or at most regionally-produced material. They were occasionally accompanied by Gallo-Belgic imports, but with the exception of two sherds of Terra Rubra (fabric B12) from Whitehill Road, Terra Rubra and Terra Nigra were confined to Thurnham and the closely adjacent site of Hockers Lane. A range of Gaulish white wares also occurred; again these being concentrated at Thurnham, where sherds of all eight early imported white ware fabrics identified on HS1 sites were found. These fabrics were slightly more widely distributed than TR and TN, occurring also at Northumberland Bottom (WNB98), Snarkhurst Wood, Beechbrook Wood, Bower Road and Saltwood. Not all of these early imports were necessarily of pre-conquest date, however, and none need have dated before the early 1st century AD. One of the few demonstrably pre-conquest pieces at Thurnham was an Arretine platter, residual in a Roman context (Booth 2006b, fig. 4.7, no. 59).

Some of the Late Iron Age sub-regional ceramic traditions survived for a short time after the Roman conquest while others, particularly the grog-tempering tradition, developed through the Roman period. The problem of identification of production sites of this material persists throughout the period and it is possible that a number of minor centres were involved at all stages. Generalised east and west Kent and in some cases east Sussex connections can be identified in relation to some particular vessels. Patch Grove ware, probably from the Otford area of north-west Kent, is one distinct grog-tempered product certainly reaching the area in the mid 1st century AD if not earlier. Another very different tradition of comparable date was the north Kent shell-tempered industry (fabric R69). Like the grog-tempered tradition, this evolved and survived well into the Roman period.

Specialised post-conquest ceramic production in the Maidstone area is indicated by the finds from Eccles, where the production of tiles in distinctive fabrics seems on the basis of pre-Boudiccan finds from London (eg Betts 2003, 108; Pringle 2002) to have been underway before the construction of the villa there (Detsicas 1983, 120). In view of the relative proximity of Eccles and Thurnham it is unsurprising that the proto-villa and concentric building at the latter, probably built by *c* AD 70 if not a little earlier, were almost entirely roofed with tiles from Eccles (Betts 2006). However, there is effectively no evidence for the presence of pottery from the same source (Detsicas 1977b), even at Thurnham. Only at Northumberland Bottom was Eccles pottery

tentatively identified, and although some of this material reached London (Davies *et al.* 1994, 36–7) its distribution is otherwise sparse (Pollard 1988, 188–9). Pottery production at Eccles may have been very short lived and perhaps, in view of the range of vessel types represented, intended for a very specific and essentially non-local market. The tiles were certainly more widely distributed, but it is notable that by the later 2nd century, the date of the only known tile kiln structure at Eccles (McWhirr 1979, 157–8), this site had ceased to supply its products to Thurnham. No Eccles products were present in the ceramic building material assemblage from Northumberland Bottom (Smith 2006a).

Sharply contrasting ceramic traditions appeared in the northern part of the county from the mid 1st century onwards. The Thameside industry (Monaghan 1987), producing mainly (but not entirely) sand-tempered fabrics, seems to have included a number of specialist products (such as Hoo-type flagons) amongst a diverse repertoire of fabrics and vessel forms. The fine ‘Upchurch’ reduced ware fabric R16 with its oxidised correlates such as R17 and R18.1, is particularly characteristic of the period AD 50–150. These products seem to have achieved a wide distribution quite rapidly, and unsurprisingly were an important component of early grave groups at Pepper Hill. Further afield, at Bower Road, however, it was suggested that they might not have appeared until the early Flavian period. It may therefore have taken a little while for north Kent products to reach the southern part of the county, but at Westhawk Farm, close to Bower Road, fabric R16 seems to have been firmly established well before the Flavian period (Lyne 2008).

By the late 1st century, if not a little earlier, ‘Romanised’ sand-tempering ceramic traditions were augmented by material from the Canterbury kilns. This included mortaria and flagons as well as standard oxidised and reduced coarse ware forms (jars and bowls), but the quantities were never large. As with the Thameside products, the supply of Canterbury pottery to the HS1 sites spanned the early 2nd century, which seems to mark the transition from an ‘Early’ to a ‘Middle’ Roman ceramic phase. For most sites the most obvious marker of this change was the appearance of Thameside BB2-type ware (fabric R14). This was seen particularly clearly in a large late 2nd–early 3rd century assemblage at Thurnham, where such wares comprised some 36% of rim equivalents (REs). BB2 amounted to 5.9% of the total sherds at Thurnham—this was the highest representation at any HS1 site, but lower figures elsewhere often reflect the cessation of site activity in the 2nd or early 3rd centuries.

A comparison of the contributions of the Thameside and Canterbury industries to the larger HS1 assemblages (over 1000 sherds) in Table 5.5 shows that the former were always dominant.

The presence of only small totals of pottery from both sources at Whitehill Road, Snarkhurst Wood and Beechbrook Wood, and to a lesser extent Northumberland Bottom, is explained by the predominantly 1st century date of activity at those sites. The domination of the

Table 5.5 Percentage of site sherd totals of Thameside and Canterbury products

Sites	Fabrics	% Thameside	% Canterbury	Site sherd total
		products R14, R16, R16.1, R17.1, R17.2, R17.3, R18.1, R18.2, R73, R73.1, R73.2, R73.3	R4, R5, R6.1, R6.3, R9.1, R9.2, R10, R 96	
Pepper Hill		68.9	+	26,760
Whitehill Road		5.3	-	1441
Northumberland Bottom		13.9	0.6	3412
Thurnham		28.0	2.8	13,911
Snarkhurst Wood		3.5	0.2	1426
Leda Cottages		23.8	1.3	1882
Beechbrook Wood		5.8	0.4	3775
Bower Road		11.3	6.0	4175
Saltwood		20.7	2.3	4764

Pepper Hill assemblage by Thameside products is entirely in keeping with the location and date range of the site. Canterbury products were probably always scarce in this part of the county (Pollard 1988, 68).

A relatively high representation of Thameside products was maintained through the central and south-eastern parts of the HS1 transect. Even in the latter area these products seem to have been much more common than Canterbury ones. This may reflect a slightly greater diversity in the range of fabrics available from the Thameside industry, and in particular the importance of the fine fabric R16 which had no equivalent amongst the Canterbury products. In general the latter were more common at the south-eastern end of the route than further north-west, as would be expected given the relative proximity of this area to the source, only a little more than 20km distant. In view of this proximity the fact that Thameside products continued to outnumber Canterbury ones is all the more striking. From Thurnham south-eastwards this was in a ratio of 9:1 or greater, except at Bower Road, where the ratio was less than 2:1 and Canterbury products reached much their highest level (6%) in any HS1 assemblage. It is not certain why this was so, but a possible factor is the relative proximity of Bower Road to the route running south-west from Canterbury up the Stour valley. This suggestion might be supported by the fact that at nearby Westhawk Farm, lying astride this road, Canterbury products amounted to 5.4% of the total sherds, a very similar figure to that at Bower Road (Lyne 2008). Why the ratio of Canterbury to Thameside products at Saltwood should not have been similar to the Bower Road figure is unclear, however.

Canterbury coarse ware production does not seem to have significantly outlasted the 2nd century (Pollard 1988, 93–7). In contrast the Thameside and Upchurch industries continued to be a significant source of pottery for the region through the first half of the 3rd century, but production declined sharply thereafter, probably for economic reasons, although these are poorly understood (Monaghan 1987, 227–30). From the end of the 2nd

century onwards 'native coarse ware' (fabric R1; Pollard 1988, 98), a Middle Roman development of the grog-tempered tradition, was a component of many assemblages, but was not particularly important in numerical terms, being best-represented at Saltwood and Bower Road. A further development of this tradition from the late 3rd century, the grog-tempered wares of the LR1 family ('Late Roman grog-tempered ware'; *ibid.*, 129), constitute the most readily identifiable local/regional late Roman coarse wares (at Thurnham, LR1 fabrics comprised 46% of all sherds from one of the latest groups; Booth 2006b, fig. 4.10, nos 127–133), supplemented to a lesser extent by sand-tempered fabrics of the LR2 group. Neither group can be assigned to a particular source area. Equally, because it cannot be demonstrated that each derived from a single source, the character of production that they represent is unclear. It may have remained at a small-scale local level throughout the later Roman period, although this would be in contrast to broader Romano-British trends, which tend towards some concentration of production in fewer centres than in the 1st–2nd centuries.

This trend is reflected in the gradually increasing quantities of extra-regional coarse wares recorded on HS1 sites. These were only ever of any significance in the Late Roman period, and were therefore only encountered at a few sites. Alice Holt grey ware (fabric LR5) was the most important of these wares, supplemented to a lesser extent by oxidised 'Portchester D' fabric (LR6, whether or not this derived from the Overwey (Surrey) kilns) and other occasional fabrics. Some of these last fabrics, and also some local ones (LR1.3–LR1.6) and the 'imported' LR6, may have belonged exclusively to the mid/late 4th to early 5th century and mark the latest identifiable stage in the evolution of the pottery supply to the region. The occurrence of relatively high proportions of Oxford wares (12.7% of sherds in a late group from Thurnham, for example) is consistent with this development. At Hazells Road, the only overall site assemblage assignable to the later Roman period, Oxford wares comprised 8.6% of the total sherds and the Alice Holt and related fabrics (LR5, LR5.1 and LR6) amounted to 26.2% (38.1% by weight). Late Roman grog-tempered ware (fabric LR1) accounted for 7.4% of sherds but 'native coarse ware' (fabric R1) was more common, perhaps supporting Pollard's suggestion (*ibid.*, 126) that the latter might have continued in production into the 4th century. A coarse grey/black sandy ware (fabric R100), perhaps a Thameside product, was another important component of the assemblage, as it was at nearby Pepper Hill. If correctly assigned, it is more likely to have related to the earliest phases of activity at Hazells Road.

Pottery imported from the continent was present on many sites, but the quantities involved rarely amounted to more than a trickle. The only continental material to occur in quantities sufficient to suggest consistent trade was samian ware and even this was never common. Only at Leda Cottages did samian ware exceed 2% of the sherd count, although at Pepper Hill samian ware comprised 11.9% of the total assemblage by vessel count

(perhaps the most precise indicator of quantities in this particular assemblage), supported by a figure of 14.7% based on REs. The sources represented by both continental and extra-regional British material are uniformly consistent with the picture established by the work of Pollard (1988 *passim*) and there was a complete absence of exotica. Late Iron Age and Early and Middle Roman fine wares came mostly from north-eastern France and the Rhineland. Occasional mortaria may have derived from the same general area. Amphorae, where present at all, were also from predictable sources, dominated by southern Spanish olive-oil containers. Only the occasional early amphora fragments from Thurnham stand out as noteworthy and none of these was particularly diagnostic, though an Italian source seems likely and the fabrics are consistent with wine amphora forms such as Dressel 2–4 or perhaps (in the case of fabric B19.1) Dressel 1B. The late British colour-coated wares were supplemented by a few sherds from the Argonne region at Thurnham and Saltwood, and single sherds of Mayen ware from Hazells Road and Saltwood were the only late coarse ware imports.

Overall, therefore, the quantities of extra-regional pottery, whether British or continental in origin, were modest, and it is difficult to determine potential distribution mechanisms from their occurrence. The greatest quantity (though even here the quantitative distinction from other sites was not marked) and variety of such material came from Thurnham, by virtue both of the size of its assemblage, its chronological range and also, presumably, of its character, which may have linked the site to a different set of distribution mechanisms from those that served other settlements in the area (see further below).

Building materials and other stone products

Like pottery, building materials and other stone objects are of value for assessing trade because they can sometimes be assigned to particular source areas. Ceramic building material was relatively scarce, however, occurring in quantity only at Thurnham (Betts 2006), with smaller assemblages from Northumberland Bottom (Smith 2006a) and Bower Road (Smith 2006b), both probably consisting of recycled material, and negligible amounts elsewhere. The production of ceramic building material at Eccles has been mentioned above. This source was clearly important in the 1st century but had been superseded at sites like Thurnham by the early 2nd century at the very latest. A single fragment of Eccles tile was noted at Bower Road but it appeared to be absent at Northumberland Bottom. The distinctive cream-pink tiles characteristic of Eccles production were replaced at Thurnham principally by red roofing tiles, perhaps from the London area (fabric group 2815; Betts 2006), where they were certainly available by AD 70, with production continuing to around *c* AD 160. Tiles in this fabric group comprised almost half of the Northumberland Bottom and Bower Road groups. The latter occurrence might suggest that a London source for this material is not very likely, and a range of individual fabric types similar to

that seen in the London 2815 group is also found at Canterbury, 36km to the east of Thurnham and only 20km from Bower Road. The Canterbury tiles come from two production sites, Whitehall Gardens and St Stephen's Road, both of which seem to have been in operation during the 2nd century, the Whitehall Gardens kiln being dated to AD 130–140 (McWhirr 1979, 152–6). A further production site of early–mid 2nd century date has now been confirmed at Plaxtol, some 20km west of Thurnham (Davies 2004), but although its products occur at Lullingstone, Chalk and perhaps Darenth, and in London, (*ibid.*, 175) the fabric does not seem to appear amongst those recorded at Thurnham and Northumberland Bottom.

Other ceramic building material was mostly unsourced. Small amounts of tile from Northumberland Bottom were in fabrics (MoL fabrics 3060 and 3023) usually assigned to the Radlett area of Hertfordshire (Smith 2006a) and a single fragment from Bower Road may have originated from the tiliary at Hartfield, East Sussex (Smith 2006b). The range of the unsourced material (and even of tiles attributed to fabric group 2815) might suggest that further relatively local sources remain to be identified. One such source may have been located in the vicinity of Westhawk Farm, Ashford, where the nucleated settlement would have been a significant consumer and otherwise unsourced ceramic building material fabrics occur in some quantity (Harrison 2008, 265). Equally it seems almost certain that tile kilns would have been established in the vicinity of Springhead, for example, as has been suggested by Detsicas (1983, 65–6) and is suggested by the consistency of many of the fabrics observed there (Poole 2011). Better understanding of this source could transform understanding of the supply of ceramic building material in this part of north Kent.

The structural use of stone on HS1 sites was as restricted as that of brick and tile. This is despite the fact that Ragstone (a form of Greensand), an important building stone for the south-east and widely exploited for example in London (Marsden 1994, 80–4; Cowley 2005, 90), was quarried in the vicinity of Maidstone, perhaps both north and south of the town (Detsicas 1983, 169; Wheeler 1932, 103). The wider exploitation of this stone may have ceased before the later 3rd century on the basis of evidence from Richborough (Allen and Fulford 1999, 177, 181) but Hill (1980, 68) refers to 'a large quantity of fresh ragstone' in the context of the riverside wall at London, probably built *c* 270 (for the date, see Williams 1993, 13). If Allen and Fulford are correct then this may represent one of the last episodes of large scale exploitation of Ragstone.

Stone construction concentrated at Thurnham, the only other occurrences being enigmatic wall foundations at Bower Road and the corn drier structure at Hazells Road. Flint, which was widely available from the chalk, was generally used for foundations—poor preservation limits the extent to which it can be shown to have been employed for superstructures as well. Chalk itself was also used occasionally at Thurnham, perhaps to provide

decorative contrast with other materials. Ragstone was widely used at Thurnham and also for footings at Bower Road. As the local high quality building stone its use is unsurprising. Tufa was also used at Thurnham. It is found naturally in association with Ragstone (Worssam 1963) and was presumably exploited alongside it.

Of the stones in use for non-constructional purposes quernstones provide the clearest indication of movement of materials from outside the region. Local material consisted of Greensand querns, found at Leda Cottages (1), Thurnham and Northumberland Bottom (5 each). Many of these may have derived from the known source at Folkestone (Keller 1989), but only one of the stones from Northumberland Bottom, for example, was fairly certainly from that source. Leda Cottages and Thurnham also produced querns of Hertfordshire Puddingstone (2 and 3 respectively) while Thurnham was the only site to produce Millstone Grit stones that were certainly of Roman date, including two probable millstone (rather than quern) fragments (see above). A possibly imported Triassic sandstone fragment came from Leda Cottages, while the only certainly imported stones were of Niedermendig lava. This material was relatively common at Thurnham (50 fragments from 14 contexts) but because of its tendency to fragment in adverse soil conditions, as here, it is very difficult to assess its importance in relation to the other stone types. Lava fragments also occurred at Leda Cottages and Beechbrook Wood, while a single piece from Northumberland Bottom was probably of medieval date.

Highly fragmented lava was seen at Westhawk Farm where, however, this material not only dominated the fragment count but the fragments weighed more (*c* 24kg) than the stone from all the other sources combined. Amongst these, Millstone Grit and Folkestone Greensand were the most important (Roe 2008). For the northern end of the HS1 route the Section 2 excavations at Springhead provide a large and important comparative assemblage of lava (33 stones plus numerous fragments), Puddingstone (various sources, 31 stones; see Shaffrey 2007), Millstone Grit (19 stones), Greensand (12 stones), Lodsworth Greensand (4 stones) and others (4 stones) (Ruth Shaffrey *pers comm*). At the Marlowe Car Park sites in Canterbury, by contrast, the catalogued fragments (described as a 'representative sample') comprised 14 of Lower Greensand, 5 of Millstone Grit and 3 of lava (Garrard and Stowe 1995, 1206).

Iron production

Evidence for iron production, as opposed to iron-working (smithing) was recovered at Leda Cottages and Beechbrook Wood. At Leda Cottages this activity was represented principally by a group of four furnaces located some distance from the main settlement (Fig. 5.38), probably in use in both the Late Iron Age and Roman periods, although a further furnace was located within the primary partial enclosure (Diez 2006a).

The function of the furnaces is suggested partly by the character of the related slags. Tap slag, formed during smelting as the liquid slag is allowed to flow out contin-

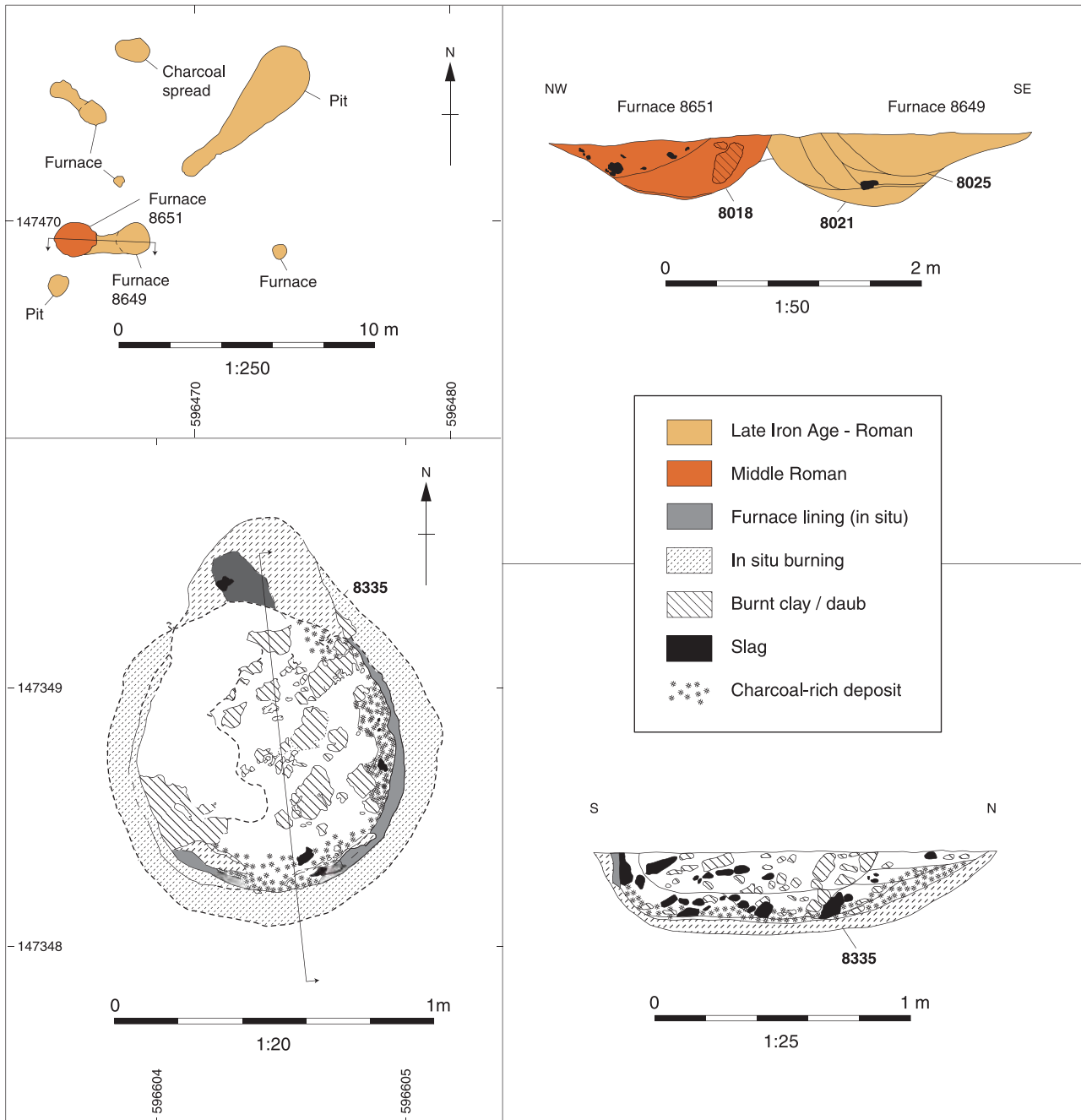


Figure 5.38 Iron smelting furnaces at Leda Cottages

uously or intermittently through a hole in the side of the furnace along a specially made channel into a hollow in the ground, was characteristic of the Roman period, but some 60kg of 'slag (pit) block' slag were also recovered. This distinctive slag would have been produced in a smelting furnace with a pit below in which the slag was allowed to collect, rather than being tapped out of the furnace. Slag blocks are common in southern Scandinavia, north Germany and Poland during the pre-Roman Iron Age and until recently examples found in England were believed to be of early Anglo-Saxon date. It is now becoming clear that slag blocks here are Iron Age in date, since several sites with Late Iron Age and Early Roman smelting but no later activity, as here, have produced them (Keys 2006a).

Slag and other metalworking debris were also found in contexts such as ditch fills associated with the settlement. It is likely that smithing activity was concentrated there, but some, presumably related to the primary smithing of blooms to remove impurities, may have occurred in the vicinity of the smelting furnaces.

At Beechbrook Wood features related to iron production, also in the Late Iron Age and Early Roman period, were concentrated in an enclosure (1022) in the northern part of the site (Fig. 5.39). Two pairs each of one large and one small hearth or furnace lay in the south-west corner of this enclosure and slag came from its ditch (Brady 2006a). In both cases only the larger of the furnaces/hearths contained smelting slag, while smithing slag was widespread, and it may be that the smaller



Figure 5.39 Beechbrook Wood north: General plan of Late Iron Age and Roman features with inset of probable iron-working enclosures

features were used only for smithing. Pits in an adjacent enclosure (1020) contained both smelting and smithing slag and may also have been associated with iron production. A possible spring lay within the latter enclosure and could have been utilised, particularly in relation to smithing. Different types of hammerscale indicate that smithing operations involved both the working of blooms and 'ordinary' secondary smithing (Keys 2006b).

The relationship of iron production to settlement at Beechbrook Wood is not clear, but it is likely that contemporary settlement lay closely adjacent to the excavated features just to the north of the area examined. A small undated posthole structure within enclosure 1022 is most likely to have been contemporary with metalworking activity and could have been a simple workshop. No evidence of iron-working was associated with the settlement area some 600 m to the south.

Elsewhere, small amounts of characteristic smelting slags (tap slag, run slag, and dense slag) were found in the Late Iron Age and Early Roman enclosure ditches at Thurnham. No hammerscale or smithing slag was present in these contexts, however (Keys 2006c).

As with pottery manufacture the scale of iron production, where present, appears to have been small and was potentially at no more than a domestic level, taking advantage of available raw materials—although surplus metal could have been traded with near neighbours, for example. This situation parallels that seen locally at sites such as Lower Runhams Farm, Lenham, where two furnaces were found (Philp 1994, 44–5), though the quantity of slag from that site was not recorded. At Westhawk Farm *c.* 1.5 tonnes of smelting and smithing slag were recovered (Paynter 2008), mainly from two workshop areas, and other potential areas of iron production have been identified within the settlement on the basis of geophysical survey. Even there, however, the scale of production, if more clearly organised than at the sites discussed above, appears minor in comparison with the principal Wealden sites (Hodgkinson 1999). The Late Iron Age–Early Roman emphasis on iron production in the HS1 sites may reflect the overall chronological profile of most of these sites, but was only short-lived at Thurnham. Elsewhere, and at Lower Runhams Farm and Westhawk Farm, iron production may have continued at a low level throughout the life of these sites, parallel with, and probably with little or no reference to, the quite different exploitation of resources to the south-west (except perhaps at Westhawk Farm, where a link with the administration of Wealden iron production is tentatively proposed; Booth *et al.* 2008, 390).

Iron smithing was always widespread, but typically at a low level of intensity. With the partial exception of the smithing activities directly associated with smelting at Leda Cottages and Beechbrook Wood, much the most significant and coherent evidence came from Thurnham, where one of the main rooms of the 2nd century villa house was used as a smithy in the late 3rd century after regular domestic use of the building had ceased (see Fig. 5.31). Here, exceptionally, the scale of the evidence suggests more than occasional activity in a domestic

settlement context. Perhaps smithing activities for the entire Thurnham 'estate' were concentrated here in this period.

Other aspects

A range of other crafts of varying importance would have been practised at many HS1 sites, but the evidence for these, such as non-ferrous metalworking, is largely minimal. Perhaps most importantly there is effectively no indication of textile manufacture at all. While the general absence of evidence for craft-working might be explained in part by preservation problems (such as the poor survival of bone) this cannot be the full story as there is at least limited evidence for the working of antler at Little Stock Farm, Thurnham and Bower Road (see above). The explanation for the lack of evidence of spinning and weaving remains elusive.

It is possible that salt production took place within the HS1 transect in North Kent during the Iron Age, based on the ceramic evidence of briquetage salt containers (Morris 2006). There is no such evidence for the Roman period, but trade in salt would have been very important. The main sources of supply were the North Kent marshes (Detsicas 1983, 170–1), where production may have been associated with pottery manufacture, in the Folkestone area and also in Romney Marsh. Direct evidence for the movement of salt is less common than might be expected, and the only probable briquetage fabric identified (BER15 in the Canterbury series) is a chaff-tempered one (Macpherson-Grant 1980b; Barford 1982) not assigned to a specific source by Barford (1995), but perhaps most closely associated with production in the north Kent marshes (Morris 2001, 391), although a Folkestone area source may also be possible (Lyne 2006). This fabric was widespread on HS1 sites, but generally only in very small amounts; fragments, fortunately quite distinctive, were also typically very small. The most frequent occurrences (by fragment count) were at Saltwood Tunnel and Beechbrook Wood, and tiny amounts were noted at Northumberland Bottom, Thurnham, Snarkhurst Wood, Leda Cottages and Bower Road. The quantities of briquetage recovered are such as to suggest that after production salt must have been transported in other types of container (although briquetage perhaps derived from Kentish sources (not closely defined) has been noted as far afield as Silchester (Timby and Williams 2000)). Some of these could have been of organic materials, but the use of north Kent shell-tempered jars as salt containers, found in London as well as further east, has been suggested (Perring and Brigham 2000, 154).

The dominant briquetage material recovered from north Kent sites closely adjacent to the HS1 route, however, was heavily organic-tempered. This type of material was present in several sites in the Dartford area west of Springhead, where most of it was of Late Iron Age and Early Roman date (Poole in Simmonds *et al.* 2011, 139; 232, 265), and at Springhead itself (Poole 2011). The character and quantities of material at these sites suggests secondary stages of production (away from the primary sources of brine) rather than just consump-

tion, whereas such evidence is lacking from adjacent HS1 Section 1 sites such as those at Northumberland Bottom.

The wider economy?

The limitations of the evidence relating to agriculture both for this period and earlier make assessment of developmental trends in the economy of the area in the Roman period very difficult. At the most basic level, a significantly increased number of settlements with associated fields and trackways suggests that the landscape was exploited more widely from the Late Iron Age onwards, but it is less clear if the level and character of production at individual sites were significantly different from what had been seen earlier. Changes in agricultural technology are not evident immediately. The most obvious indications of such change are the introduction of millstones and corn-driers. One of the two examples of the former at Thurnham came from a 2nd century context, while the other was Late Roman. The corn drier structures at Thurnham and Hazells Road (see Fig. 5.36) were both probably of 3rd-century date. These developments do not in themselves constitute evidence for intensification of arable production, although this may be suggested by the expansion of the range of weed seeds, some of which are indicative of the use of damp soils not previously exploited. Equally, increasing amounts of nitrogen-fixing plants suggestive of soil nutrient depletion would be consistent with over-exploitation, but the representation of such plants was never at such a level as to suggest that this was a serious problem. Animal husbandry may have seen an emphasis on sheep at some sites, but at Thurnham the balance seems to have switched in favour of cattle by the Middle Roman period. There is no indication of particular specialism in relation to either arable or pastoral production.

Other aspects of the rural economy are consistent with the agricultural evidence. Low-level pottery and iron production were supplementary activities in a long established tradition and emphasis on such production as

a primary economic activity was centred at some distance from the HS1 sites, in the marshes of north Kent and in the Weald respectively. The economic networks into which the HS1 farmsteads were linked remain unclear but may have been largely local in scope. They could have been articulated through villa estates or local market centres, or both. The lack of evidence for the nature of land holding makes reconstruction of these networks particularly difficult (see further below). Equally, the general lack of Late Roman settlements, and a consequent absence of associated coinage makes it difficult to assess the extent to which sites of this period (the only time at which coins are widely found on low status rural settlements in Britain) were integrated into any level of coin-using monetary economy. Table 5.6 shows the very limited quantity of coins from HS1 sites, with comparative figures from selected sites of different types from elsewhere in Kent (for Eccles and Canterbury, Reece 1991; for Westhawk Farm, Guest 2008). The HS1 figures generally reflect the early Roman date range of the sites from which the coins derive. Only the small groups from Hazells Road and Saltwood have 'typical' rural loss patterns dominated by coins of the period from AD 330 onwards. The coin lists otherwise require no further comment here.

Belief and ritual

Religion/ritual/ceremonial activities (apart from burial)

The HS1 Section 1 sites have produced a wide range of types of evidence for Romano-British religious practice, although in terms of both quantity and variety this evidence concentrates at the villa site of Thurnham, which shows a good range from individual features up to a possible (although, on balance, unlikely) example of a temple in a villa context (see discussion above). Formal structural evidence is lacking from the other Section 1 sites. More widely, the evidence from HS1 Section 2 for religious activity at Springhead (see above) is clearly

Table 5.6 Percentage of total coin loss by broad issue period (after Reece 1973, 230)

Site	Type	Issue period				Total coins
		A up to 260	B 260-294	C 294-330	D 330-402	
Pepper Hill	Cemetery & trackway	53.8	7.7	7.7	30.8	13
Hazells Road	Rural settlement & trackway	3.4*			96.6	29
Northumberland Bottom	Rural settlement	50			50	6
Hockers Lane	Rural settlement	100*				1
Thurnham	Villa	31.4*	15.7	21.6	31.4	51
Little Stock Farm	Rural settlement	100*				2
Bower Road	Rural settlement	44.4	22.2	11.1	22.2	9
Saltwood Tunnel	Rural settlement etc				100	11
Non-HS1 sites						
Eccles	Villa	23.0	33.9	3.8	39.3	183
Westhawk Farm	Nucleated settlement	93.6	3.4	1.5	1.5	326
Canterbury	Civitas capital	9.2	42.9	3.7	44.2	3215

*Includes Iron Age coins

exceptional both in quality and quantity. It is representative of monumental aspects of religious practice which are much more typical of nucleated sites than of other settlement contexts, and seen in their most Roman form in Kent in the fragments of Corinthian capital from a likely classical temple located within a substantial temenos at Canterbury (Blagg 1984, 66–8). Two typical Romano-Celtic temples at Richborough (Bushe-Fox 1932, 34–6; for the civilian context see Millett and Wilmott 2003) and a much less regular timber shrine at Westhawk Farm (Booth 2001) and the small roadside shrine at Monkton (Bennett *et al.* 2008, 102, 107–8) illustrate the range of possible structures in other nucleated settlement contexts. Isolated or relatively isolated rural temples are also known, however, with examples in roadside contexts at the western margins of the civitas at Titsey (Graham 1936; Bird 2004a, 155–6) and Greenwich (Wheeler 1932, 116–7; Sheldon and Yule 1979; Wallower 2002a; 2002b; Brown 2002, 301–5) and in the east at Worth (Klein 1928; Lewis 1966, 170, see also Holman 2005, 8–10). Much closer to the HS1 transect the poorly-known site at Blue Bell Hill, Aylesford, roughly 1km north of White Horse Stone, is generally thought to be a probable temple complex (Detsicas 1983, 145). It too lay close to (just east of) a road line, in this case the road south from Rochester, but from the account of closely adjacent discoveries (summarised in Wheeler 1932, 104) it is possible that the site was associated with nearby settlement of some kind.

At Boxted, just over 10km ENE of Blue Bell Hill, a Romano-Celtic temple of typical plan and probable 2nd-century date was located half way between the villa and nearby Watling Street (Wilson 1973, 321–2) in such a position that it could have served both the villa community and people passing by on the road (Detsicas 1983, 145–6). Similar settings may be found elsewhere, as for example at Claydon Pike, Gloucestershire, where a simple circular shrine lay 70m east of the late villa complex facing away from it towards a nearby trackway (Miles *et al.* 2007, 181–4). A different arrangement is seen at Lullingstone, where the circular ‘shrine’ and the temple mausoleum were integral parts of the villa site and its layout (Meates 1979, 25, fig. 2).

Was there a distinction between temples forming part of villa complexes, as at Lullingstone (and just possibly Thurnham), and those which lay away from the settlement focus but still within the territory of the villa estate—as probably at Boxted? Temples in such contexts may have had a different trajectory of development from those situated elsewhere in the region. As it happens there are broad similarities of chronology between the Thurnham concentric building and Lullingstone, in that the circular shrine at the latter may have been constructed in the early 2nd century and dismantled by the end of the century (Meates 1979, 121), at very much the same time as the demolition of the Thurnham building. This may be a coincidence, but it is curious given that the main domestic structures at both sites continued in use at this time. It is particularly unfortunate that there is no good evidence for the disuse of the

temple at Boxted. Pottery evidence, which suggests an early 2nd century construction date (Wilson 1973, 322), might indicate that the site did not outlast the 2nd century (Detsicas 1983, 145). This is speculative, but may be supported by comparable indications from the limited records of dating material from the 19th century excavations of the nearby villa (Wheeler 1932, 108–9). As already suggested, it is likely that the Boxted temple was intended to be accessed from Watling Street as well as from the villa site. In contrast to this possible chronological pattern, while there is some evidence for decline in the level of activity at Springhead from the later 2nd century it is clear that in the temenos south-west of Watling Street Temple 2, at least, continued in use into the 4th century (Detsicas 1983, 70). Temples closely linked with villas in this area may therefore have gone out of use early, but for reasons which remain obscure.

Although the situation at Lullingstone is less clear than at Boxted it is likely that temples in all these places were intended to be used by a wider population than simply the occupants of the villa sites. However it is interpreted, the considerable visual impact of the Thurnham building, indicated above, might suggest some intention to permit wider access to it, or at least a function not simply domestic in parallel to the proto-villa house. There were other striking aspects of the approach to Thurnham on the south-east, however, the most prominent of which was a setting for a large free-standing post, 0.50m in diameter, located on the slope running up to the enclosure 26m from its south-eastern boundary. This, accompanied by a further smaller standing post and several ‘ancillary’ posts, was erected in the proto-villa phase. The purpose of such a feature is of course difficult to determine, but the associations of comparable large posts are typically with sites or site components of a religious nature, as at Westhawk Farm (Booth 2001), Wood Lane End, Hemel Hempstead, Herts (Neal 1984) and at Ivy Chimneys (Turner 1999) and Heybridge (Atkinson and Preston 1998), both in Essex. Westhawk Farm provides a clear association between a shrine and standing post of 1st to 2nd century date, although there the two were integral. Wood Lane End had an arrangement of two free-standing posts set within the *temenos* associated with a significant religious complex (Neal 1984, see 206 figs 8 and 9 for comparison). The combination, size and spacing of these posts is closely similar to what is seen at Thurnham. Although dating evidence was lacking from Wood Lane End, the site had a Hadrianic peak and was probably active as a religious complex during the Flavian period, suggesting a close comparison in terms of date as well as structural detail (*ibid.*).

A further point of interest is the setting of these posts. At Thurnham the post arrangement lay outside the principal enclosure 37m from the possible temple building in a relatively elevated position. At both Ivy Chimneys and Wood Lane End the posts were also set a very similar distance from the associated temples in very visible positions but within *temene*. At Heybridge the post was actually placed in, and possibly marked, a

public area that was previously private, lying across the road from the temple complex (Atkinson and Preston 1998, 99). In the small town at Alcester, Warwickshire, a large post was sited at the edge of a gravelled area interpreted as a possible market space (Cracknell 1989, 30), and associations with religious enclosures or structures are less clear. The distinct similarities that exist between these examples and Thurnham suggest that they conform to similar principles in at least some important respects. The visual aspect and religious associations of these are generally clear. In each case the posts seem almost certain to have been significantly tall and free standing, although intimate contact with them may have been restricted, particularly at Westhawk Farm, where the uprights surrounding the main post setting might have carried screens rather than a formal roofed structure. In terms of chronology, Thurnham is the earliest well dated example although Westhawk Farm and Wood Lane End seem to be of the same late 1st to early 2nd century period and the Heybridge example appeared in the phase dated *c* AD 120–200. Ivy Chimneys is dated to the later 3rd century and so was probably later in date than the lifespan of the post at Thurnham, although this should not necessarily exclude the possibility that similar beliefs or reasoning relating to the raising of such posts were still held or governed their construction.

Few finds are ever related to these features, suggesting that they were not themselves the focus of cults or beliefs that required votive offerings. Equally, the possible temple at Thurnham itself was not distinguished by the presence of finds that shed any further light upon it, but such an absence of votive material, while relatively unusual, is paralleled exactly at Lullingstone (Meates 1979, 122), although the explanation that this was because the shrine was for the use of ‘a private family’ (*ibid.*) is not followed here. Nevertheless, a general absence of votive material is not uncommon in the context of temples closely related to villa complexes (Alex Smith *pers comm*) and is also seen in the shrine at Westhawk Farm (Booth 2001, 17). There is no suggestion in the admittedly summary account of the Boxted temple that this produced significant votive material.

At Thurnham the role of the large post in relation to the rest of the villa complex is uncertain. The wider associations suggest that these features served as markers—but whether they were passive signposts (‘ritual centre this way’) or features with other intrinsic characteristics and importance is impossible to say, though this might be suspected. Were the posts carved or otherwise decorated, for example? At Ivy Chimneys a possible association with the Rhineland tradition of Jupiter columns, more usually found in stone (Bauchhenß and Noelke 1981), was suggested (Turner and Wymer 1987, 55–7) but this was later rejected by Green (1999, 256–7). Fragments very likely from such a column come from the temple precinct at Springhead (Penn 1958; 87, 95, 108–10; 1967, 111, 113 and 123), although Blagg (1979, 229) fell short of a confident identification in the absence of supporting epigraphic evidence (he was more

optimistic later; Blagg 1985, 68), but it is impossible to say if timber and stone columns could have been considered comparable.

Other markers were present in the immediate vicinity of Thurnham. The most significant of these was a possible wayside shrine, also assigned to the Early Roman period, located adjacent to the trackway approaching the villa from the south-east at the point where this met a boundary ditch at right angles. The location was marked by an isolated post, but as this was not set very deep it was thought to be relatively short, unlike the large post further north-west. Above an associated cobbled surface was a small but significant finds assemblage. It included a Colchester derivative brooch, which may have been deliberately damaged, and part of the hollow cast bronze base from a fairly large statue, recovered from the adjacent part of the silt deposit sealing the trackway.

Archaeological evidence for wayside shrines is often very difficult to identify, although they may have been quite common features, particularly at crossroads (Bird 2004b, 77). At Monkton, the shrine (mentioned above) was a 6m square sill-beam structure and contained a pit with a Cologne hunt cup in it (Bennett *et al.* 2008, 102, 107–8, 170). At Thurnham, despite the lack of structural evidence the association of trackway, boundary ditch, free-standing post and specific artefacts appears more than coincidental. It may indicate the importance of the state of transition represented by movement across the boundary; the latter probably defined the enclosures most closely associated with the villa. Such a location could have been the site of regular activity integrated within the routine cycles of daily life. If this activity involved the placement of offerings it is likely that these were simple and organic (eg flowers or foodstuffs), with more substantial items reserved for special occasions.

The occurrence of ‘special’ or ‘placed’ deposits in pits, ditches and wells can probably be seen in a similar way. Such deposits were not commonly present in HS1 sites, one possible reason for this being the often poor survival of animal bone, which characteristically comprises a large part of such deposits as identified in the archaeological record. The tradition of such deposits was certainly established in the region by the Middle Iron Age, as it was encountered in a pit of this date from West of Downs Road, in the Northumberland Bottom area (ARC 330B pit 147) and again in the same area in the course of recent work on the A2 (Tim Allen *pers. comm.*). Some 600–700m further east two pits in the Late Iron Age–Early Roman complex contained deposits potentially in this category. One of these was the burial of a complete articulated horse, aged 11–15.5 years in a pit (437) on the west side of the enclosure east of Downs Road. This need not have been a ritual deposit, and the only associated finds, small quantities of 1st-century pottery, may represent no more than domestic debris. However, the spinal column of the horse showed fusing of two of the lower thoracic vertebrae indicative of riding stresses and it is possible that as (perhaps) a favoured riding animal the horse was given special burial. Less

than 20m east of this feature a large pit (564) had a basal ashy fill, but its main fill contained disarticulated unburnt human bone from at least two individuals, along with two fragments of loomweights and a Colchester-type brooch.

The most striking instances of special deposits of Middle and Late Roman date come again from Thurnham. The first of these was related to the expansion of the site in the Middle Roman period. Just east of the ditch defining the limits of the crop processing area associated with the 14-post building was a curious pit and gully (10570) arrangement. The pit measured 2m by 2.5m and was 1m deep with a flat base; the V-shaped gully fed into it. A complete small Patch Grove ware storage-jar was placed centrally in the base of the pit. This had been filled with well sorted charred chaff fragments, predominantly of spelt wheat, and was accompanied by the complete lower stone of a rotary quern of Lower Greensand (probably from Folkestone), two complete *imbrices* and a large roughly-shaped block of Greensand, carefully placed in the base and leaning against the side of the pit (Fig. 5.40). A mid to late 2nd century date seems most likely for the feature.

Ritual deposition of functional querns, particularly in pits, has been identified on many Romano-British sites; these objects have a readily interpretable association with food preparation (Hill 1995, 131; Clarke 1997, 75; Shaffrey 2003, 164). This symbolism would appear to be confirmed here by the association with a storage jar and the charred residue from the final stage of cereal processing. However, the role of the roof tile is less easy

to interpret, although it could represent the home. As the pit appears to have been dug at about the same time as the agricultural building was constructed its contents may have been intended as a foundation deposit to ensure the success of cereal production. The occurrence of a pot full of cereal chaff has a striking parallel in the roadside settlement at Wilcote, Oxfordshire, where a vessel filled with spelt chaff was recovered from a 2nd–3rd century feature interpreted as a clay quarry pit (Barber *et al.* 2004, 263; Pelling 2004, 331). This and associated features were also notable for containing ‘an assemblage of miniature, repaired, reworked and deliberately damaged copper-alloy and iron objects, with probable votive associations’ (Barber *et al.* 2004, 264), although the significance of these in relation to the chaff-filled pot was not discussed. Comparable deposits, in the sense of highly unusual combinations of artefacts, animal remains and so on, are seen at Lullingstone villa in the so called ‘tannage pit’, probably of late 2nd–early 3rd century date and an adjacent feature of the 4th century (Meates 1979, 106–10; Scott 1991, 116–7). Interestingly, the finds from the latter feature included large parts of two mill stones (Meates 1979, 110).

Another likely foundation deposit at Thurnham was a full term neonate burial (20431) placed in a corner of Room H at the north-east end of the early 2nd century villa house (see Fig. 5.26). The shallow grave was cut into the upper backfill of the earlier boundary ditch and sealed by the late 3rd and 4th century deposits within this room. The inhumation is most likely to represent the common practice of foundation burial associated with



Figure 5.40 Thurnham: Complete quernstone and large stone in partly excavated special deposit pit 10570

the new building. This need not necessarily represent a sacrifice, since 'a natural death may have resulted in the opportunistic use of a potential life force to ensure the longevity of the building' (Philpott 1991, 100–1). However, the existence of a marked peak in full term deaths such as this in the Roman period could be suggestive of infanticide immediately after birth and therefore potentially constitute evidence of such activity in a ritual context (Smith and Kahila 1992; Mays 1993), although Scott (1999, 89) makes the interesting point that infant sacrifice (outside the domestic context) characteristically involves slightly older children, as seen for example at Springhead Temple IV (Penn 1960, 118–22).

More speculatively, at Thurnham the solitary burial of a 4–8 month old infant (10640) in a small stone lined grave at the rear of the villa house (Fig. 5.41) might possibly be correlated with the end of domestic activity there. The child was placed in a wooden coffin, accompanied by two complete pottery vessels, a beaker and a dish, suggesting a date in the late 3rd century, the time at which use of the main house seems to have changed. The dating evidence cannot demonstrate a direct association of the two events and even if they were temporally close it would be impossible to establish any kind of causal relationship, much less any potential ritual aspect to the association. Nevertheless, the unusual positioning of the burial at this time might have been significant in terms of the sequence of development of the site.

Unusual late Roman deposits were encountered in the well (11010) probably constructed in the 2nd century adjacent to the 14-post building at Thurnham. The fills

included two lower rubble deposits overlain by organic-rich layers with a series of slender hazel stakes inserted around the interior circumference of the well in successive tiers as it infilled. One of the stakes produced a radiocarbon date of cal AD 250–540 (GU-9077; Allen and Lawrence 2006). The lower rubble deposit included the remains of two roe deer (*Capreolus capreolus*); a complete adult male and the partial remains of a juvenile less than 12 months old that was almost certainly originally complete. Also present were the remains of a near-complete female tawny owl (*Strix aluco*), several antler fragments from red deer (*Cervus elaphus*), the right side of a large male pig skull that had been purposely split in half and a mandible possibly from the same animal displaying cut marks consistent with the removal of the head from the carcass. Above the rubble infills the sequence of waterlogged deposits consisted almost entirely of organic remains, but a red deer antler and skull fragment and a pig mandible, reminiscent of the larger faunal assemblage, were present.

The combination of the faunal assemblage and the rapid rubble backfill, and the absence of typical domestic rubbish, allows comparison with 'unusual' deposits relatively widely encountered in Roman wells, particularly in the Late Roman period, and recognised as functioning beyond the normal confines of domestic use. A well-known parallel is the sequence within a well at Brislington villa, Avon, '...some tons of coarse building material, evidently the remains of the villa(overlay).... a large collection of faunal remains, mostly ox skulls....' (Barker 1901). At Bays Meadow, Droitwich, 4th-century



Figure 5.41 Thurnham: 3rd-century infant burial 10640

well fills included most of a red deer skeleton (Barfield 2006, 123). Poulton and Scott (1993) identify such sequences as representing specifically votive or religious deposits and entertain the idea that the primary function of such wells was actually ritual, particularly when they occurred as one of a pair (*ibid.*, 124). This interpretation could apply at Thurnham, the well being located away from the main domestic areas and being complemented by another well (12370) adjacent to the aisled building (and thus some distance away), in an area of continuing 4th century activity. Alternatively, and perhaps more likely in view of its position, well 11010 was originally functionally linked to the adjacent 14-post building, but was then subject to change of use in the Late Roman period.

A general scarcity of Late Roman evidence for ritual activity on HS1 sites is unsurprising in view of the lack of contemporary settlement, but the latest feature at Bower Road, a pit (242) dated AD 370–400, was assigned to this category on the basis of its finds assemblage, again, specifically, the animal bone, since a majority of its other contents may perhaps have comprised domestic rubbish. In addition to pottery, the lower fill of the pit contained fragments of a blue/green glass conical beaker of 4th-century date and a fragment of a glass bead or ring. Other small finds included nails, unidentified iron fragments, flints and fragments of fired clay and tile. The animal bone assemblage included several skulls and partial articulated skeletons of juvenile animals. A wide range of skeletal elements and species was present, including cattle, sheep/goat, pig, horse, red deer and domestic fowl. Some fragments had butchery marks. This unusual assemblage is suggestive of ritual deposition, a suggestion supported by the presence of a fragment of burnt human bone from the upper fill and an unburnt fragment of a human mandible from the lower fill. The mandible is that of an adult male and did not appear weathered or abraded, suggesting that it was not redeposited. A cut mark on the left angle of the ramus was probably made to green bone, but it is not possible to ascertain whether this was before or after death. A further fragment of unburnt human bone in good condition, a femoral head from an adult individual, conceivably the one represented by the jaw in pit 242, came from a layer 45m distant.

The association of human remains with special deposits of animal bones (and other finds) of the type already discussed is again a relatively common one, and increasingly recognised as having ritual significance (Esmonde Cleary 2000). Such ritual deposition seems to have been particularly common in 4th-century contexts. The Bower Road pit could possibly represent a terminal deposit made upon the final abandonment of the site. Except at Thurnham and Bower Road, however, special deposits of animal remains are relatively rare in HS1 sites of the Late Iron Age and Roman periods. Isolated animal burials need not necessarily have had special significance, but the burial of a mature adult horse at Northumberland Bottom (East of Downs Road), for example, was clearly made with some care (Fig. 5.42) and may represent a ritual act rather than simple disposal of an inconvenient animal corpse.



Figure 5.42 West of Northumberland Bottom: burial of adult horse, Late Iron Age or Early Roman

A well-recognised phenomenon in the region, that of ritual shafts, reflects practices probably related to the placing of special deposits in wells and pits. The limited depth of excavation of a number of potentially deep pit- or well-like features on HS1 sites, however, generally precludes identification of any potential ritual character, since the distinctive deposits that define the character of these features are often (though by no means exclusively) found towards their bases. This is particularly unfortunate in the case of a large circular feature (10415) at Pepper Hill, situated immediately east of the cemetery and separated from it only by the intervening holloway (see Fig. 5.44). The feature was 8m in diameter and at least 4m deep; engineering restrictions prevented full excavation. The lowest hand-excavated deposit yielded two fragments of an unburnt human long bone, but there were few finds from the upper fills. A little 1st–2nd century pottery was present and a coin of AD 322–325 from the top fill indicates that the infilling process continued at least into the early 4th century. It is impossible to say if the feature was dug before or after the establishment of the adjacent road early in the Roman period. Equally a ritual function cannot be proven but it can be accepted for analogous features

elsewhere in Kent (and further afield), of broadly similar date, although Webster (1997) is rightly more cautious about attribution of a certain Iron Age date than is Wait (1985). None of the examples from Kent is demonstrably Late Iron Age in origin, although continuous use of these shafts from the Late Iron Age into the Roman period is at least possible, and perhaps likely.

The Pepper Hill shaft is wider than other recorded examples from Kent, and very substantially wider than most, the nearest in size being an example from Greenhithe, which was *c.* 10.65m deep and up to 7m in diameter (Gatrill 1880; Webster 1997, 142). This example, like some of the others, was described as a 'dene hole' in origin, but such an explanation is unlikely at Pepper Hill since, although the solid geology is chalk, the superficial deposits were substantial and chalk was not encountered in the 4m depth of the feature excavated, although gravel and brickearth could have been extracted. Even if a utilitarian origin is possible, the features at sites such as Aylesford, Bekesbourne, Crayford, Deal, Greenhithe, Northfleet and Warbank, Keston (Webster 1997, 141–3; for Keston, Philp *et al.* 1999, 19–35) are all characterised by the presence of special deposits, most typically involving animal remains, although deposits of pottery and human remains are also common. A direct association with cemetery sites is indicated at Aylesford (Evans 1890, 320), and at Mill Hill, Deal (Parfitt and Green 1987; Parfitt 1995, 156), supporting the likely interpretation of the Pepper Hill feature. The Aylesford and Deal examples are amongst those perhaps most likely to have originated in the Late Iron Age on the basis of the dates of the associated cemeteries. At Deal, however, dated finds were of Early Roman date while the shaft at Aylesford had no associated artefacts. A date for the latter in the Late Iron Age (Wait 1985, 322) is plausible but is based purely on the cemetery association and is strictly unproven.

Further examples of features of this kind were examined in the course of the HS1 Section 2 work at Springhead (Andrews *et al.* 2011). These included a certain ritual shaft some 4.5m deep, the fills of which contained skeletal remains of at least 20 dogs, several buried with their chains, a number of near-complete pots, a human skull, a group of animal skulls and a cow placed in the bottom of the shaft, as well as other material more typical of domestic debris. A minimum of five other pits were also considered to be similar features on the basis of their physical characteristics (ie relatively deep and narrow) and also, in some cases, their contents (such as dog and other animal burials and/or large deposits of pottery) and location, for example in a pit alignment within the sanctuary complex.

Overall, Thurnham displays a striking typological and chronological range of evidence for religious activity, including limited evidence from human burial. Does this indicate that the site had a special character, or should these features be regarded as typical, but simply of types not always routinely recovered—and indeed, as in the case of the possible wayside shrine, of types which would in many cases be easily susceptible to post-deposition

dispersal? Regardless of the interpretation of the concentric building, it is likely that the construction of rural temples generally was often related to villa estates (Bird 2004b, 79), their owners being the individuals with the necessary resources and the social impetus to provide suitable meeting places for gods and men. Villas could clearly contain more modest household shrines, generally difficult to recognise in the archaeological record (rooms at Eccles and Farningham, for example, have been interpreted as shrines (Smith 1997, 289–90)), but more substantial provision for cult activities is probably represented by the cellars found at a number of sites (Perring 1989). There is a notable concentration of these in north Kent (*ibid.*, 280), at Lullingstone, Otford, Chalk, Burham, Hartlip, Faversham, South Street (Whitstable), Rodmersham and Richborough (*ibid.*, 296–8 with references). At all of these except Richborough, Perring suggests a villa context, even in the absence of a main house, as at Burham and Chalk (*ibid.*, 281), and at four of the five rural examples where evidence is available for their date of construction a late 1st century date is likely or possible. In this respect there is comparability with other temples such as Lullingstone, but use of the cellars seems to continue much later. A contrasting tradition of religious observance is therefore indicated, though as with 'estate' temples this could have involved the wider community since access to the cellars is 'usually from a public space' (*ibid.*, 283), and in a number of cases exclusively so, as in a later Roman context at Barton Court Farm in Oxfordshire (Miles 1986, 14) and in the second (late 2nd century) phase at Lullingstone (Meates 1979, 31–2).

Burials

The HS1 sites produced a variety of evidence for Late Iron Age and Roman burial. The most substantial component of this, the large cemetery at Pepper Hill, was adjacent and probably related to the small town at Springhead and will therefore be discussed in part in the context of reporting on HS1 Section 2 work there (Andrews *et al.* 2011). The Pepper Hill evidence is also important for understanding the nature of burial practice at rural settlements and in relation to wider questions about the character of society in the region, however, and will be drawn on here in that context.

The majority of burials encountered at sites other than Pepper Hill were cremations (an estimated 35 from 11 separate locations on 8 sites, as opposed to 5 inhumations (including 3 neonates) from 3 sites). This is partly a function of the chronological profile of the HS1 sites, in which Early Roman features are much more numerous than those of Late Roman date, although the evidence from Pepper Hill and elsewhere makes it clear that inhumation was also a very important rite in the Early Roman period (below). A complicating factor in assessing the relative importance of cremation and inhumation burials is the generally poor preservation of human bone, except when cremated, as a consequence of

acidic soil conditions. In situations where only scattered burials were present it is possible that some unaccompanied inhumation burials escaped detection partly through the failure of the skeletal material to survive. The number of such features should have been small, however, with the result that the overall ratio of cremation to inhumation burials is unlikely to have been significantly affected.

A concise summary of the burial evidence from Pepper Hill (Biddulph 2006a) is presented in Table 5.7. The numbers of burials certainly or probably of Late Iron Age or Roman date from other sites are summarised in Table 5.8, the sites being arranged in geographical sequence from the north-west end of HS1 Section 1.

The numbers are not large, but they demonstrate the common association of burials with Late Iron Age and Early Roman settlement, albeit that the exact nature of the association is not always clear. In some cases the groups can be categorised as a small cemetery. This was particularly the case at Saltwood Tunnel, where ten cremation burials (eight closely-spaced and two further removed) were placed within a small enclosed area located at a trackway junction, although it is possible that these burials were at some distance from contemporary settlement (Fig. 5.43). Even here, however, it is unlikely that the enclosure was specifically intended to contain the cemetery. No other examples of contemporary enclosure were identified, but small discrete groups

Table 5.7 Pepper Hill; quantification of funerary feature type by period

Phase	Inhumation burials	Cremation burials	Cenotaph/disturbed cremation burials	Busta	Pyre sites	Other funerary related features	TOTAL
Middle Iron Age	1						1
Late Iron Age–Early/Middle Roman	193	92	17	6	13	7	328
Middle Roman	43	34				2	79
Middle/Late–Late Roman	17	7	1				25
Roman uncertain	95	12	8	1	3	8	127
TOTAL	349	145	26	7	16	17	560

Table 5.8 Late Iron Age and Roman burials from sites other than Pepper Hill

Site	Date	Inhumation burials	Cremation burials	Disarticulated & ex situ bone	Comment
Northumberland Bottom	LIA/ERB	2 neonates	1 unurned, 1 urned	2 adults	
White Horse Stone	Roman			1 fragment	probably redeposited IA
Thurnham	c AD 120	1 neonate			probable villa foundation deposit
	late 3rd century	4–8 month infant			in coffin in stone lined cist
Snarkhurst Wood	LIA/ERB		1 unurned, ?1 urned		pedestal urn in unexcavated feature
Chapel Mill	LIA/ERB		2 unurned		
Leda Cottages?	LIA/ERB			1 redeposited cremation	
Tutt Hill	LIA/ERB			cremated fragments	
Beechbrook Wood	ERB		6 urned		in south part of site, 5 form a group
	ERB		?2 unurned		in north part of site; poss redeposited pyre debris
	?Late Roman		1 unurned		?auxiliary vessel 120–220, C14 date 220–420
Boys Hall	LIA/ERB		3 unurned, 2 urned		2 unurned cremations have associated pottery vessels
Bower Road	MRB 4th century		1 urned	in 2 contexts	
Little Stock Farm	Roman uncertain		?1 unurned		C14 date 80–330
Saltwood Tunnel	LIA/ERB		1 unurned, 9 urned		'western group'
	LIA/ERB 4th century	1 adult	4 unurned		'eastern group'

of burials were present at several sites and the significance of their locations must have been clearly understood even without formal definition by features such as ditches. A group of four unurned cremation burials north of Bronze Age barrow 10082 at Saltwood (and only *c* 100m east of the cemetery group already mentioned) may have formed such a cluster. Much tighter groups were seen at Boys Hall Balancing Pond and Beechbrook Wood, each with five cremation burials. The Boys Hall group lies within an area of intensive activity, with Late Iron Age–Early Roman features located *c* 70m to the west in the HS1 watching brief (URS 2000a) and some 120m to the north in earlier work (Booth and Everson 1994), and a dense complex of Middle and Late Iron Age features located less than 100m to the east (Anker and Biddulph 2011). The Beechbrook Wood group, in the southern part of the site, lay immediately outside an enclosure ditch, which may have gone out of use at about the time the burials were put in place (Fig. 5.43). Elsewhere the precise significance of the location of individual burials is uncertain. The use of formal and apparently less formal burial locations in relatively close proximity, however, is seen very clearly in the roadside settlement at Westhawk Farm, Ashford. Here some 11 cremation and eight inhumation burials lay within a small ditched cemetery in a classic settlement margin location. Elsewhere, however, a further eight cremation and two inhumation burials were recovered from no less than seven separate locations within and towards the margins of the settlement, most of these burials being contemporary with the use of the cemetery. There were

probably very specific reasons why these scattered burials were placed as they were, but it is clear that there was no overriding compulsion to use a single defined burial place. Such a situation can probably be assumed to have been typical in a rural settlement context; while location could have been related to family groupings, or issues such as the status of the deceased, this cannot usually be determined in individual instances, and other factors could have been important.

The small groups of burials that seem to be typical of the HS1 sites are characteristic of the region and period (eg Hill 2007, 28), and also of northern France in the Late Iron Age (Haselgrove 2007, 499). A number of small rural cemeteries are known from the region, particularly from the south of the county. That at Cheriton, near Folkestone, for example, appears closely comparable to the Saltwood cemetery in a number of respects; its approximate size (nine recorded groups plus an uncertain number of others indicated by disturbed pottery), its pre-conquest to 2nd century date range and the presence of brooches (Tester and Bing 1949). More recent cemetery finds include one from the low Weald, at Ulcombe (Aldridge 2005, 176–9). By contrast, cremated human bone recovered from a number of Late Iron Age to Early Roman pits at Dartford Football Club does not appear to represent formal cremation burials, though these may still have been special deposits (Devaney and Stansbie 2011, 250, 276).

The most spectacular recent discovery of Early Roman cremation burials in Kent is very closely relevant to HS1, because it involves a group of burials directly associated with the enclosed settlement at Northum-

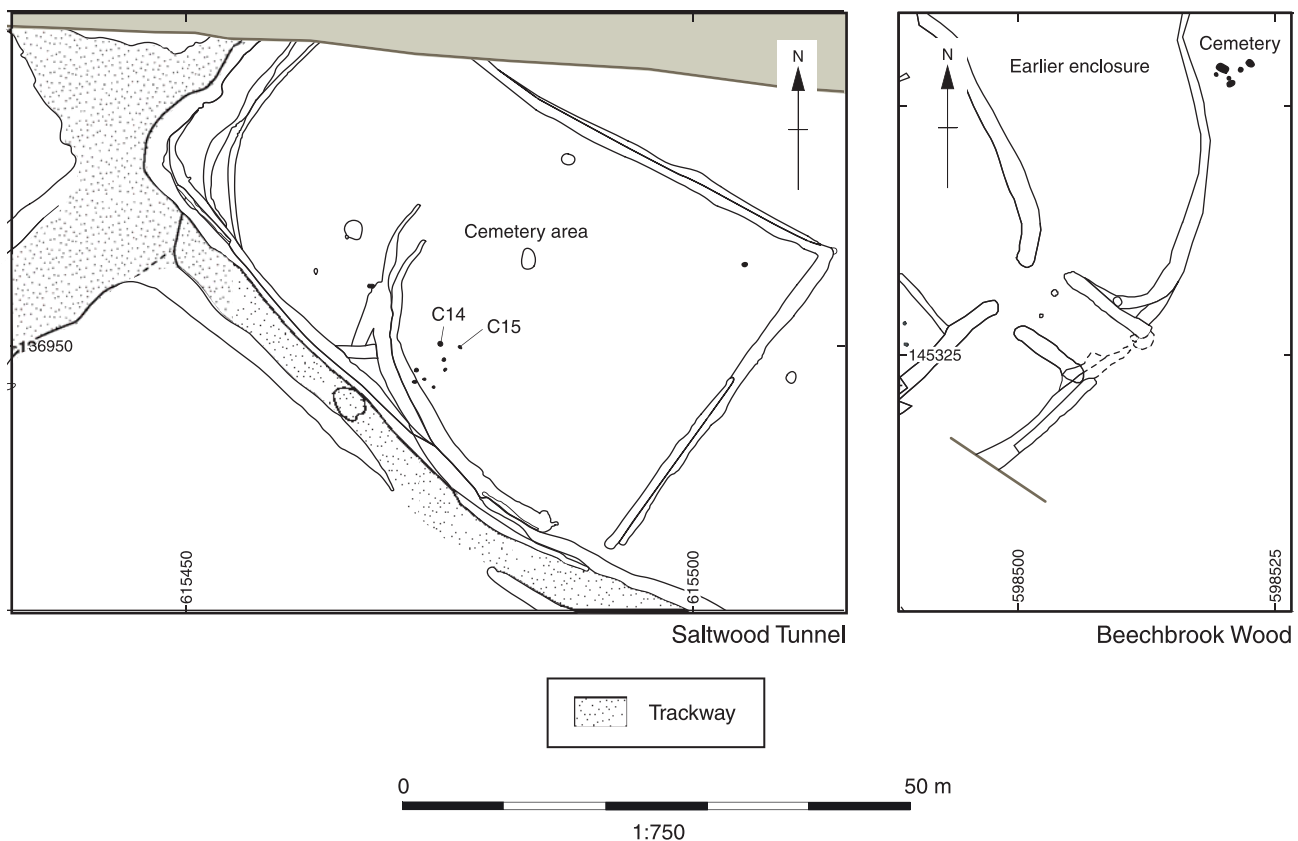


Figure 5.43 Comparative plans of rural cremation cemeteries: Beechbrook Wood and Saltwood Tunnel

berland Bottom west of Wrotham Road (see Fig. 5.16). These were discovered in the course of work on a new stretch of the A2 in 2007, lying within further ditched components of the enclosure complex, barely 100m north of the HS1 trace (Allen *et al.* forthcoming). The earliest and largest of these burials was an isolated one, placed in a pit 2.4m square and 0.7m deep. Associated goods included a table on which were placed 13 pottery vessels with four further vessels below, a gaming board, three bronze vessels (a patera, ewer and large decorated bowl, the latter containing a further pottery vessel), a brooch (perhaps securing a bag which had contained the cremated remains) and the head and forelegs of a pig. This burial, dated *c* AD 50–65, may only have been enclosed after it was put in place.

Seven more burials were contained within a smaller square-ditched enclosure at the north-western corner of the settlement. Two of these were also high-status cremation burials in pits *c* 1m square, but of very similar date to the first burial. One contained a bronze patera and jug, a folding board with bronze hinges, a small bronze-bound box with multiple compartments and a bronze spatula on top and a bronze-sheathed stone palette next to the box. There were fourteen pots, again including fine dishes, cups and beakers, two flagons and a Drag 29 bowl. Pig bones were present and again the cremated remains were found with an unburnt brooch.

The second elaborate burial in the group of seven contained the cremated remains of a woman. An adjacent brooch perhaps again suggests that the bones were in a bag, but nails and bronze fittings indicate that the bag lay within a wooden box occupying the full width of the grave. Two ceramic platters placed on edge along the line of the nails probably leant up against the edge of the box. Other goods included three further pottery vessels, a square bronze mirror with a patterned leather backing, a wooden casket decorated with bronze plates, drop handles and rings, and a glass perfume or ointment bottle. These burials and two more cremation burials in the same group are all dated *c* AD 50–70. A further cremation burial is not so well dated, while two inhumation burials in the same groups were rather later, one being associated with a 3rd century coin.

Like most of A2 Tollgate burials just described, the great majority of the dated burials from the minor HS1 sites are of the Late Iron Age to Early Roman period. Of the burials with associated ceramic material only one—the late 3rd century infant inhumation from Thurnham discussed above—certainly postdated the late 2nd century. The only adult inhumation outside Pepper Hill, from Saltwood, was dated to the 4th century. More problematic was an isolated cremation burial (1344) from Beechbrook Wood, associated with 1st and 2nd century pottery but with a radiocarbon date of cal AD 220–420 (NZA 20051). Here it may be safest to assume that, since it is not clear that any of the fragmentary pottery represented either an urn or grave goods, the sherds were residual within the fill, although it is also possible that, as has been clearly demonstrated at Pepper Hill and elsewhere (see now Wallace 2006), pottery

vessels, not just of samian ware, could be quite old when placed in graves. A solitary cremation burial from Little Stock Farm also had a radiocarbon date (cal AD 80–330, NZA-19917) suggesting that it was at least of Middle Roman date.

The preponderance of cremation burial in the Early Roman HS1 sites is clear. This was clearly an important rite in the late pre-Roman Iron Age of Kent, as is demonstrated by the cemeteries of Aylesford and Swarling (Evans 1890; Bushe-Fox 1925), to name but the most obvious examples, and its chronology and origins in southern Britain in the 1st century BC have been reviewed concisely by Fitzpatrick (1997, 208–11). The rite, however, may have an even longer history as a cremation burial from the A2 Pepper Hill works is firmly dated by radiocarbon to the Middle Iron Age (Allen *et al.* forthcoming). In its post-conquest manifestation, the tradition then becomes subsumed in ‘mainstream’ north-west provincial Roman (but also pre-Roman) practice (eg Van Doorselaer 2001, 9). Inhumation burial, however, was also an established tradition in the region in the Late Iron Age. This is best demonstrated at Mill Hill, Deal, where the earliest extended inhumation, probably of the early 2nd century BC, introduced ‘a rite that remained the norm for inhumations here for the rest of the Iron Age and into the Roman period’ (Parfitt 1995, 155), and was more common than cremation at Deal. Elsewhere in the county, inhumations positively assigned to the Late Iron Age rather than a less precise Late Iron Age–Early Roman date are relatively rare, the best examples probably being those from Highsted, Sittingbourne, with 20 inhumation and 6 cremation burials (Kelly 1978, 267; Thompson 1982, 820–1), while isolated cases are listed by Parfitt (1995, 157). The most significant recent examples are the pair of burials with weapons from Brisley Farm, Ashford (Johnson 2002). The wider context is considered by Philpott (1991, 55–6), although much of his subsequent discussion relates to the ‘introduction’ of inhumation from the continent, particularly from the mid 2nd century AD onwards (*ibid.*, 57–8). Further afield, early inhumation burials occur in south Essex at sites such as Mucking and North Stifford (Going 1993, 19; Wilkinson 1988, 37). Seventeen Late Iron Age or Early Roman inhumation graves were encountered at the King Harry Lane cemetery, Verulamium, some, like many of those at Pepper Hill, unfurnished (Stead and Rigby 1989, 81), and other Early Roman inhumation graves have been found at Baldock, though again accompanied by many more cremation burials (Frere 1984, 304).

At Pepper Hill a single prone burial of an adult male was dated by radiocarbon to 350–40 cal BC (KIA-23946), but appears to be chronologically isolated, so its relevance to the later cemetery is uncertain. Inhumation burial was, however, a major component of the Pepper Hill cemetery from its earliest post-conquest phase, and the same seems to have been true of the smaller cemetery at Westhawk Farm (above), although close dating of the earliest graves there is difficult. There seems little doubt, therefore, that the apparently simultaneous appearance

of both traditions in early post-conquest cemeteries in Kent reflects their derivation from ongoing indigenous practice. At Pepper Hill the importance of inhumation was maintained and it may have become the dominant rite in the Late Roman period if the majority of the undated inhumation burials were of that date. Precise figures are not available for Ospringe, the only other substantial Roman cemetery in the area, but of a total of some 387 burials, 'the great majority' contained cremations (Whiting *et al.* 1931, 4, 6). Further work on this site by Malcolm Lyne (pers. comm.) has shown that none of the pottery associated with inhumation burials dates before the middle of the 2nd century AD, so Ospringe appears to be in strong contrast to Pepper Hill, conforming to the more widely recognised pattern of 'introduction' of inhumation burial from the later 2nd century onwards.

First-century AD inhumation burials are recognised to the west, for example in the east London cemetery (Barber and Bowsher 2000, 300). Unfortunately the date range of the cemetery period 1 (AD 40–197) potentially encompasses burials both in the early native tradition and from the mid–late 2nd century onwards which could represent either a survival of that tradition or the 'reintroduction' of inhumation, and it is not clear how many of each category is present. A few of the east London inhumations clearly predate the late 1st century, however (eg B435, dated AD 40–80; *ibid.*, 193–5), although they are presumably a minority of the *c.* 68 inhumation burials notionally assigned to Period 1 (*ibid.*, 12, table 4). Isolated early inhumation burials are also known from the Tower of London (Parnell 1985, 5, 7) and Southwark (Dean and Hammerson 1980). A wider survey of Greater London reviews the same evidence but adds no further examples (Perring and Brigham 2000, 148). Nevertheless, the Kent evidence fully supports the conclusion that the eastern London cemetery possibly 'reflects a pre-Roman inhumation tradition in the London region' (Barber and Bowsher 2000, 300). Two early or mid 2nd century crouched inhumation burials at the Stratford Market Depot site, West Ham (Hiller and Wilkinson 2005, 17–20), may reflect the survival of an Iron Age tradition also seen in an Early Roman context (burials 11386 and 12047) at Pepper Hill.

These differences must have implications for the understanding of the communities from which the burial population derived. In Kent the distinction does not appear to correlate with the character of associated settlement, however, since Ospringe and Springhead would usually be regarded as of similar type, and are relatively close (*c.* 40km apart). It is unfortunate in this respect that there is little burial evidence from Rochester. Equally, it is curious that the rural evidence, where pre-conquest traditions would be expected to be well-represented, is generally poor. With the exceptions of Deal and Highsted, the known rural cemeteries of 1st and 2nd century date are mostly dominated by cremation burials, a pattern with which the HS1 evidence is consistent, and are characteristically small, as discussed above. A recent exception, however, is the discovery of a small

inhumation cemetery of seven graves containing the remains of nine individuals on the new A2 works barely 1km east of Springhead (Allen *et al.* forthcoming). These burials are not well dated, but pottery from one falls in the range AD 120–250. The group as a whole may be of Middle Roman date, but as such forms a contrast with the small HS1 cemeteries discussed above. A further contrast is indicated by a substantial cemetery some 18km west of Pepper Hill at Woolwich. Here, some 158 north-south aligned inhumation burials and perhaps 9 cremation burials formed part of a larger cemetery, apparently within a rectilinear enclosure. Unfortunately bone preservation was even worse than at Pepper Hill, and the settlement associations of the site are not clear, but the dating evidence suggests that this cemetery may be entirely of Late Roman date (Ford *et al.* 2002) and it therefore differs markedly from the combined picture given by the various HS1 cemeteries. In both date and character it seems much closer to a cemetery sample of similar size (but predominately east-west alignment) known at Dartford (Frere 1990, 363–4).

Pepper Hill: physical characteristics of the cemetery

The siting of the Pepper Hill cemetery has already been mentioned. The most striking characteristics are the relative distance from Springhead, its tightly constrained plan, adjacent to a minor road running south from Springhead, and its early (possibly pre-conquest) start date. Much of this suggests that the location of the cemetery some 500m south of Springhead itself may have had less to do with Roman urban law than with referencing sacred Iron Age features, particularly the boundary and perhaps the single early grave and the adjacent well or shaft. It also served to distance the dead from the settlement 'in time as well as space' (cf Pearce 1999, 157). Biddulph (2006a) suggests that the topographical setting might also have influenced the cemetery's location. The funerary procession, on leaving the religious centre (later 'town'), would move uphill towards the cemetery. The slope is gentle and the total rise barely 10m, but following the straight path of the holloway southwards, the cemetery would have been clearly visible on the horizon. A comparable and probably deliberately chosen setting has been noted elsewhere, for example at Brougham (Cool 2004, 463).

The cemetery extended for a distance of *c.* 75m principally along a north-south axis, and measured almost 20m across its widest point (Figs 5.44 and 5.46). It was bounded on its western side by a ditch and gullies, and on the east by the slightly sinuous road. In its re-alignment along a north-south axis in the northern part of the site the road perpetuated the line of an Iron Age ditch. This may not have been accidental, as it is possible that the ditch was visible when the route was set out. The absence of burials above or west of the ditch seems to attest to the continued importance of the boundary position, if not the ditch itself, after the conquest.

Initial use of the cemetery resulted in a particularly strong concentration of features in the central area. The extent of intercutting evident at this point reveals how



Figure 5.44 Pepper Hill: Iron Age and Early Roman phase plan

desirable this location was. The regular, almost square, shape of the concentration itself hints at the existence of an internal boundary; perhaps the area was fenced off to create a separate burial enclosure, although there is no other indication of this. This area straddled the projected line of the Iron Age ditch and it is possible that the association with an important boundary was still considered important and resulted in this concentration (Biddulph 2006a).

Middle Roman graves lay mainly in the southern part of the site, though graves of this period were identified in central and northern parts as well. Again, graves followed the alignments of the boundaries. Burials continued to be made in the central concentration at a lesser rate, but it is notable that these appeared to form a circle with two Early Roman inhumation graves (11998 and 11689) at its centre. There is no obvious factor that distinguishes these two graves as particularly noteworthy, although the fact that all the burials forming the circle contained beakers adds to the curiosity. The few dateable Late Roman graves present were in the southern and central parts of the site. Just one followed the east-west orientation favoured at many late Roman cemeteries

A series of seven *bustum* (*in situ* cremation) burials formed another coherent group in terms of rite, location

and date. All were confined to the central area and, except for an undated feature, belonged to the mid to late 1st century AD. As this part of the cemetery also contained most of the defined pyre sites (eg Fig. 5.45), it can reasonably be suggested that this area was a preferred location for cremation, albeit of limited use, since the pyre sites were apparently used just once. Possible cenotaph features largely avoided the centre of the site, which argues against an association with the *busta* (see below).

No certain family burial plots such as the small enclosed group examined to the north between Pepper Hill and Springhead (Philp and Chenery 1997) were identified. However, three cremation burials (185, 1439 and 1440) found inside the cut of inhumation grave 203 were considered by the excavator to have been placed contemporaneously. This might represent the burial of family members who had died at the same time from disease (the skeletal remains perhaps derive from two adults and two children, bone from one of each occurring in burial 185), or whose cremated remains were stored above ground until all the individuals could be buried together (Witkin and Boston 2006). Similarly, inhumation grave 448 subsequently contained three cremation burials (446, 1433 and 1434) that might represent another family group, although 1434 was perhaps 50 years or more later than the other two. Other possible family groupings have been tentatively identified; some might perhaps have been symbolised by the deliberate intercutting of graves (Biddulph 2006a).

The location of certain features, and consistency of grave orientation with constant reference to boundaries, reveal a strong element of central organisation. Such planning would be expected, indeed necessary, in an urban cemetery, such as those in London (Barber and Bowsher 2000, 333), but it was clearly important here as well. One aspect of organisation might have related to the provision of clear paths in the cemetery, giving access to graves for mourners and other elements of the funeral procession. Such routes are difficult to identify at Pepper Hill. In the Early Roman phase a somewhat winding path can be traced through the length of the cemetery, and is clearest in the centre, where it separates the cluster of burials on one side and the *busta* and pyre sites on the other. Whether this describes an actual path is uncertain, but movement from the northern to southern parts of the cemetery would be expected if the procession left the road from Springhead at the north end of the cemetery where the road turned towards the south-east. The Middle Roman graves did little to alter this route, although some of the undated graves—many of which are likely to belong to the 1st or 2nd century AD—would have encroached on the path, especially at the north. It is unclear if there was ever an entrance to the cemetery on its west side. One very striking feature of the layout of the cemetery in this area, however, was the re-entrant angle formed by the boundary gullies that defined the central part of the west side. The reason for this configuration is unknown, although part of the area was occupied by a cobbled surface in the Middle Roman



Figure 5.45 Pepper Hill: probable pyre feature (10596)

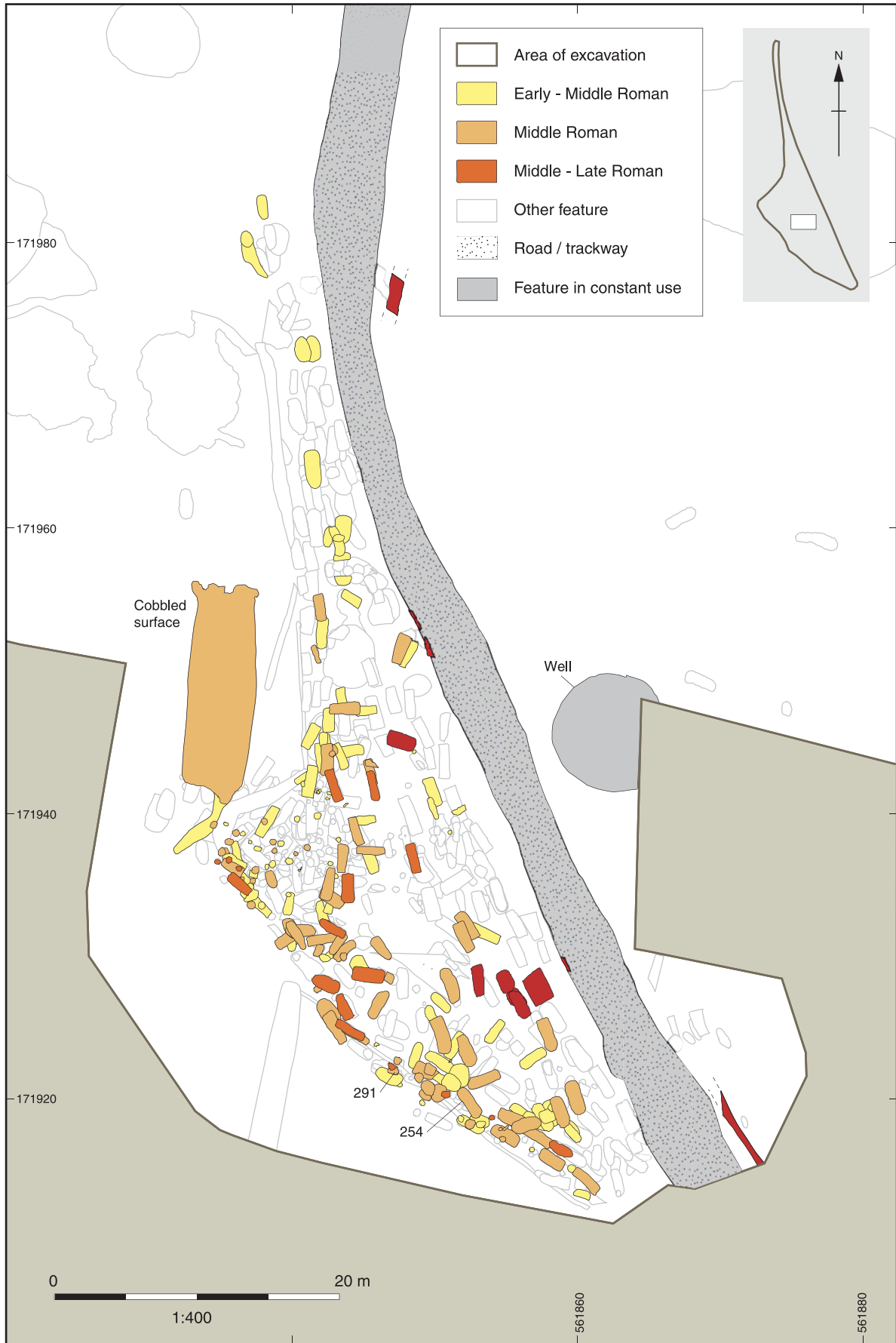


Figure 5.46 Pepper Hill: Early/Mid to Late Roman phase plan

period. The fact that a very similar arrangement of re-entrant gullies was associated with the cemetery at Westhawk Farm (Booth *et al.* 2008, 125, fig. 3.62) may simply be coincidental, but the morphological similarity is striking.

Strict organisation is also suggested by the lack of significant expansion beyond the cemetery boundary, though natural obstructions might also have been responsible. Only a very few graves were dug either west of the boundary ditch or east of the road. Throughout the life of the cemetery, however, some areas remained free of graves. If all parts of the cemetery were available for burial, then given the extensive intercutting, the presence of gaps—some quite large, particularly in the centre of the site—is surprising. This suggests an extraordinarily consistent central planning regime that lasted over 200 years. But obstacles may have prevented burial too. Trees, such as evergreens which symbolised eternal life (Kreuz 2000, 50), might have punctuated the mass of the graves, although no direct evidence was found within the cemetery, in contrast to an area east of the road, where tree-holes were uncovered.

Containing the dead

Treatment of cremated and inhumed remains was variable. At Saltwood all but one of the group of ten cremation burials was placed in a ceramic container, and all five cremation burials in the southern group at Beechbrook Wood were placed in pottery vessels. Table 5.8 shows, however, that this ratio was unusually high, although groups consisting exclusively of unurned cremation burials tended to be very small. At Pepper Hill some 55% of cremation burials were contained in pottery urns (Biddulph 2006a), and their use was more frequent during the Mid Roman period compared with the earlier phase (cf Fig. 5.47).



Figure 5.47 Pepper Hill: Unurned cremation burial 1520. The cremated remains lie between vessels deposited as grave goods. Late 1st–early 2nd century AD

Cremated bone was occasionally placed in a wooden casket, one example of which (from grave 291) was decorated with copper alloy fittings and lion-headed studs, resembling those from two casket burials at Skeleton Green, Hertfordshire (Borrill 1981, 315–6). Nails from this burial also suggest the presence of a funeral bier used to carry the deceased to the place of cremation. This example adds to the casket burials known from Canterbury and Faversham (Philpott 1991, fig. 3; Partridge 1981, table XLVI), although the emphasis of the distribution of this burial type remains in Hertfordshire and Essex. Coffins had been placed in a minimum of 175 (49%) inhumation graves at Pepper Hill, in some cases indicated by the survival of a stain within the grave fill (Fig. 5.48).

Fittings were rare, and the planks or boards of most coffins had been fixed simply with iron nails. If necessary, the corners were reinforced with more nails. Some coffins at least were lidded, as is shown by nails driven vertically into the top of the long planks (Fig. 5.49). As with cremation urns the use of coffins appears to have been more popular in the 2nd and 3rd centuries compared with the 1st. It is possible that pegged coffins, which



Figure 5.48. Pepper Hill: Mid-late 1st century inhumation burial 11668. The coffin and skeleton survive largely as stains in the soil. A beaker and a dish are placed at the head end of the grave outside the coffin.

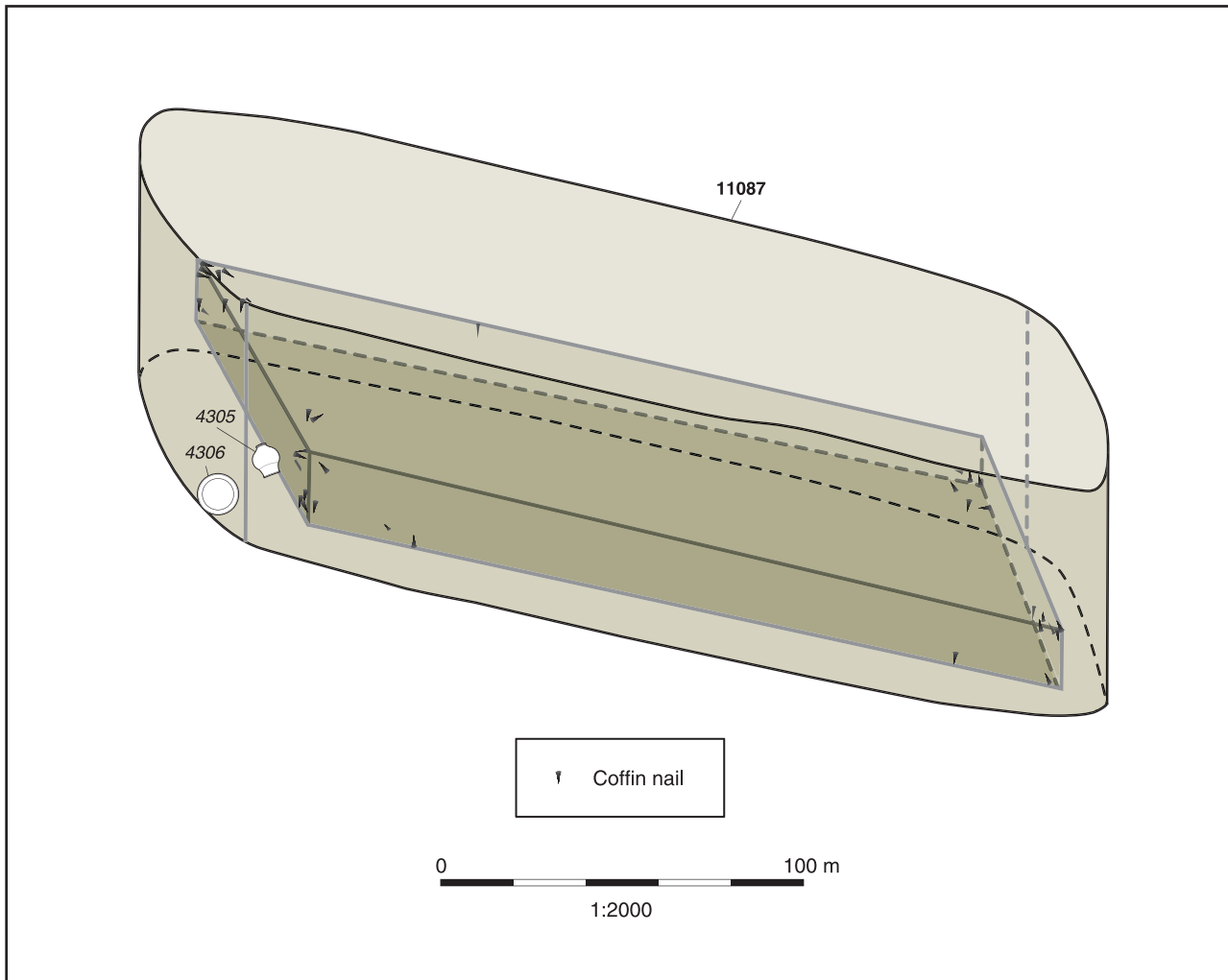


Figure 5.49 Pepper Hill: coffin reconstruction, grave 108, late 1st century AD

would have left little trace, might account for the difference, but the limited Romano-British evidence for coffins with surviving wood suggests the use of simple boards or nailed construction (eg Goodburn 2003).

A variation on the theme of containment is seen at Pepper Hill in eleven features identified as potential cenotaphs: ie features like or representative of graves but without the human remains. None contained cremated bone, but in other respects—shape, size, and content—the cuts were similar to cremation graves, and conform to the definition of cenotaphs suggested by McKinley (2000a, 42–3; 2004, 306–7). The features were quite widely distributed across the cemetery area, but six grouped together in the northern part of the site were intercutting and represent successive deposits, perhaps located in an area reserved for features of this type. Up to six of these features contained grave goods. Pottery vessels from three of them (261 (see Fig. 5.52), 11245 and 12017) were largely complete and these are the features most convincingly interpreted as cenotaphs (none was in the northern group). It seems inconceivable that later truncation could have removed all the cremated bone but spared the pottery. The fragmentary or residual nature of the items within the other features,

or the lack of objects in some cases, makes their interpretation less certain. Overall these features form an intriguing group. All well-dated examples belong to the Early Roman phase and were potentially contemporary with the *busta* and pyre sites. Analogous features have been recorded occasionally at other burial sites in Britain, including Westhampnett (McKinley 1997, 71–2), King Harry Lane (Stirland 1989) and Brougham (McKinley 2004, 306–7) and there is epigraphic evidence for cenotaphs in the Roman world (Pagano 2000, 28). Their use may have been determined principally by a requirement to make a formal burial despite the absence of human remains, for example if the individual had died away from home, perhaps on the battlefield or at sea where the body could not be recovered (Toynbee 1996, 54). A military explanation would hardly have applied, however, in the case of the possible cenotaph 11245, which included a ceramic ‘infant-feeder’ and may therefore represent the grave of a child.

Grave goods: the afterlife, and how to get there

At Saltwood seven of the ten cremation burials in the western group had additional pottery vessels associated. More striking was the occurrence of brooches in five of

the burials in this group, two of which (burials C14 and C15) each produced a pair of brooches (Fig. 5.50). At Beechbrook Wood each of the five burials in the southern group was in a ceramic container and three had additional vessels. One grave contained a fragmentary copper alloy object, probably a pair of tweezers, but brooches were absent. At Pepper Hill brooches occurred as grave goods in only 12 burials (and as pyre goods in a further five). Inevitably this large cemetery produced a wider range of grave goods than seen elsewhere, although the material was dominated by pottery vessels (almost 70% of all grave good instances—counting multiples of individual object types as one). In total, grave goods (ie not ceramic cremation urns or coffins) were recovered from *c* 62% of cremation burials (including *busta* and cenotaph/disturbed cremations) and *c* 38% of inhumation burials. In both cases these figures exclude instances of objects of uncertain significance, such as single hobnails, which could have been incidentally incorporated in grave fills, although it is possible that some of

these were deliberately deposited as representative of complete items.

Intrinsically remarkable grave goods were rare at Pepper Hill and some of the more notable material had been placed on the pyre, at an earlier stage of the burial ritual. The quantities of object types placed as pyre goods and as grave goods (catalogued and discussed in Biddulph 2006a) are summarised in Tables 5.9 and 5.10.

One mid-late 1st century AD unurned cremation burial at Pepper Hill produced a striking range of charred plant remains including flesh and pips of grapes (*Vitis vinifera*), a possible fig fruit (*Ficus carica*), lentils (*Lens culinaris*) and horse beans. At this date all except the beans are likely to have been imported, and they represent a comparatively high-status group of food offerings. No other examples of grapes and figs are known from cremation deposits in rural Kent, although a Roman *bustum* pit in London produced charred fig fruits (Giorgi 2000), while cremation deposits from the East London cemetery sites included lentils and horse

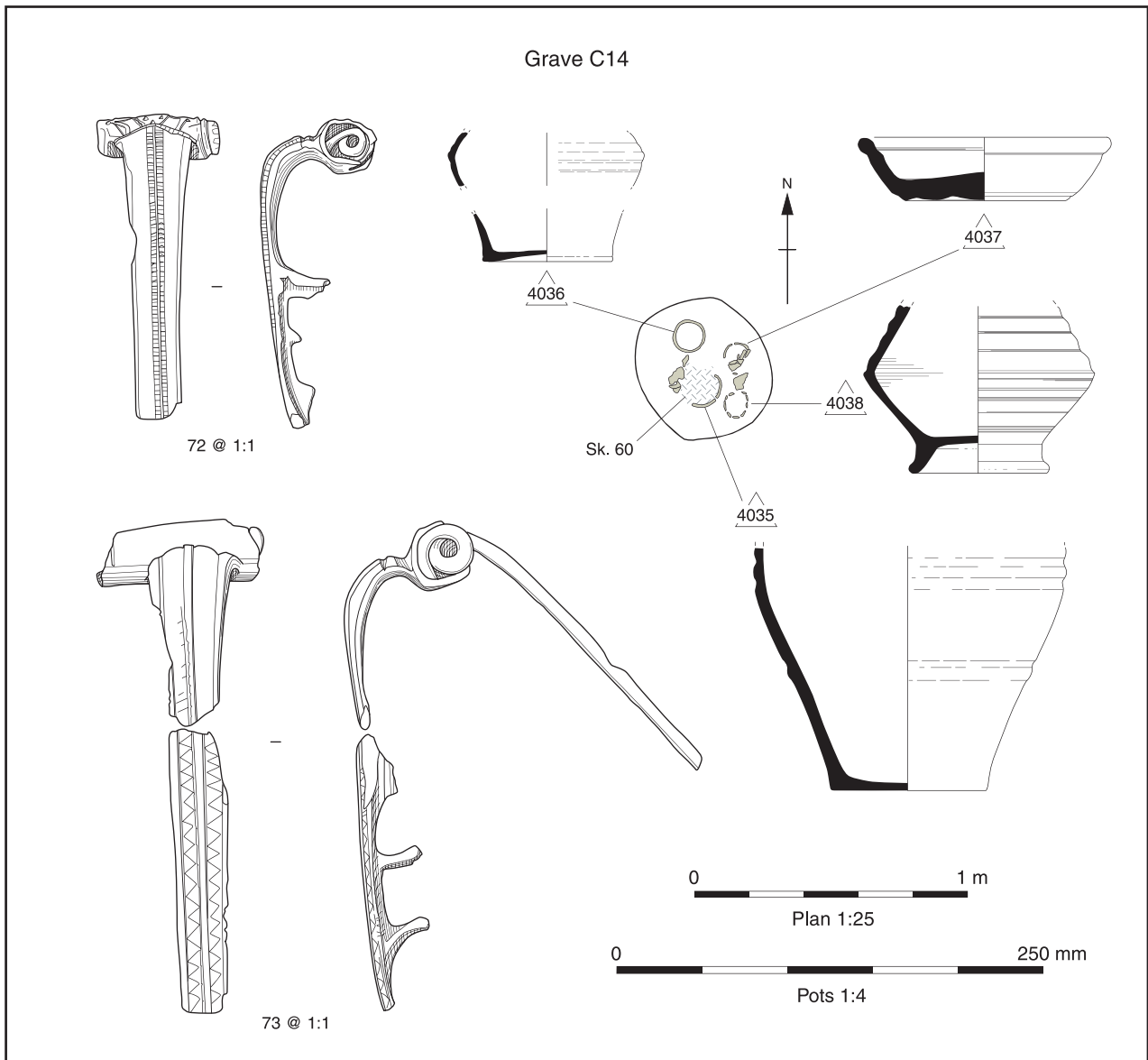


Figure 5.50 Saltwood Tunnel: cremation burial group C14, mid 1st century AD

Table 5.9 Pepper Hill, pyre goods. quantification by count of features

Pyre good	Early Roman	Early-Mid Roman	Mid Roman	Mid-Late Roman	Roman (undated)	Total no. features
Animal remains	23	9	10	1	4	47
Plant remains	1	1				2
?Bier/box	16	4	3		1	24
Wood inlay	1					1
Bead	1					1
Cu alloy brooch	5					5
Cu alloy pin	2					2
Cu alloy ring	1					1
Cu alloy object	10		5		2	17
Fe object	8	1	2		3	14
Glass object	5	2			1	7
Pottery	9	2				11
Hobnails	3				1	4
Total	85	10	20	1	12	136

Table 5.10 Pepper Hill, grave goods. quantification by count of features (all burial types)

Grave good	Early Roman	Early-Mid Roman	Mid Roman	Mid-Late Roman	Late Roman	Roman (undated)	Total
Animal remains		2	4			2	8
Box/casket	10	3	9			4	26
Bead/necklace	3		1	1			5
Coin			1		1		2
Bracelet	3		2				5
Brooch	9	3					12
Cu necklace			1				1
Finger ring	2		3			2	7
Mirror	1						1
Misc. Cu object	2		1				3
Pottery	123	24	71	9	4		231
Vessel glass	4	5	2				11
Shoes	4	5	10	2	1	3	25
Total	161	42	105	12	8	9	337

beans (Davis 2000). Another Early Roman cremation deposit, from Beechbrook Wood, contained a large number of grains, mostly of spelt, which may also have been votive food offerings.

As there was minimal survival of unburnt bone at Pepper Hill the animal remains there were mainly from probable pyre goods. These suggest the provision of both joints of meat and occasional complete carcasses. Young pig bones were the most common, followed by domestic fowl. Cattle and sheep/goat were only occasionally represented. There were ten instances, including one almost complete carcass, of domestic fowl and it is likely that a majority of the considerably larger number of fragments identified only as 'bird' at this site were also of domestic fowl.

Grave goods overwhelmingly comprised pottery (Table 5.10). Ancillary pottery was biased towards drinking-related forms, followed in preference by eating, then cooking or storage types (Fig. 5.51). There was no set combination of vessels represented within individual graves although the selection of vessels for cemetery use conformed to standard, funerary-related, norms. Pottery was mainly of local origin and drawn from the ceramic supply otherwise intended for domestic use. Indeed, the

presence of worn or burnt vessels suggests that some, perhaps much, pottery had first seen household use. Some 'antique' grave-goods may have remained in the household for generations before burial (Biddulph 2006a).

Non-ceramic grave goods were relatively infrequent. The most common items were boxes/caskets and nailed shoes (with the implication that shoes may have been most common overall, as evidence for unnailed shoes would not have survived). Like shoes burnt on the pyre, shoes placed in the grave were associated mainly with adults, but significantly were more often deposited in the 2nd century, in contrast to the 1st century emphasis of the small number of burnt shoes (*ibid.*). This mirrors a trend observed elsewhere and appears to relate to changing beliefs about the afterlife (Philpott 1991, 171). The symbolic significance of footwear is discussed by van-Driel Murray (1999), who points out that 'in the case of Roman shod burials, we do not actually know the *direction* the journey was intended to take—and we merely assume it was *to* the other world because this accords with our modern perceptions.' (*ibid.*, 132). However that may be, the present evidence suggests that from the 2nd century onwards the deceased made that



Figure 5.51 Pepper Hill: multiple pots in grave group 450

journey from the grave, even if cremated, whereas previously the journey began at the pyre. The animal bone evidence supports this view; unburnt animal bone was only recovered from 2nd century cremation graves; none was certainly deposited in earlier graves. Wherever the journey took them, the deceased need not have been provided with shoes only for practical comfort. The shoe, a highly personal item, was inextricably connected with an individual's identity. The presence of footwear in wells, shafts and other ritual places reminds us of the importance of the shoe as an acceptable personalised offering alongside coins, chickens and the like (*ibid.*, 135–6). The scarcity of coins at Pepper Hill is notable, however.

Brooches were most common in 1st century graves; few were recovered from 2nd century or later graves (Cool 2006a). This is consistent with a trend seen at other sites in the county, including Westhawk Farm, Ashford (Cool 2008) and Canterbury (Mackreth 1995), and particularly in a HS1 context at Saltwood. Bracelets were recovered from 1st century graves, as well as from one of the late 2nd or early 3rd century AD (10520). The objects began to be deposited at a time when bracelet wearing was not popular (Cool 2006a). The three finger rings from Pepper Hill belong to 3rd or 4th century graves. One from grave 10761 lacked its intaglio; if acting as a seal, the jewel may have been bequeathed to the deceased's heir (Cool 2006a; Henig 1974, 65). Two glass unguent bottles were recovered from inhumation graves (10637 and 12038), where their use may have been motivated by concerns different from those related to cremation.

Commemoration

The backfill of grave 254 at Pepper Hill (Fig. 5.52) included broken drinking- and eating-related vessels that may have derived from a funerary feast, in addition to more typical grave goods (Fig. 5.53; Biddulph 2006a). Such grave-side commemoration at the time of the funeral could have occurred regularly during the life of the cemetery for cremated, as well as inhumed, individuals (*cf* Pearce 1998; Williams 2004). Evidence is, however, scarce and it seems more likely that at Pepper Hill such elaborate rites were accorded to relatively few people, possibly on the basis of status, although the practice of deliberately 'killing' or mutilating vessels, more commonly found at Pepper Hill and at other cemeteries in south eastern Britain (Biddulph 2006a; 2002, 104–5), may perhaps have been related.

It is even less clear if there were subsequent ceremonies associated with particular graves. The complete lack of any contemporary surfaces at Pepper Hill, as at so many other cemetery sites, restricts the chances of survival of indicative evidence. One relevant aspect would have been the marking of graves. At Pepper Hill, however, the evidence for this is very limited—a posthole in the centre of grave 10908 may have been such a marker, but the extent of intercutting may suggest that such markers were either rare or short-lived, and may carry with it the implication that post-funeral commemoration was also not common. Such commemoration is well attested in the classical world and is implied by some specific types of burial occasionally found in Britain—'pipe-burials' being an obvious (but rare)

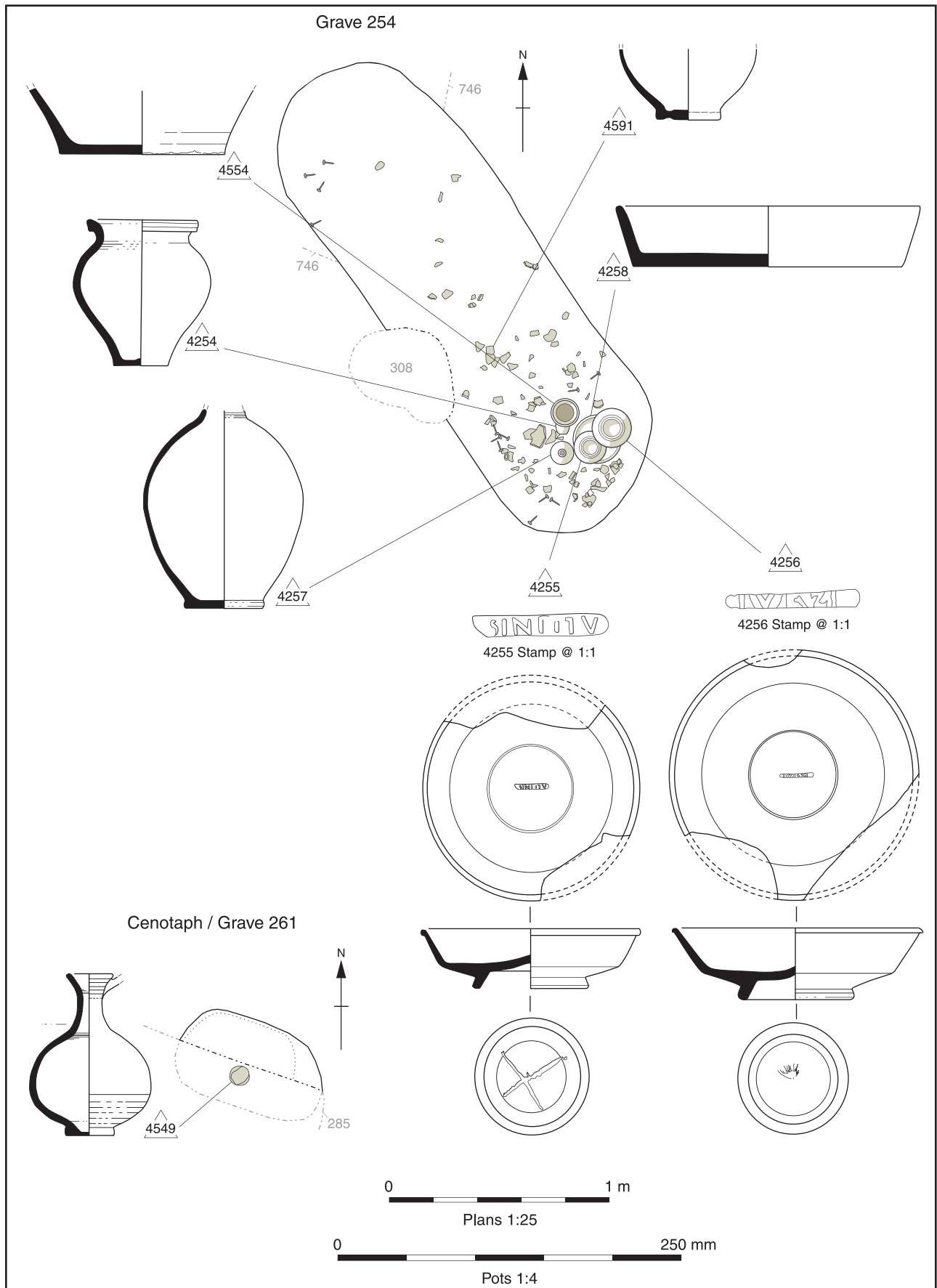


Figure 5.52 Pepper Hill: grave group 254 and 'cenotaph'/grave 261



Figure 5.53. Pepper Hill: Group of vessels in mid 2nd century inhumation grave 254. A grey ware base and inverted samian ware dishes have been used as lids. Both of the latter were damaged before use and have graffiti scratched inside their footings

example. Long term reverence for a burial site of a rather different character is seen at Brisley Farm, Ashford, where a circular open area surrounded by cut features lay just south of the two Late Iron Age–Early Roman high status burials. The contents of the features suggest ritual activity perhaps continuing into the early 2nd century, almost certainly associated with the earlier graves (C Johnson pers. comm.). Comparable activities of a less intensive nature related to other burials in the region would very likely leave little or no archaeological trace.

The people of Pepper Hill: demography and physical characteristics

The physical condition of most of the HS1 human remains (cf Fig. 5.48) unfortunately precludes detailed analysis of questions such as demography and health. Bone survived in part only in some 79 of the 349 or so inhumation burials from Pepper Hill, and was very poorly preserved in most cases, to the extent that no age or sex determinations were possible in 33 of them. The remainder comprised, 1 infant (0.05–5 years); 5 subadults (13–18 years); 11 adults (18–25 years) including 3 females and 1 male; 2 adults (26–45 years) including 1 female; 2 adult (>45 years) males; and 25 adults (>18 years) including 2 females and 2 males.

A full cross-section of the population appears to be represented amongst the cremated remains from Pepper Hill (although only 43.1% of this population could be aged; Witkin and Boston 2006) with 16.9% immature individuals and 83.1% adults amongst the aged individuals. This compared to very similar proportion of immature individuals (17.1%) to adults (82.9%) in the admittedly small proportion of the inhumation popula-

tion that could be aged. The adults spanned the age range with, as is commonly the case, most falling in the mature adult (*c* 26–45) category). Although the proportions are similar to those commonly seen in contemporaneous cremation cemeteries (McKinley 2004, 289; Witkin and Boston 2006, table 7) it is likely that the immature, particularly neonatal, individuals are under-represented, as is often the case (McKinley 2006a). This could reflect one or a combination of several preservation/recovery factors, including; first, inherent problems of fragility and the probable tendency to preferential loss/destruction due to disturbance or acidic soil conditions; secondly, potential biases attached to the cremation rite (preferential destruction or accidental exclusion from the secondary part of the rite in cases where they were cremated with an adult; where, as is commonly the case with cremation burials, less than 50% of the adult remains were collected from the pyre site for burial, the fragile remains of an infant could easily be overlooked entirely); and thirdly the known Romano-British cultural practice of commonly burying very young infants in settlement rather than cemetery contexts (eg Pearce 1999, 155), although neonates have been recovered from some cremation cemeteries (eg St. Stephen's (St. Albans) and Skeleton Green, Puckeridge, Herts; McKinley 1992; Wells 1981). There was no apparent temporal variation in the proportion of immature individuals. McKinley (2006a) suggests that a slight rise in the proportion of older adults (>45 years) amongst the cremated individuals in the later phases of the Pepper Hill cemetery may be indicative of increased longevity or possibly reflect an adherence of the older members of the population to the established mortuary rite of cremation in the face of an increased fashion for inhumation burial. Males comprised 27.6% of the cremated adults, and females 20.3%, but given that over half were thus unsexed, and that 56.9% of all cremated individuals could not be aged, these figures cannot be regarded as a reliable guide to the population as a whole.

Osteological data comparable to those from Pepper Hill are relatively scarce in Kent and tend to come from individuals or small groups mostly scattered across the northern part of the county (McKinley 2006a) (Fig. 5.54). Three larger groups comprise two from Canterbury: Cranmer House, with 53 cremation and one inhumation burial (Garrard 1987) and St Dunstan's, with 95 cremation and 23 inhumation burials (M Diack pers. comm.), and one from Clubb's Pit, Isle of Grain, with 42 inhumation and one cremation burial (Cameron 1985).

These figures underline the importance of the material from Pepper Hill, despite the problems of preservation there. The analysed human remains from Pepper Hill outnumber the total (minimum number of individuals) from the rest of the county, combining the figures recorded by Mays and Anderson (1995, 381) with those from recent analyses. The majority of the recorded remains (some 211 out of 327) are from cremation burials in line with a regional pattern identified by Mays and Anderson (1995, 365, 376; it is important to note that this survey deals with recorded or recordable human

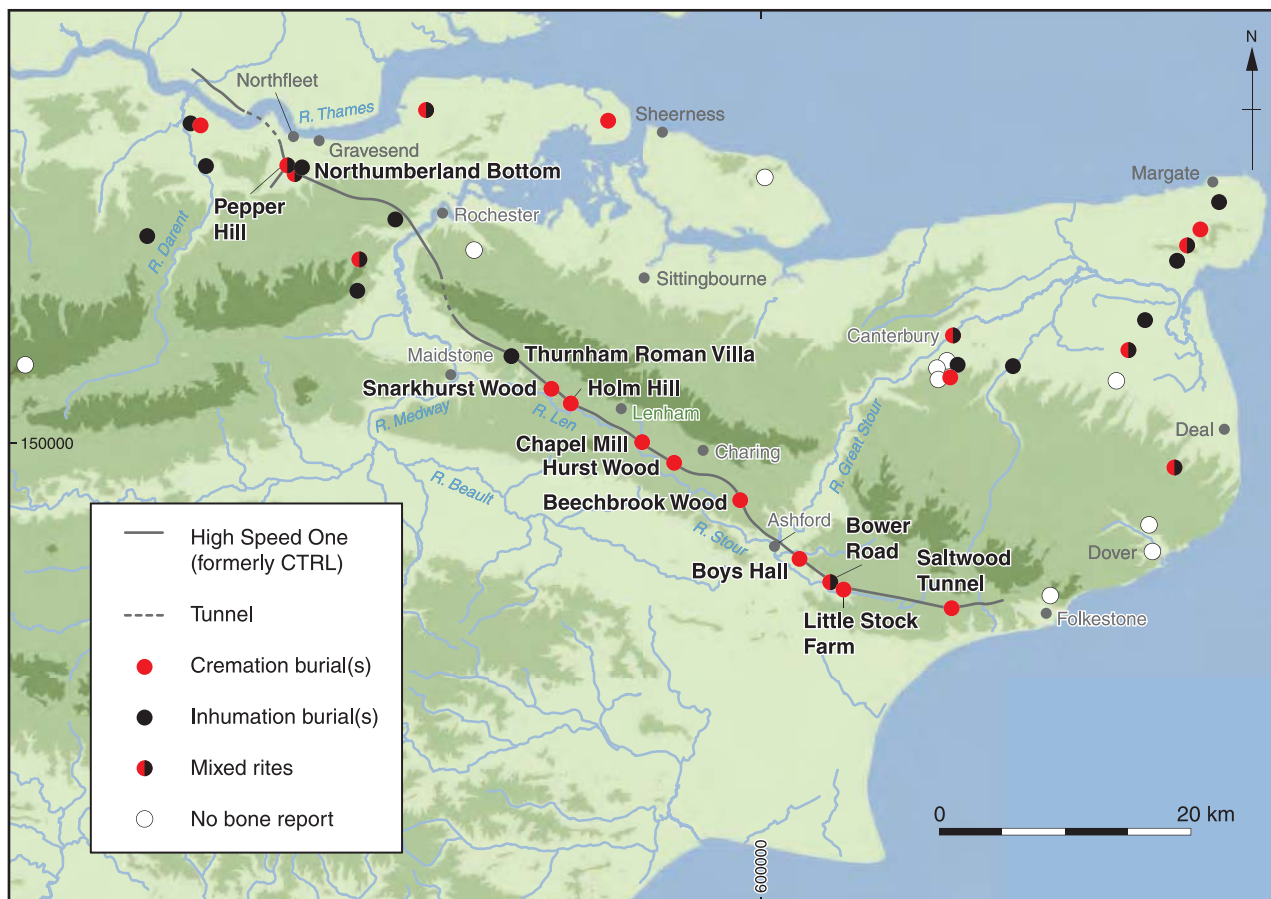


Figure 5.54 Distribution of sites from which Roman burials have been recorded against a background of drainage patterns and simplified geology (based on Mays and Anderson 1995, and Lawson and Killingray (eds) 2004)

remains, it excludes sites with very poor preservation or where unreported remains have not survived; *ibid.*, 364). McKinley (2006a) notes that cremated remains from these sites often appear to include few immature individuals, with none from Ash (Anderson 1998), only 7.5% from Cranmer House (Garrard 1987) and 11.8% (2 out of 17) from the Thanet pipeline burial groups (McKinley 2006c). Possible reasons for this have been discussed above but it is notable that amongst the inhumation burials from the Thanet pipeline, 58.8% (10 out of 17) were immature (1–18 years). Since the cremation and inhumation rites are broadly coeval the difference may reflect cultural variation in the treatment of young individuals in this cemetery, although differential survival and recovery associated with the rites may also have been a factor (*ibid.*).

Lesions, mostly in adults, were recorded in the cremated remains of 46 individuals from five HS1 sites (c 12.4% of the period assemblage) and the unburnt bone of 12 individuals (13.9% of the period assemblage) from two sites (McKinley 2006a). Dental lesions were amongst those most commonly recorded; eleven out of eighteen inhumed individuals with (generally partial) surviving dentitions had lesions, including slight calculus in four, small carious lesion in three, *ante mortem* tooth loss in one, dental abscesses in two and slight hypoplasia in five. The HS1 figure of 2.7% for caries (based on the number

of teeth, not individuals, affected), is less than the overall caries prevalence rate of 7.5% for the Romano-British period found by Roberts and Cox (2003, table 3.10; based on a sample of 39 sites), although their assemblages show wide variation and include sites with a low rate comparable to that seen here. Anderson (1995, 123) recorded a caries rate of 12.9% in the Late Iron Age assemblage from Mill Hill, Deal. The apparently low prevalence in the HS1 assemblage is likely to be misleading, however, as is probably also the case with incidences of calculus, owing to preservation factors.

Some dental disease—*ante mortem* tooth loss and an abscess—was also present in the cremated bone assemblage but most lesions here were indicative of one of the commonly recorded joint diseases or of minor, repetitive muscle/ligament trauma. Similar minor lesions were recorded in the unburnt remains of only one individual. Periosteal new bone was observed in the remains of ten cremated individuals; most lesions were seen in the tibia but there were three instances of the visceral surface of the rib being affected, indicative of a pulmonary infection, including conditions such as tuberculosis, pneumonia, pleurisy or chronic bronchitis (Roberts and Manchester 1995, 139; Roberts *et al* 1998, 56). Slight-mild lesions suggestive of anaemia were recorded in the remains of eight cremated individuals (2.1% of the period assemblage). Most of these were of *Cribrra orbitalia*,

commonly thought to be indicative of an inadequate dietary intake of iron, and/or a severe intestinal parasitic infestation (Stuart-Macadam 1991, 101).

The only traumatic lesion observed was a short cut through the angle of the left ramus of a Late Roman adult male from Bower Road, mentioned above. This could be indicative of decapitation (Witkin 2006) if the blade had clipped the jaw as it was brought down on the neck. Since the mandible fragment was all that was recovered of this individual, however, the suggestion must remain tentative. Decapitated remains are relatively common within cemeteries of Late Roman date and are generally thought to represent a post-mortem process, probably for ritual reasons (eg Harman *et al.* 1981; Philpott 1991, 77–89; McKinley 1993; Boylston 2000; Taylor 2008). The significance of the isolated Bower Road fragment is difficult to assess, but it did come from a feature for which a possible ritual interpretation has been proposed (see above), which may strengthen the case for suggesting that the bone was from a decapitated individual.

Overall, the limitations of the data preclude general observations about the health of the Late Iron Age and Romano-British populations of Pepper Hill and the other HS1 sites. The incidence of some identified lesions may have been below average because of these limitations and it is inevitable that the full range of conditions afflicting the various populations is not represented (McKinley 2006a).

Society

Society at Pepper Hill/Springhead

The Pepper Hill cemetery also provides more general information about the people of Springhead. The human remains seem to suggest a fairly ‘typical’ population in terms of age distribution (allowing for the biases that particularly affect the presence and identification of small children), but with insufficient evidence for clear understanding of the relative numbers of males and females (and therefore of the extent to which the cemetery population really reflects the living one, given the problems of sex imbalance observed in many (mostly) Late Roman cemeteries (eg Davison 2000)). Davies (2001) has discussed the Pepper Hill cemetery in relation to the high-status walled burial enclosure at the New Barn Road roundabout but he appears to assume (*ibid.*, 163–4) that the Pepper Hill cemetery was the only ‘communal’ one associated with the Springhead settlement. This seems unlikely. A very rough calculation suggests that the cemetery may reflect a population of approximately 100 individuals. Given the scale of activity revealed both by earlier excavations and by the HS1 Section 2 work a larger overall population for Springhead might be anticipated, as might further cemeteries sited alongside Watling Street and perhaps at other locations in the vicinity. Smaller groups of burials are known elsewhere, as for example at the Milbrook Garden Centre, on the same road (the so-called Temenos Road East) as Pepper Hill,

but much closer to Springhead, where three cremation and three inhumation burials lay within a small ditched family plot and dated to AD 70–100. A further burial was located some 50m to the west (Philp and Chenery 1997, 8–12). As already mentioned, neonates and small infants were frequently excluded from formal cemeteries and could be located in apparent settlement contexts (eg Boyle and Early 1998, 33–4).

The Pepper Hill and other finds suggest a link with the pre-Roman exploitation of the area (including the religious focus of the Ebbsfleet springs) that disregards the Roman layout based largely on the alignment of Watling Street. Although it cannot be known, it is at least possible that part of the cemetery population was drawn from adjacent rural communities as well as from the small town itself.

Despite this, however, the cemetery incorporates some decidedly non-native features. The most obvious of these is the practice of *bustum* burial, which was rare in Britain. Philpott (1991, 49) suggested that, on balance, ‘*in situ* cremation is not typical of mainstream native practice and a continental origin is likely in the majority of cases’. Struck (1993b, 92; Abb. 1) supported this conclusion, showing that *busta* concentrated along the Rhine and the Danube (although they always formed a minority rite, even in areas where they did concentrate (*ibid.*, 91)) and suggested that the arrival of the rite in Britain, where the majority of known examples are associated with forts and urban centres, was probably associated with the movement of auxiliaries serving in the Roman army.

Whether this association applies at Springhead is unclear, since other evidence for military activity there is exiguous (see above). Evidence from Denham (Buckinghamshire), where perhaps as many as 20 *busta* have been found recently (Coleman *et al.* 2004; L Coleman pers. comm.) and Bray (Berkshire), where the evidence for a further six is a little less clear (Stanley 1972; see Booth *et al.* 2010, 503–4), suggests a rather different pattern of distribution, complementary to the military one, albeit of broadly Late Roman rather than earlier date. At Pepper Hill all the *busta* except a single uncertain example dated from the mid to late 1st century AD, suggesting that whatever its social associations the rite was an intrusive one. On the other hand only one of the individuals buried in this way (10702) was male; the remainder were adult females or immature. This does not preclude a military connection (cf James 2001, 80), but the case is far from secure, although the narrow date range of the *busta* may be more in keeping with a short-lived military occupation than with other possible explanations for their presence (Biddulph 2006a).

Some of the plants (eg grapes, figs and lentils) and animals placed on the pyre may also reflect Roman provincial rather than native British practice. The exotic plant remains are paralleled in some urban contexts (particularly London) but less commonly elsewhere. Late Iron Age traditions of animal placement on the pyre are seen for example at Westhampnett, where lamb and pig were typically provided (Fitzpatrick 1997, 221). In the

Late Iron Age cemetery at King Harry Lane, however, the animal remains are dominated by pig and chicken (Davis 1989), as at Pepper Hill and as at a large number of Romano-British sites (Fay Worley pers. comm.). Pig was also found in the high status burials at the A2 Tollgate site (see above). It is unclear if the occurrences of pig and chicken at King Harry Lane represent the precocious appearance of imported continental practice or whether they indicate the early development of a native tradition that had become well-established by the time of the conquest and thence developed into a mainstream Romano-British practice. In the former case, however, the rapid adoption of a non-indigenous tradition at Springhead might carry with it the inference that a non-local component was present in the cemetery population (the association of animal bone with *busta* was examined—of the eight identified *busta* one produced pig bone and another produced fowl—the evidence is therefore insufficiently clear to advance the argument either way).

Grave goods may occasionally suggest that other people originating outside the Springhead area were buried at Pepper Hill. One grave (10362) contained a distinctive ceramic tankard in Severn Valley ware. Products from this source are exceptionally rare in south-eastern England (this is thought to be the only vessel known from east of London) and it is most unlikely that this vessel was traded. It may perhaps have been a personal possession, brought to Springhead by its owner during the later 1st century, although other explanations of its presence are of course possible. A late 2nd or early 3rd century grave (10520) contained three bracelets, a finger ring and a necklace part-made with gold-in-glass and polychrome beads, all placed unworn in the grave. Both the placement of the objects and the objects themselves, the necklace in particular, are rare in graves of this time. Gold-in-glass beads have been seen as having a military association (Boon 1977) and Hilary Cool has speculated that the individual with whom these objects were associated brought new beliefs and fashions in personal decoration, perhaps from the Danubian lands (Cool 2006a; cf Cool 2004, 387). However, other gold-in-glass beads (for example) come from graves at London (Barber and Bowsher 2000, 219), Baldock, Colchester and Verulamium (Boon 1977, 198-9), and Denham, Buckinghamshire (Cotswold Archaeology 2003). A military link seems unlikely in relation to this south-eastern distribution, leaving uncertain the question of the social connections and context of the Pepper Hill (presumed) lady.

Despite the likely presence of incomers, the great majority of the population buried at Pepper Hill were presumably of local origin, although the specific characteristics that identify this cannot be defined precisely in the archaeological record. The material remains in many inhumation graves were identical to those of cremation graves. Dining-related vessels—flagons, beakers, dishes and the like—played as significant a part in pottery-yielding inhumation graves as they did in cremation graves, and the presence of brooches and shoes, for

example, suggests fairly standardised dress and beliefs in the afterlife. But the inclusion of grave goods was by no means universal, as the large proportion of unfurnished Early Roman inhumation graves confirms. Biddulph (2006a) argues that ‘the rejection of goods in so many inhumation graves—and possibly more, counting the undated graves—separates the rite more completely from the cremation rite of Aylesford type-derived tradition’. Whether or not ‘rejection’ is what is involved, his further argument that the primacy of inhumation at Pepper Hill before AD 70 (compared with a low rate of cremation), and the presence of Iron Age burial (10404) and Early Roman crouched burials (11386 and 12047) ‘identifies inhumation more convincingly as the normative, accepted, rite within the region’ is important. The cremation rite as a whole, not only *busta*, may have been in large part intrusive at Springhead after AD 43. Equally, however, it may have been adopted relatively rapidly by some sections of the local community and its presence, while suggesting changes in practice, does not necessarily serve to identify an incomer component in the cemetery population. The well-dated very Early Roman cremation burials at the A2 Tollgate site certainly indicate the early adoption of the cremation rite, but by individuals thought most likely to be of local rather than intrusive origin (Allen *et al.* forthcoming). In this case, however, a continuation of local pre-conquest tradition may be indicated, as two wealthy cremation burials of Late Iron Age date, associated with pottery vessels and brooches, were found only just over 700m west of the high status Early Roman burials. There was not necessarily a direct connection between the two traditions or the communities using them, but their relative closeness suggests that possibility.

Wider issues of society, identity and status

The cemetery evidence, particularly from Pepper Hill, brings us into contact with the people of the region in the most immediate way and provides among other things hints about the diversity of the population, although it is likely that the status of those buried at Pepper Hill was broadly fairly similar (Biddulph 2006a). The contrast of status between those buried at Pepper Hill and the few individuals buried in the nearby walled cemetery perhaps in the early 3rd century (Walker 1990, 57), emphasised by Davies (2001), is extremely marked. A similar contrast is indicated in the immediate post-conquest period in relation to the settlement partly examined at Northumberland Bottom (West of Wrotham Road). Understanding of this site is transformed by the evidence of the Early Roman high status burials revealed in the A2 excavations, as described above (Allen *et al.* forthcoming). Clearly of the same date as the earliest use of Pepper Hill, some 2.3km WNW, these features show how the status of (presumably) higher-ranking members of local society (or possibly immigrants) could be expressed in burial. It is therefore particularly unfortunate that the focal area of the associated settlement remains unexamined, only its

southern and northern margins falling within the Northumberland Bottom and A2 road scheme works respectively. It is noteworthy, however, that the limited settlement evidence from both excavations provides few obvious indications that distinguish the site from its contemporaries, although the presence of a small number of large postholes located at the southern edge of the A2 site may be one such indication, and the very rectilinear form of the enclosure itself, noted above, is perhaps another. It was certainly possible for status to be displayed selectively; it need not have been demonstrated consistently across the entire spectrum of the archaeological record.

Aspects of settlement type and architecture and of the various artefact assemblages also provide generalised indications of various statuses, though understanding of identity is more problematic in these contexts. In architectural terms (see above) only Thurnham is a high-status site, evidenced by a range of buildings including successive villa-type houses, with painted wall plaster and tiled roofs in both main phases and an attached bath suite in the later phase (with the possibility that there was a detached bath building contemporary with the proto-villa). Of the remaining rural settlement sites only Bower Road contains a substantial structure of recognisable form, but even this probably did not have a tiled roof, although it may have been a subsidiary building within a complex that did contain other tiled structures. Elsewhere the complete or almost complete absence of tile (except in a recycled context at Hazells Road) is notable. The implication here is that domestic buildings with tiled roofs were the exception rather than the rule in this landscape. While Thurnham is exceptional in architectural terms (perhaps even in the Late Iron Age, as the only site with identifiable circular buildings) it is not particularly remarkable in terms of its enclosure, which in the initial phases is comparable in character with those of broadly contemporary sites such as Northumberland Bottom, Snarkhurst Wood and Leda Cottages. It may be that the use of substantial timber post stockades, seen at Thurnham from the early 2nd century and not noted on other HS1 sites, represented a change in enclosure style that was restricted to certain types of site, occurring in villa contexts elsewhere, as at Keston, but this is speculative.

The finds assemblages from most of the HS1 sites are mostly too small to shed light on aspects of site status for comparative purposes. Conversely, in the case of Saltwood Tunnel, the assemblage contains a number of interesting objects but lacks the settlement context that would allow their significance to be better understood. This is the only site apart from Thurnham to produce mirror fragments, for example (Riddler and Ager 2006). While the high-status burials from the A2 indicate something of the range of objects that could occur on some Early Roman sites in the area, Thurnham is the only one of the HS1 sites where objects and context can be fairly closely linked. Close analysis by Hilary Cool (2006b) has revealed some interesting trends. The first of these is that there was a marked upturn in the absolute quantity of objects in use in the Early Roman (proto-

villa) phase; apart from some evidence for wearing of brooches in the second quarter of the 1st century AD, seen particularly in funerary contexts as at Saltwood, the material culture of the Late Iron Age phase is invisible.

As Cool (*ibid.*) remarks, the expansion of material culture characteristic of the Roman period in Britain does not proceed uniformly in all areas. In parts of the Gloucestershire countryside, for example, it cannot really be seen until the 2nd century (Cool in Miles *et al.* 2007) and in parts of rural northern Britain (and even in parts of the west midlands, eg Powell *et al.* 2008, 527–8) it never occurs. At Thurnham this expansion can clearly be seen in the second half of the 1st century in the contexts associated with the proto-villa. Brooch use, including of post-conquest types, continued, while the presence of hair pins and hobnails indicates changing aspects of personal appearance and dress. Counters, items of toilet equipment, household utensils, and various furniture fittings all suggest new ways of passing the time and furnishing houses. Occasional items, such as a copper alloy basin, indicate above average levels of wealth, even if such an object was perhaps not used in the way it would have been in the heartlands of the Roman world (Cool 2006b).

An assemblage such as that from Thurnham was not necessarily typical of the region, but quantified data are still very scarce here. They do exist for Westhawk Farm, Ashford, however, where the relatively large finds assemblage indicates only gradual adoption of the newly-available suite of material culture and suggests that trends in dress may have been quite conservative (Cool 2008). Such contrasting trends may indicate a more dynamic community at Thurnham in the Early Roman period, but not necessarily one that involved incomers; indeed the structural sequence implies (but does not prove) continuity of tenure. From the artefactual evidence general continuity of tradition is suggested by the Colchester Derivative brooches, for example, which are of types favoured by the Kentish population (Cool 2006b). A single item of military equipment, a stud, might indicate that a member of the family had seen service in the Roman army, supporting the idea of local elite service discussed by Black (1994). Although found in a later context, a seal-box lid from the aisled building is of 1st century type and the association of evidence for early literacy with (civilian) sites having military connections has been well demonstrated, for example in the Batavian region of the lower Rhineland (Derks and Roymans 2002). The potentially residual nature of this object underlines a striking characteristic of the Thurnham finds assemblage, which is that material contemporary with the Middle Roman phase is relatively scarce, comparing unfavourably with that from the proto-villa phase. Finds independently dated to the Late Roman period are also rare. So, for example, contexts associated with the late 3rd century smithy in the main villa house produced a mid 1st century brooch and a melon bead and a counter both of 1st–2nd century type (Cool 2006b). Such material underlines the radical transformation of site character in the Early Roman period indicated by the structural sequence.

The Thurnham small finds suggest a picture of the changing circumstances of the occupiers of the villa through time. The pottery includes material that distinguishes the site from most of its neighbours, but at levels which do not allow these distinctions to be identified quantitatively (see below). For example, fragments of at least two Italian wine amphorae were recovered, one very likely of pre-conquest date, but the numbers of sherds involved were very small, as were quantities of the Gallo-Belgic wares that might be expected to have provided the associated drinking vessels (Lyne 2006; Booth 2006b) and are seen in the A2 Tollgate graves for example; none of these need have been pre-conquest. A range of pre-Flavian imported fine ware fabrics occurred, but again in minute quantities. Developments can be seen in the pottery of the proto-villa phase, however, and there are clear indications of spatial patterning in the distribution of pottery at this time (Lyne 2006; Lawrence 2006). The assemblage from the enclosure ditch on the east side of the farmyard had a predominance of coarse cooking pots (57% of rim equivalents (REs)) with relatively few open forms (15%) and mortaria from as many as five different sources (3%). Fine wares accounted for just a quarter of the pottery. In contrast, the ditch immediately behind the proto-villa house yielded an altogether higher status assemblage: cooking pots constituted a smaller element (32%), open forms were considerably better represented (29%) and there was a much higher percentage of fine wares (45%), but no mortaria (Lyne 2006). The contrast between assemblages based on food processing activities and those dominated by fine table wares is clear. Interestingly, a lack of distinction in the Middle Roman villa phase small finds assemblages seems also to be reflected in the pottery, although this may relate in part to an absence of well-defined deposits in comparison to those associated with the proto-villa.

The ceramic evidence from across the HS1 sites provides a broader view of variations in site character. The potential of quantified pottery data to provide insight into assemblage and therefore user status has been explored elsewhere (eg Booth 1991; 2004; Evans 2001) and the specific issues related to the application of these approaches in Kent are discussed in Booth 2006b. In simple terms, a principal potential indicator of site status is thought to lie in the representation of 'fine and specialist' wares, but there is not necessarily a simple correlation between a high level of these and 'high' site status. Other factors, of chronology, function and location in relation to marketing centres or other distribution networks have to be taken into account. The complex interplay of these factors can therefore make interpretation in terms of status alone problematic. It follows that variations between assemblages of similar date and in close proximity can be interpreted in relation to status with more confidence than variations between more chronologically and spatially disparate assemblages.

Despite their geographical spread, however, the HS1 assemblages have some potential for interpretation in status-related terms. Only one assemblage, the cemetery group from Pepper Hill, is clearly of radically different

character from the rest and for present purposes can be set on one side. With regard to spatial issues—and therefore to questions of access to markets—there are no idiosyncratically placed fine and specialist ware suppliers whose input would be likely to produce heavily skewed figures. Chronological aspects can be factored in; for example, work in the Thames Valley showed that the baseline representation of fine/specialist wares increased markedly in the Late Roman period, almost entirely as a result of the impact of the Oxford industry (Booth 2004, 42–4). The same pattern is seen here. At Hazells Road, the only substantially late-Roman HS1 assemblage, fine/specialist wares were more common than at any other site except Pepper Hill and the small (statistically invalid) sample from White Horse Stone. The sherds, comprising 11.3% of the assemblage, were almost entirely of Oxford colour-coated ware and mortarium fabrics. It is to be expected, therefore, that those assemblages with a significant Late Roman component would automatically have had higher fine/specialist ware levels than those occupied only in the Early Roman period, regardless of any other distinctions between them.

Leaving aside the chronological and functional anomalies (Hazells Road and Pepper Hill respectively) two or possibly three groups of sites emerge from the ranking of fine and specialist ware percentages. Whitehill Road and Tollgate have extremely low fine and specialist ware levels (0.4% of sherds in each case) while at Hockers Lane, Beechbrook Wood and Snarkhurst Wood the figures are 1.9%, 1.3% and 2.7% respectively. All these sites are exclusively early in date and their assemblages are effectively dominated by local coarse wares. The remaining sites also all had a significant Late Iron Age–Early Roman aspect but then saw continued activity into the later Roman period, though the extent of this seems always to have been at a lower level than earlier. Their fine and specialist ware levels are remarkably consistent, in a range from 4.4% at Bower Road to 7% at Northumberland Bottom with Thurnham firmly in the middle at 5.9%. (cf Fig. 5.55, for the presentation of fine and specialist ware data there in terms of REs see below). A more detailed examination of the fine and specialist ware breakdown reveals no evident distinction between the sites in these terms.

Several possible conclusions can be drawn from this. The most straightforward is that there was no significant difference in the character of this group of sites as demonstrated by their ceramic assemblages, despite readily perceived distinctions in other aspects, particularly between the villa site at Thurnham and the other rural settlements. A number of explanations are possible for the absence of the expected correlation between the 'high-status' site of Thurnham and a high fine and specialist ware level (Booth 2006b), but the main ones are that Thurnham was fundamentally similar to the other rural sites, or that the basic premise of a correlation between site status and fine and specialist ware levels is not valid in this region. If at first sight the latter conclusion is disappointing it is not without interest. It could be interpreted to indicate that most pottery types had at

least the potential to achieve an even distribution through the area and that the principal factors affecting distribution were related to the physical characteristics of the distribution mechanism. Such an interpretation perhaps suggests the early development of aspects of a market economy, a suggestion that receives some support from Holman's conclusion that one of the uses of Iron Age coinage in the region was 'for daily activities such as trade', even if only at a low level (compared to barter) at this time (Holman 2005, 42). If a market-driven distribution system did apply to pottery it might be expected that the more distantly derived fabrics would perhaps concentrate in a very limited number of principal distribution centres, but that there would otherwise be little difference in the incidence of fabrics across a range of types of site in 'rural' contexts. There are too few quantified data for this model to be tested adequately, but it receives superficial support from Westhawk Farm, where the fine and specialist ware figure was 5.1% of sherds, exactly in the range of the majority of HS1 sites and not showing any enhancement resulting from its role as a local market centre, as opposed to one of the few principal distribution centres postulated above, where such enhancement might be particularly expected.

Other villas in the Maidstone area seem to have been broadly comparable to Thurnham in the character of their assemblages. At Snodland (Seager Smith 1995) a group of 1024 sherds mainly of 2nd–3rd century date included 20 of samian ware (2%) and although sherd counts are not given for all the fine and specialist wares the total of these is unlikely to have fallen much outside the 4–7% range seen on the HS1 sites. At The Mount, Maidstone, 'Finewares, ...mostly Upchurch-type fabrics... comprise *c* 12 per cent by sherd count of the total assemblage' (Savage 1999, 114). Clearly if the fine Upchurch wares (principally fabric R16) are removed from the equation the total fine ware figure will have been low, and the fine and specialist ware representation recorded for a sample from the 1994 excavation was *c* 5.5%. This figure was based on a small REs total and a list that appears not to have included samian ware (*ibid.*, 116–8), so comparison of percentages based on different measures is not strictly valid, but broad comparability with the figures already discussed (and cf Fig. 5.55) seems to be indicated. It is unfortunate that the pottery from the 1970s excavations (Kelly 1992) was not systematically quantified, though one mid 2nd–mid 3rd century group was analysed in terms of EVEs by Pollard (1988, 236–8). Some 3% of this group consisted of fine and specialist wares. In a subsequent note Pollard (1992, 223) remarks on 'this anachronistic situation—a well appointed property with a humble range of pottery', but the HS1 sites and the Snodland data suggest that this situation was far from being anachronistic, and that Pollard's comparanda—Springhead, Rochester and the cellar deposit at Chalk—conform to a pattern similar to that seen in the majority of rural settlements.

The figures therefore seem to suggest a reasonable degree of uniformity in supply of fine and specialist wares across this part of Kent, more or less regardless of

site type. A possible inference from this is that there is little indication of socially-embedded control of the distribution of imported material, which might have been expected to produce a more distinctly varied pattern of consumption. If this was the case it may be suggested that the observed pattern reflects a fairly well-integrated market economy; though perhaps not a hugely effective one in terms of distribution of imported pottery. Such a situation would contrast with that observed in regions such as the Upper Thames, where significant site to site variations in the incidence of fine and specialist ware can be correlated with variations in social status inferred from other characteristics and, by implication, indicate control of the distribution of certain types of ceramic (and presumably other) materials (Booth 2004), particularly in the Early Roman period. By contrast, interpretation of the HS1 material in terms of a well-integrated economic system would perhaps mesh with Monaghan's view that economic rather than other factors led to the decline of the Thameside/Upchurch industries in the 3rd century AD (see above).

If pottery assemblage analysis in terms of fine and specialist wares generally sheds little light on the character of the HS1 sites and their inhabitants, what of examination in functional terms? Evans (2001) has used the ratio of jars to dishes and bowls as a means of clarifying distinctions between some major site types and also indicating regional variation in these patterns. Broadly speaking, higher ratios of open forms (bowls and dishes) to jars are associated with urban sites but, as indicated above, there is a chronological aspect as well, with a general trend, in southern Britain at least, towards increased representation of bowls and dishes on sites of all types through time—paralleling the shift in the base line level of fine and specialist wares discussed above (see also Booth 2007, 331–4). In Figure 5.55 aspects of both analyses are presented, with the percentages of fine and specialist wares recalculated in terms of REs so that the figures in both axes are based on the same measure. Reassuringly the relationships between sites based on these recalculated figures are almost all the same as those based on sherd count, even though the actual percentage figures are not identical (the RE figures enhance fine and specialist ware levels across the board).

Three main groupings can be seen—the almost exclusively early sites of Whitehill Road, Snarkhurst Wood, Tollgate and Northumberland Bottom (East of Downs Road), all with fine and specialist wares at less than 2% of REs, then the previously identified cluster of sites with fine and specialist ware levels now between 8.5% (Bower Road) and 12% (Hockers Lane). The two 'anomalous' sites, Pepper Hill and Hazells Road, have effectively identical fine and specialist ware figures at nearly 31%. The sites of the first two groups, however, show considerable variation in the percentages of open forms present, not so much in absolute numbers, but in relation to each other. In the small assemblage at Northumberland Bottom (East of Downs Road) open forms are more than twice as common as in the other sites in this early group. This may be a quirk of the assemblage

size, but it may reflect the small slightly later (late 1st–2nd century) component in this assemblage missing from the other sites. The ‘middle status’ group of sites also shows variation in the percentages of open forms, but only

Saltwood really stands out as anomalous and this may simply be because the bowl total was boosted by two complete vessels. The exclusively early site of Hockers Lane also joins this group on the basis of a single vessel, a

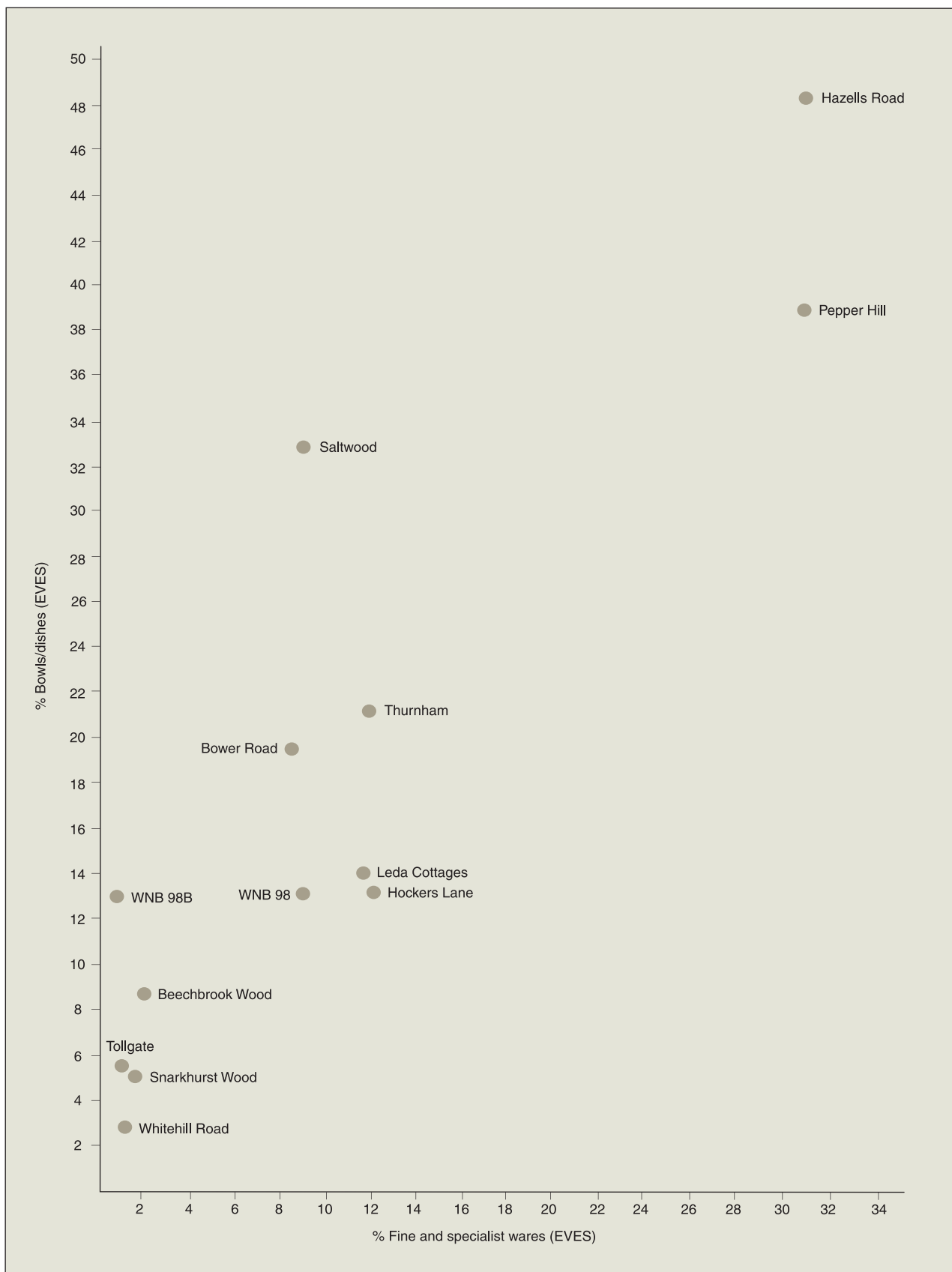


Figure 5.55 Comparison of pottery fine and specialist ware representation with incidence of bowls and dishes

Terra Rubra platter that enhances the fine and specialist ware level as well as the representation of open forms. The real significance of this vessel remains debatable.

Overall, therefore, while there is a fairly clear correlation between enhanced fine and specialist ware levels and the incidence of open vessel forms it is less certain that this has anything to do with status-based characteristics. On balance the ‘status’ (ie fine and specialist ware level) distinctions have been seen as chronologically based or related to specific site function, and increases in the occurrence of open forms could be seen in the same way, although relatively high representation at Thurnham and Bower Road could be significant (for Saltwood see above). This broad picture probably conceals nuances in the evidence that reflect the working of other factors. It is possible that the Terra Rubra platter at Hockers Lane is one such. The wide variety of Late Iron Age and Early Roman imported fabrics at Thurnham may constitute another. These were not numerically important—which perhaps supports a view that they do not represent normal trade—but rather a selective and still socially embedded network of distribution, which had a minimal impact on most sites in the area. It can hardly be a coincidence, therefore, that Hockers Lane lies very close to Thurnham. A direct connection between the two sites in the Late Iron Age, already postulated, seems to be supported by this evidence.

In summary, the archaeological evidence for the nature and operation of society is most useful when structural and artefactual data are of sufficient quantity and quality to be used together (and ideally correlated with the evidence from burials). Consequently the clearest picture of these aspects comes from sites such as Thurnham and Pepper Hill. At the former it may be suggested that a local land-holding (?owning) family with some connections to regional power/patronage networks (perhaps centred at Quarry Wood, Loose) in the Late Iron Age sustained or perhaps enhanced their position in the post-conquest social hierarchy. This position was underlined at an early date by the construction of a modest house of radically new character and other buildings, possibly including a temple, while one member of the family may have spent time serving in the Roman army. Concerns with management of the approach to the site and its visual impression are apparent, and regardless of the interpretation of the ‘temple’ involved a monumental religious aspect represented by the large upstanding post. A range of artefacts attests to changes in aspects of daily lifestyle. In the later 1st century AD this community would have stood out against its surroundings. It had links with those at broadly comparable sites, such as Eccles, whence a large quantity of building material was obtained. Indications of a relatively well-integrated regional economy suggest that this link could have been commercial, but there were probably social connections as well. Much wider ranging connections may be hinted at by the striking similarity in the developmental sequence of the main villa house with that at Boxmoor in Hertfordshire, but the nature of such connections can only be speculative.

Meanwhile, a family perhaps of similar standing at Northumberland Bottom (west of Wrotham Road) had used the provision of grave goods as a probable means of establishing pro-Roman credentials in the generation immediately following the conquest. The relatively ordinary character of the few graves assignable to the later 1st century and later might suggest that the family fortunes changed at this time, or that status display was channelled in different directions, perhaps concentrated in the unexcavated part of the settlement complex. It is notable, however, that an inhumation burial dated by a mid 3rd century coin was exactly aligned upon three of the 1st century cremation burials and indicates that their location remained known at this time.

In its 2nd century form the Thurnham villa complex appears less remarkable than previously, although it continued to develop in interesting ways. A bath suite was added to the main house, possibly replacing a free-standing block associated with the proto-villa, but was probably demolished before the time, about the mid 3rd century, when primary use of the villa house for domestic occupation seems to have ceased. Agricultural and other activities continued, but the domestic component was probably confined to estate workers in these areas.

Elsewhere, with the partial exception of the somewhat enigmatic site of Bower Road, site morphology, an absence of structural evidence, and reasonable uniformity of artefactual material argue for a society with relatively little differentiation of status as expressed by these features. A general similarity between the available evidence for rural burials and that from Pepper Hill suggests that many of the people buried at the latter site, whether they came from the nucleated settlement of Springhead or from surrounding agricultural communities, were of this same general status, although higher incidences of cremation urns and brooches at sites such as Saltwood and Beechbrook Wood might have been significant. Different identities within this group, the bulk of the population, may have been marked more or less subtly in a variety of ways.

Grave goods cast a little light on the status of groups in society at Springhead. Apart from the special case of the very young children buried beneath Springhead’s temples as foundation offerings (Penn 1960, 121–2), older children were also buried in formal graves among adults. Bracelets buried alongside a sub-adult aged between 13 and 19 years might have offered protection to the deceased or symbolised a life cut short by representing social structures such as marriage that could never be fulfilled by the deceased (Martin-Kilcher 2000). A bell from an infant’s grave (1438) was perhaps deposited to ward off evil spirits (Cool 2006a). Spouted vessels—so-called ‘infant feeders’—were found in four graves. Their use has been the subject of much debate (eg Webster 1981; Martin 1997), but here they accompanied infant burials, certainly in one grave, and probably in a further two.

The link between grave goods and socio-economic status is complex, not to say ambiguous (Biddulph 2006b, 39–40; Philpott 1991, 228). Pepper Hill’s average of 1.7

ancillary vessels per pottery-yielding grave was among the lowest in the region. Only groups from Kelvedon (Rodwell 1988), London's eastern cemetery (Barber and Bowsher 2000), and Butt Road, Colchester (Crummy and Crossan 1993)—all Late Roman or with significant Late Roman components—tended to be smaller. Cemeteries with a higher proportion of 1st and 2nd century graves, such as Ospringe (Whiting *et al.* 1931), Chichester (Down 1971) and Each End, Ash (Hicks 1998), typically produced larger grave groups. Further indications of low status can be argued for Pepper Hill on negative evidence. Amphora burials, for instance, were concentrated in Kent (Philpott 1991, 25), and examples are known in north Kent at Green Street, Darenth (Wheeler 1932, 151), Cooling (Thornhill and Payne 1980, 380–2), Upchurch (Kelly 1963, 201–3), and Hoo (Philpott 1991, table A2). Their absence at Pepper Hill, despite 'wide circulation' of the form by the late Flavian-Trajanic period (Pollard 1988, 66), is therefore notable. The evidence from Ospringe (Philpott 1991, tables 5 and 6) suggests that, like samian ware, amphorae tended to be accompanied by relatively high-status objects, such as glass and mirrors, or by a greater number of pottery vessels. Similarly, an amphora burial from Each End, Ash, contained a glass goblet (Tatton Brown 1998, 157, 159–60). Lamps and cups, commonly found in high-status and urban burials, were also rare or non-existent at Pepper Hill.

Some wealthier graves can be potentially identified at Pepper Hill, however. Graves containing caskets are chief among them. Those that produced samian ware may also have been of higher status, at least in relative terms. Samian ware had a particular association with high-status burials in south-eastern England, in which the type was preferentially selected (Biddulph 2006b, 34), and it is notable that at Pepper Hill graves with samian ware averaged 2.3 vessels per grave compared with the site average of 1.7 vessels per grave. However, graves containing items such as finger rings or glass unguent bottles usually received up to two vessels, or none; a correlation between object type and status is still far from clear. Pepper Hill, as a communal cemetery, could have received burials from a cross-section of the community, including relatively wealthy individuals, as occasional higher-status items, such as the glass bead necklace from grave 10520 and casket from 291, might suggest, but it seems most unlikely that the full spectrum of Springhead society was represented here.

The wealth and status of the deceased or mourners may have determined the method of burial as well as the character of grave goods. The *busta* are the clearest expression of this (though perhaps most important in terms of social rather than economic status), but in general cremation was a relatively expensive business, and this may have persuaded the poorest in society to opt for inhumation. Indeed, that unfurnished inhumation graves were commoner than unfurnished cremation graves seems to support this view, hinting at a generally low level of wealth for many users of the cemetery.

The potential status variation observed within the Pepper Hill cemetery therefore seems to be broadly

confined within the lower tiers of local society. None of the HS1 burial evidence (except a single child burial from Thurnham, of rather uncertain status) clearly correlates with the upper part of the social range indicated by settlement sites such as the Thurnham villa. Such burials in the Early–Middle Roman period are represented at the A2 Tollgate site (equivalent to HS1 Northumberland Bottom, West of Wrotham Road), and elsewhere in the region at a number of sites which include walled enclosures and relatively monumental structures (Jessup 1959). The association between such features and villa sites is seen clearly at Keston (Philp *et al.* 1999, 45–60) and their occurrence in the Maidstone area is likely to be related to villas there. The high status walled cemetery at Springhead may have been for a group living within the confines of the settlement, but it is perhaps as likely that they were associated with a villa complex located just outside Springhead. The reuse at Hazells Road of building material consistent with such a structure may provide a clue to the existence of such a site a little to the east of the 'town'. With the exception of the Lullingstone mausoleum, however, none of the high status burials in the area is of Late Roman date. Expressions of high status in burials of this period must have taken a generally different form. Moreover, even in the Early Roman period, as the A2 Tollgate evidence might suggest, there was not necessarily a clear correlation between rich burials and ostentatious domestic structures.

Settlement pattern transformation from the 3rd century onwards

One of the most striking aspects of the Roman sites of HS1 Section 1, already hinted at several times, is the apparently early end date of occupation at most of them. Of the sites best dated by pottery evidence only Hazells Road can be assigned entirely to the second half of the Roman period. A number of locations; parts of Northumberland Bottom, Thurnham, Bower Road and Saltwood Tunnel, saw activity in the 4th century, but in these cases, all of which were sites originally established in the Late Iron Age, this was at a reduced level in comparison with their earlier phases. While in general terms it may be perfectly reasonable to expect a degree of settlement mobility, perhaps encouraged in part by the development of nucleated local centres (eg Taylor 2001, 56–9), this is not what is seen here. Rather, the rural settlement pattern in this transect through Kent appears to be in terminal decline, for the most part by about the middle of the 3rd century AD and earlier in places. Two simple questions follow from this: is this pattern observable elsewhere within the region and how is it to be explained?

There is still a shortage of data from rural settlement sites in the region that can be used to address the first question. Relatively few such sites have been examined in the area through which the HS1 transect runs, and there is always the problem that small excavated samples will only reveal part of the development sequence of any one

site; nevertheless there are pointers. Three rural settlement sites recently examined in Headcorn and Ulcombe parishes are dated between the mid 1st and the early 3rd centuries (Aldridge 1998, 7) and at Runhams Farm, Lenham, the occupation was essentially of 1st–2nd century date, with only limited evidence of later activity (Philp 1994, 42–4). These sites all lie south and south-east of Maidstone, in the fringes of the Weald, while in Maidstone itself a site at Queen Elizabeth Square (Booth and Howard-Davis 2003) had already ceased to be occupied by the end of the 2nd century at the very latest, a pattern reflected in some of the other HS1 sites. West of Maidstone recent work on the route of the West Malling and Leybourne Bypass produced evidence for Late Iron Age–Early Roman sites characterised by well-defined ditched enclosures comparable to those of some of the HS1 settlements and with a distinctly early chronological range; there were ‘no archaeological features of post-1st century AD date from the Bypass route’ (Ellis 2009, 9), while at nearby Leybourne Grange settlement and other activity was confined to a similarly brief period (Biddulph 2011). Further south-east, a number of other rural settlement sites in the area east of Ashford saw either a cessation or a significant change in the character of activity in the later Roman period (K Parfitt, pers. comm.), although this cannot as yet be quantified. At Hawkinge, near Folkestone, substantial settlement evidence was principally of Late Iron Age–Early Roman date (House 2005).

Evidence from non-villa rural settlements in the more northern parts of the county is fairly limited (in particular, large scale excavation of such sites has been rare). At Bredgar near Sittingbourne, however, occupation effectively terminated within the 2nd century with minimal indications of later activity (Savage 2006, 366), while at Castle Road in Sittingbourne itself a site thought to be associated with agricultural activity was abandoned ‘over a short space of time’ in the mid 3rd century (Clark 2003, 34). On the Wainscott Northern Bypass, north of Rochester, activity which was probably peripheral to an unexcavated settlement also did not outlast the 3rd century, but here it was largely confined to that century rather than commencing earlier (Clark *et al.* 2009, 73). Further afield, a review of Roman settlement in Thanet showed that only two out of 21 sites for which some dating evidence was available seemed to fall in a 3rd/4th century or 4th century bracket. Rather, the evidence seems ‘to indicate occupation peaking in the second century’ (Perkins 2001, 46). This conclusion is broadly supported by the evidence from the recently-excavated East Kent Access Road, where intensive occupation is much more widely attested in the Late Iron Age–Early Roman period than later.

In the context of Thanet, it is notable that the villa complex at Minster ‘had been largely abandoned by the end of the third century’ (Holman and Parfitt 2005, 210), although there was then a significant re-occupation of the site in the 4th century, but of rather different character (*ibid.*). Further west, at Faversham, there was evidence of major structural alteration to the villa, dated to the early

3rd century, but a general absence of 3rd and 4th century material (for example only two significant late 3rd–4th century pottery vessels are reported, together with six coins of the same period) suggests a fundamental change in the character of the site (Philp 1968, 70–1). Elsewhere, however, both structural and finds evidence indicates continuity of activity at some north Kent villas (such as Eccles, Northfleet, Darenth and Lullingstone) well into the 4th century (Detsicas 1983, 181–2; Reece 1987 for coins including issues of the House of Theodosius at Lullingstone). At The Mount, Maidstone, activity extended into the early 4th century (Houliston 1999, 100). In contrast, at Snodland, pottery from the 1992–4 excavations was reported as ‘consistently second to early mid third century AD in date and broadly corresponds with the material recovered during earlier excavations at this site’ (Seager Smith 1995, 106). Again there was only a very thin scatter of 4th century coins (eg Ocock and Syddell 1967, 192–3, 216–7), but a notable individual find was a 4th century buckle of Hawkes type IVA (Webster 1967).

There are hints that the pattern of early contraction may apply to some nucleated sites as well as to rural settlements. This is seen most clearly at Westhawk Farm, Ashford. Intensively occupied in the 1st–2nd centuries, activity within the 6ha excavated sample was almost non-existent after the mid 3rd century. Coin evidence indicates some 4th century activity in the focal area of the settlement north-east of the excavated site, but this was clearly on a greatly reduced scale compared to the earlier period. Recent work at Springhead has shown that although there is evidence of 4th century occupation (also clearly seen in places in the earlier excavations; Burnham and Wachter 1990, 198) the great bulk of the artefactual material is dated to the 1st and 2nd centuries (Andrews *et al.* 2011). There is little detailed information for Rochester; structural evidence for Late Roman activity is unclear but there are substantial numbers of Late coins (Flight and Harrison 1978, 37, 44–54). At a site *c* 300m outside the east gate, however, occupation came to an end about AD 230 (Philp 2003, 213, 226). East of Rochester, at Ospringe, the situation appears quite complex. Individual areas examined did not necessarily have complete occupation sequences, but mid to late 4th century activity is certainly attested and it is possible that there were ‘shifts in the concentration of settlement’ (Sibun 2001, 192). Further west the status of other sites adjacent to Watling Street, like Dartford, is less certain, but here too there is more evidence for Early than Late Roman activity (eg Hutchings 2001, 117–8; Priestley-Bell and Barber 2004, 92; but see Frere 1990, 363–4), and rural sites in this area again mostly lack clear evidence of late Roman activity (eg Simmonds *et al.* 2011, 282).

Patterns of change are apparent in the southern part of the county with regard to the iron industry and some potentially related sites. For example the evidence for significant decline in the level of activity at Westhawk Farm is notably coincident with the demise of a number of iron-producing sites in the Weald to the west and

south-west (Booth *et al.* 2008), and also of non-Wealden iron-producing sites as at Wye (Detsicas 1983, 176). The former group includes the important sites of Bardown and Beauport Park, the ‘closure’ of which is dated between AD 220 and AD 240 (Cleere and Crossley 1985, 84–5), while at Little Farningham Farm, Cranbrook, occupation may have ceased ‘by the second half of the second century’ (Aldridge 2001, 155). The *Classis Britannica* fort at Dover had ceased to be occupied by the early 3rd century, a date of *c* AD 210 for its abandonment being favoured by the excavator (Philp 1981, 94–7). There is a very striking similarity between the profile of coin loss there and that at Westhawk Farm (Guest 2008). It is possible that the fleet retained an existing base at Lympne, or transferred its British operations there (Detsicas 1983, 176) up until its disappearance from records about AD 250, whenafter it may have been reorganised (Cleere 1989, 22), although Millett (2007) argues against the Dover fort having ever been a ‘base’ for the *Classis Britannica*. Some later formal installation is implied by the Dover ‘Painted House’ site, where the *mansio* buildings outlived the *Classis Britannica* fort but were superseded by the construction of the Saxon Shore fort, perhaps about AD 270 (Philp 1989, 282–3) or possibly a little later (Wilkinson 1994, 71–2).

In broader terms there is increasing evidence for differences in the chronological emphasis of settlements in eastern and western Britain as indicated by aspects such as patterns of coin loss (eg Reece 1995b). Such evidence can be taken to suggest a decline in the level of activity in a number of major settlements in eastern England before the end of the 4th century, in contrast to the situation observed further west (eg Reece 1998, 421; Moorhead 2001, 95–6). In Norfolk, however, this is not particularly apparent before the last quarter of the 4th century at the earliest (Davies and Gregory 1991, 91) and a similar pattern can be observed for Suffolk (Plouviez 1995, 74–5 and 78). At Heybridge, Essex, in contrast, peripheral areas of the settlement were largely abandoned by *c* AD 200 (Atkinson and Preston 1998, 100). Occupation of the central area continued right through to the end of the Roman period, however, and the pattern of coin loss seems generally to have followed a fairly ‘normal’ pattern (*ibid.*, 105). The situation in relation to rural settlement in Essex is less clear in detail, but an impression of change and decline is presented by Going (1996, 104) and the characteristic of ‘disappearance of on-site settlement in the later Roman era’ (*ibid.*) may be of relevance in a Kentish context.

Across the English Channel there are other indications of changes in settlement in the 3rd and 4th centuries, though there is a shortage of synthesis for sites in the most closely adjacent regions of northern France. A general survey (Van Ossel and Ouzoulias 2000) suggests that there is very considerable variation in the extent of settlement decline (ie the reduction in total numbers of settlements) from area to area within the wider region of Northern Gaul (*ibid.*, 137). In view of this variation they emphasise ‘the danger of generalising

from a local situation to a macro-regional scale’ (*ibid.*). Broadly, however, the changes discussed relate to the 4th century (eg *ibid.*, 148) and sometimes even later and, if not correlated directly, are still often in some way linked to the appearance of settlement of ‘Germanic’ organisation and plan (*ibid.*, 149). A review of the burial evidence from northern Gaul presents a similar line of argument—burials attest to the survival of a dispersed rural settlement pattern in the 4th century, although the numbers of sites are reduced (Van Ossel 1993, 192–3). Neither the chronology of change in the Late Roman settlement pattern nor the ‘Germanic’ aspects of it match the situation in the HS1 sites, so what the evidence from the near continent seems to provide is a generalised parallel of reduction in site numbers (based on both settlement and cemetery evidence) in the Late Roman period, but apparently starting later than the decline seen on HS1 sites. Whether the two trends were driven by similar processes is impossible to say, but this does not seem particularly likely on present evidence.

Overall, therefore, the picture of a radical transformation of the rural landscape in later Roman Kent, effectively by the middle of the 3rd century, presented by the HS1 sites has widespread echoes. These occur within the county in relation to much iron production in the Weald and to pottery production in the Thameside area (Monaghan 1987, 227–30), to lower status rural settlements across a wider area and, in some cases at least, to villas and parts of major nucleated settlements. Although in some cases the chronological correspondence of these developments is quite close, this is by no means consistently true. It is therefore unlikely that the changes observed have a monocausal explanation, except perhaps of a most general nature; nevertheless the consistency of the evidence suggests that there may have been one or more common trends that underlay local transformations of the Late Roman countryside.

A major problem is to define what this countryside looked like. It is notable that, unlike the situation described by Going (1996, 104) at sites such as Mucking, there is typically no evidence for Late Roman field systems and other boundaries at the sites of the disused Late Iron Age and Early Roman settlements of HS1, or in their immediate environs. At sites where there is more direct evidence of continuing occupation, as for example at Thurnham and Bower Road, there are indications that elements of ditched enclosures may have remained in use, but such evidence is not found elsewhere, with the possible exception of Saltwood Tunnel, where the quantity of Late Roman material suggests nearby contemporary settlement, even though this was not identified within the excavated area. The extent to which the framework of the Early Roman landscape remained in place and in use is therefore unclear. Trackways at Saltwood and the Rochester-Weald road at White Horse Stone survived as working components (as is indicated by their post-Roman histories), as did the Canterbury-Weald road at Westhawk Farm, but the condition of the localised tracks associated with sites such as Northumberland Bottom, Tollgate and Leda Cottages is

not known, although at Tollgate there was apparently no evidence to suggest the continuing use of the trackways in the Late Roman period, despite evidence for heavy use of part of the system indicated by wheel ruts and secondary surfaces (Bull 2006b). The clearest indication of continued activity in the Late Roman countryside comes from Hazells Road, where the trackway was associated in the 4th century with a large 'corn-drier'. Such evidence, which would be considered commonplace in many parts of Roman Britain, stands out here for its rarity value, although a trackway and field system components of comparable Late Roman date have been examined in a Thameside location further west at Bexley (Lakin 1999).

The extent to which Early Roman field systems survived in use is therefore uncertain. Were parts of the rural landscape disused? Evidence for woodland regeneration has been mentioned above, but appears small scale and restricted; wholesale abandonment of landscapes should have been detectable in the environmental record, but this is not seen here, or in work on sites in the Dartford area – in the latter case boundaries did not survive in the long term, but landscapes remained largely open (Simmonds *et al.* 2011, 197). Where, then, have the people gone? Could the regional settlement pattern have been reconfigured in the Late Roman period in such a way as to render the majority of earlier settlements (at least as seen in the HS1 sample) completely redundant? Does the problem reside in the specific topographical niche occupied by so much of the HS1 transect? Could the agricultural landscape have been maintained by a smaller population without significant changes in character? This seems unlikely. If estate centres were relocated in some cases, as is suggested by the radical change of character of activity in the main house at Thurnham, where did they move to? Were small- to medium-sized villas like Thurnham, and arguably The Mount (Maidstone) and Snodland, also in this area, absorbed into larger estates, resulting in continued activity on these sites but at a lower level than previously? If so, however, where were these larger centres? Do Eccles, Darenth and Lullingstone, for example, produce sufficient evidence to suggest that they saw a corresponding change of character in the Late Roman period? Perhaps the construction of a new aisled building at Darenth in the late 2nd century (Philp 1973, 124–35) should be seen in this light? There is certainly no indication of a concentration of activity in the nucleated settlements. For the most part the reverse seems to be true, and taken at face value the evidence from the Pepper Hill cemetery also suggests a declining population, in line with the indications provided by the rural settlements themselves.

The conclusion that there was at least sub-regional contraction of the rural population seems inescapable, and this must have involved some reordering of the settlement pattern. There is, however, little indication of Late Roman reorganisation of the landscape and therefore no framework within which to postulate significant transformations of rural society, although a simple

view of decline within the established socio-economic framework does not seem very satisfactory either.

There are developments within the region that can be attributed to the 3rd century, but their significance in terms of broader patterns of settlement change is highly debatable. For example, the broad synchronicity of the abandonment of a large part of the Westhawk Farm settlement and a number of the most important iron producing sites in the eastern Weald, subsequent to (though not necessarily consequent upon) the abandonment of the *Classis Britannica* fort at Dover, may suggest that some reorganisation of the iron industry was a contributory factor to the 3rd century phase of site contraction and/or abandonment (Booth *et al.* 2008). In this case it is thought more likely to be the cessation of a range of support services, associated with iron production, which precipitated a major decline in the scale of activity in the settlement. The demise of Westhawk Farm as a major local centre may have had consequences for surrounding settlements, perhaps including sites such as Bower Road, for whose agricultural surplus Westhawk likely served as a major market (*ibid.*).

This possible scenario raises a wide range of questions about the mechanisms of such an operation. Was the cessation of iron production in the eastern Weald a gradual trend or a well-defined, sharp change? Were people impelled or induced to relocate and, if so, how and how far? Was this simply a local phenomenon or did, for example, specialist ironworkers and their dependants move out of the region altogether to other centres for their trade? Was the motive force behind these developments provided by free-market economics, local elite control, state control or some other mechanism? Whatever the answers to these questions, however, it is difficult to see that these developments would have had repercussions that extended as far as the north of the county. In other words, they may have been of importance at Westhawk Farm and perhaps at sites in the vicinity, but were at most only a contributory factor in wider changes.

Whether or not the changes in the iron industry were led by matters relating to state/military supply, other Late Roman state-sponsored developments certainly impacted on the region. Recent interpretations of the forts of the 'Saxon Shore' (eg Cotterill 1993; Allen and Fulford 1999, 177–81; Pearson 2003) have tended to minimise their significance as strictly defensive structures. As bases for ensuring secure transit of military supplies and taxes in kind, however, these were important installations, but of little immediate relevance to the local population. Unlike the building of town walls, these were not monuments which reflected the prestige or involvement of *civitas* elites. Nevertheless, their construction will at the least have exploited local resources of materials and presumably manpower. In view of changing perceptions of the character of the forts, however, it does not seem likely that the decline of settlement was closely related to the problem of security which the forts were traditionally thought to have been intended to address, despite a broad coincidence of the chronology of decline with the

period of construction of the Kentish sites. Pearson's (2006) view that the scale of piracy in the 3rd century is unlikely to have been such as to merit a 'defensive' system based on these forts seems plausible. In this case it is highly improbable that 3rd century raiding can be invoked as an explanation of declining settlement in Kent, particularly since there is no suggestion that abandoned sites concentrated in coastal areas.

Lympne (Cunliffe 1980) is the only 'Saxon Shore' fort in the near vicinity of HS1 sites, lying just 3.5km south of the line at Westenhanger and 4.5km south-west of Saltwood Tunnel, the nearest significant HS1 Roman site. There is no demonstrable link between the two, but it may be significant that Saltwood did produce artefactual evidence of Late Roman activity, even though its context is poorly understood (Riddler and Trevarthen 2006). The evidence includes metal finds, of which a silver pin and part of a strap-end are the most significant. The latter is of 'dart-shaped' form, with a pair of small lobes at the waisted junction with the sub-rectangular attachment tab (Riddler and Ager 2006). A rather smaller example of this form was found in the 'dark earth' layer at the Marlowe IV site, Canterbury (Ager 1987, fig. 1b; Blockley *et al.* 1995, 1029 no. 417). Several small fragments of copper alloy sheet found in the fill lying above the Iron Age grave C24 may perhaps represent a small part of a second strap-end of indeterminate form. The extent of 'military/official' associations of these objects remains the subject of debate (eg Swift 2000, 201; see also the Snodland buckle mentioned above). Equally it is uncertain if the distribution network for late imported ceramics, Argonne ware and Mayen ware, both represented at Saltwood and relatively widely distributed in East Kent (Pollard 1988, 142, 155), was articulated through sites such as Lympne or Dover, or operated in some other way. Present evidence, however, suggests that the fort at Lympne was abandoned *c* AD 350, despite a late reference in the *Notitia Dignitatum* (Reece 1989, 156–7).

In view of the general paucity of very Late Roman evidence it is unsurprising that there is little indication of the relationship, if any, between Late Roman and Early Anglo-Saxon settlement patterns. The only clear spatial association is at Saltwood Tunnel, where the Saxon cemeteries were set in the Romano-British landscape (leaving aside the question of how far this was still functioning as such). It may be no coincidence, however, that there are slight indications of Saxon activity in the vicinity of the two sites with the longest occupation sequence and also the most substantial structural evidence, namely Thurnham and Bower Road, a pattern of association seen at sites such as Darenth (Philp 1984, 84–6). The HS1 evidence is much slighter, however. At Thurnham it consists of a single sherd of possible Early Saxon character, while at Bower Road the possible association is with an isolated sunken-featured building some 600m east at Little Stock Farm (see Chapter 6). Another example of proximity is seen at Hazells Road. Very recent work on the A2 has revealed a sunken-featured building barely 150m north of the Late Roman

features (Allen *et al.* forthcoming), but as this lies close to the 12th–13th century settlement excavated at East of Downs Road (Askew 2006) a later rather than an Early Saxon date seems likely.

The links between Late Roman and Anglo-Saxon settlement are therefore tenuous, but it is presumably significant that such associations are not seen in the case of settlements where activity ended relatively early in the Roman period.

Overall, the HS1 evidence suggests that parts of the Kent countryside were only thinly occupied in the Late Roman period, and that the major changes in the rural settlement pattern had taken place in the period from the late 2nd to the mid 3rd century. A number of broadly synchronous trends, including decline in some major settlements and in 'industrial' areas, have been identified, but it remains unclear how closely these were related. Does this pattern represent a precocious aspect of the broad trends suggested by an 'east-west' divide in Roman Britain, or does it reflect a more individual sequence of development, specific to parts of the extreme south-east of the country? At present the evidence points to concentration, rather than agglomeration of settlement. That is to say that there is no clear indication of the expansion of individual sites, whether villa complexes or nucleated settlements, to compensate for the apparent disappearance of parts of the rural population. Ickham (Bennet *et al.* 2010), with possible connections to military/official provision (but see *ibid.*, 321), is one site that might contradict this view, although the nature of the site makes it very difficult to estimate the real scale of Late Roman activity and, particularly and more importantly in this context, whether this was more extensive than earlier Roman occupation. Other important foci of Late Roman activity may yet emerge, but at present they remain elusive.

Conclusions

The most striking characteristic of the HS1 sites of the Late Iron Age and Roman period is the concentration of activity at these sites in the early part of the period. While it may be that the morphological characteristics of Late Iron Age settlements in the region '...have their origin in the Middle Iron Age' (Hamilton 2007, 83) the HS1 evidence suggests that there are few direct physical relationships between the settlements of the two periods. Moreover, the sheer quantity of Late Iron Age and Roman settlements seems to have been significantly greater than for the earlier period. This fact and the chronology of the relevant sites suggest, at least superficially, a substantial and broadly synchronous expansion of settlement across much of the area of the HS1 route in the later 1st century BC and into the early 1st century AD. Further work will be required to demonstrate whether this is a genuine pattern, observable across a wider area, but if the evidence for intensification of the settlement pattern is correctly understood it implies both population growth and a correspondingly higher level of

exploitation of most parts of the local landscape. Limited evidence for decline in woodland resources might reflect an increase in uptake of arable land associated with these trends. In broader terms the observed pattern appears compatible with that discussed by Hill (2007, 24), in which areas including 'large parts of Kent' (*ibid.*) which had seen relatively little permanent settlement in the Middle Iron Age, and may in fact have been peripheral to wider settlement patterns (see also Hill 2002, 156), were much more intensively exploited in the Late Iron Age.

Such developments may have had significant social consequences, but these are less easily identified in the archaeological record. There are few hints of social differentiation between the various excavated settlements, although in a number of cases the limited nature of the sample probably precludes identification of such distinctions. There are slight hints in the structural and ceramic evidence that the occupants of Thurnham (and perhaps a satellite at Hockers Lane) may already have been differentiated in status from their neighbours, but this only becomes tolerably clear after the Roman conquest, with the construction of the proto-villa and the appearance of a much wider range of pottery and other objects. Status display, whether or not directly related to changing social structures, could be expressed in a variety of ways, for example in burials. Conspicuous consumption in Early Roman grave good provision is not seen directly in the HS1 sites but, as revealed in recent work on the A2, sheds important light on the occupants of the Northumberland Bottom settlement at West of Wrotham Road. Unfortunately it is less clear if this demonstration of wealth was matched in other aspects of the settlement, most of which lies between the HS1 and A2 transects.

In most cases, however, there is little evidence for fundamental changes in character as settlements developed through the Late Iron Age and Early Roman periods. Regularisation of enclosure form is rare and structural evidence, with the exception of the simple four-post type interpreted as granaries, remains elusive. Perhaps more importantly, other evidence for agricultural practices (admittedly uneven in quality) suggests neither widespread intensification of production nor significant changes of emphasis in the range of crops and animals exploited. Only at Thurnham are there hints of a widely observed Romano-British trend in which cattle increased in importance at the expense of sheep/goat, and while well known developments in the technology of crop processing, such as the introduction of 'corn-drying' ovens, are seen at Thurnham and Hazell's Road, these do not seem to have been associated with malting, a typical feature of later Roman arable practice. Overall, therefore, increased exploitation of the landscape may have resulted principally from a growth in the number of settlements utilising it in the Late Iron Age and Roman periods, rather than from more intensive use of the land attached to each individual site. There may be a chronological aspect to the evidence, however, in that the clearest evidence of changing agricultural patterns is seen at sites such as Thurnham and Bower Road in the Middle to Late Roman period, whereas many of the other settle-

ments had apparently ceased to be occupied or at least were already in decline by this time, so it is impossible to say whether they would have shown comparable patterns of development had they survived longer. Non-agricultural economic activities seem to have been of minor importance right across the region, with the possible exception of iron production at Leda Cottages, although even there the volume of production would have been significant only in local terms.

The middle echelon of a rural settlement hierarchy is seen most clearly at Thurnham and to a lesser extent at Bower Road, where important elements of the site may have lain outside the HS1 easement. Elsewhere there is little indication of variation between sites expressed in terms of differences in their artefact assemblages. Even at Thurnham, the pottery assemblage, for example, is only distinguished from those of contemporary settlements to a limited extent. After the major building programme of the first half of the 2nd century the degree of difference between Thurnham and other nearby rural settlements may have become less marked, with the potentially very significant exception that not all of these remained in occupation. After the mid 3rd century, however, there was a distinct change in site character at Thurnham when the formal domestic use of the main villa house was abandoned. This sequence reflects the wider regional pattern suggested by the HS1 and other evidence; many sites were either abandoned by this time or saw significant changes in the nature of settlement, typically resulting in a reduced level of activity.

Such developments imply far-reaching changes, but whether these were political or (more likely) socio-economic in character is unknown. The termination of a number of site sequences may concentrate around the middle of the 3rd century, but the HS1 evidence makes it clear that some rural settlements had effectively ceased to be occupied well before that time. The apparent emptying of parts of the Kent countryside was therefore an extended process and thus seems unlikely to have a monocausal explanation, although a single major, medium term trend could have been a significant factor. If such a trend was not itself a direct consequence of changes within society, its impact on local and regional society must have been very considerable. Further characterisation of these changes and consideration of their significance, both in a regional and a national context, must be a high priority in future work on Roman Kent.

The improved definition of this pattern of rural settlement development and demise has been one of the main results of the HS1 work on sites of the Roman period. While superficially some of the other results in this period appear to be negative in character, they also serve to refine characterisation of regional rural settlement, in terms of a lack of identifiable architectural traditions on lower status sites, potential conservatism in agricultural practice and so on. Conversely there is quite widespread evidence for aspects of religious practice, even if such evidence was concentrated at the relatively high status settlement of Thurnham. The diversity of this evidence is

important, as is its occasionally ephemeral nature, and can also be linked with that for burial practice. The evidence from Pepper Hill, in particular, has been critical for demonstrating the contemporaneity of Early Roman inhumation and cremation burial traditions in the region and allows speculation about the nature of the relationship between the two. The indication of a population of relatively uniform status, as suggested by the grave assemblages, is consistent with the relative homogeneity of the settlement evidence discussed above, supporting the view that the Pepper Hill cemetery could have

included both town and country elements in the burial population. Nevertheless, the occurrence of burial rites which were clearly not of local origin, such as the cremations of *bustum* type, highlights the potential presence of groups of outsiders, some of whom may be much less readily identified than those associated with the *busta*. Even allowing for the loss of much vital information about the people of Pepper Hill, which could have been based on osteological examination, the unique capacity of cemetery evidence to provide a human insight into past populations has been demonstrated very clearly.