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FINAL REPORT ON THE EVALUATION OF A PROPOSED BRICKWORKS AND CLAY EXTRACTION SITE AT BELL EAU PARK, BILSTHORPE, NOTTINGHAMSHIRE.

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TRENT & PEAK
ARCHAEOLOGICAL UNIT

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SUMMARY

- This evaluation was commissioned by Chelwood Brick Limited and Eakring Farming Limited in connection with the proposed development of a brickworks and clay extraction site at Belle Eau Park, near Bilsthorpe, Notts.

- The development site lies about 400m east of the old Bilsthorpe village in central Nottinghamshire, centred on National Grid Reference SK 660 599. It takes the form of an irregular polygon of about 39ha.

- Trial excavations were carried out to investigate cropmark features and the possible extension of the park moat into the proposed site . Trench 01 was located to look at the possibility of the park moat or structures associated with it lying within the development area. Trench 02 was positioned on the projected line of a cropmark thought to be the line of a Roman Road. Trench 03 was located to look at a trackway of unknown date known from cropmarks.

- The features in trench 03 correspond approximately with those plotted as cropmarks. The excavation of these features produced no dating evidence and their function remains uncertain. Typologically it remains reasonable to assume that these features are of later prehistoric or Romano-British date.

- The results from trench 02 confirm the location of the cropmark and its interpretation as a metalled road surface, undated by excavation, but morphologically most likely to be Roman in date. A number of features were found, sealed beneath the road. These may represent isolated features or possibly part of an archaeological landscape preserved locally beneath the Roman road.

- There is no clear evidence relating the ditch in trench 01 to a parkland or parish boundary feature and on balance it seems most likely that it is a field boundary of relatively recent date

- In addition, fieldwalking was undertaken over the entire of the proposed development area with the intention of identifying concentrations of artefacts within the ploughsoil that may indicate the presence of underlying archaeological features of deposits.

- The fieldwalking identified a well-defined scatter of prehistoric struck flint that occupies the south-central part of the proposed development area. The flint scatter appears to represent activity of two periods, the Mesolithic and the Bronze Age

- Archaeological remains identified by the evaluation are concentrated at the southern end of the proposed development area, close to the location of the proposed brickworks.

- None of the remains identified are of sufficient importance to warrant preservation *in-situ*. A combination of prior excavation and watching-brief should secure a record of all archaeological remains affected by the proposed development.

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1.1 SITE LOCATION

The development site lies about 400m east of the old Bilsthorpe village in central Nottinghamshire, centred on National Grid Reference SK 660 599 (Figure 1). It takes the form of an irregular polygon of about 39ha, its greatest dimensions being up to 1.2km north/south and 0.6km east/west.

It is located almost entirely on the 'Keuper waterstones', except for a small area east of Wycar Leys in which the underlying Sherwood Sandstone forms the immediate subsoil (Geological Survey sheet 113). The Sherwood Sandstone areas are particularly susceptible to cropmark formation while the 'Keuper waterstones' are much less so: their southern edge is a lower clay formation (where cropmarks are highly unlikely to be seen), overlain by brownish micaceous sandstones alternating with red silty marls and shales; which occupy the majority of the development site.

The land contains a broad central ridge climbing generally from the south-west, between Wycar Leys and the Belle Eau Park building complex, to north-east at the wood called Fox Holes. It consists largely of gently undulating terrain.

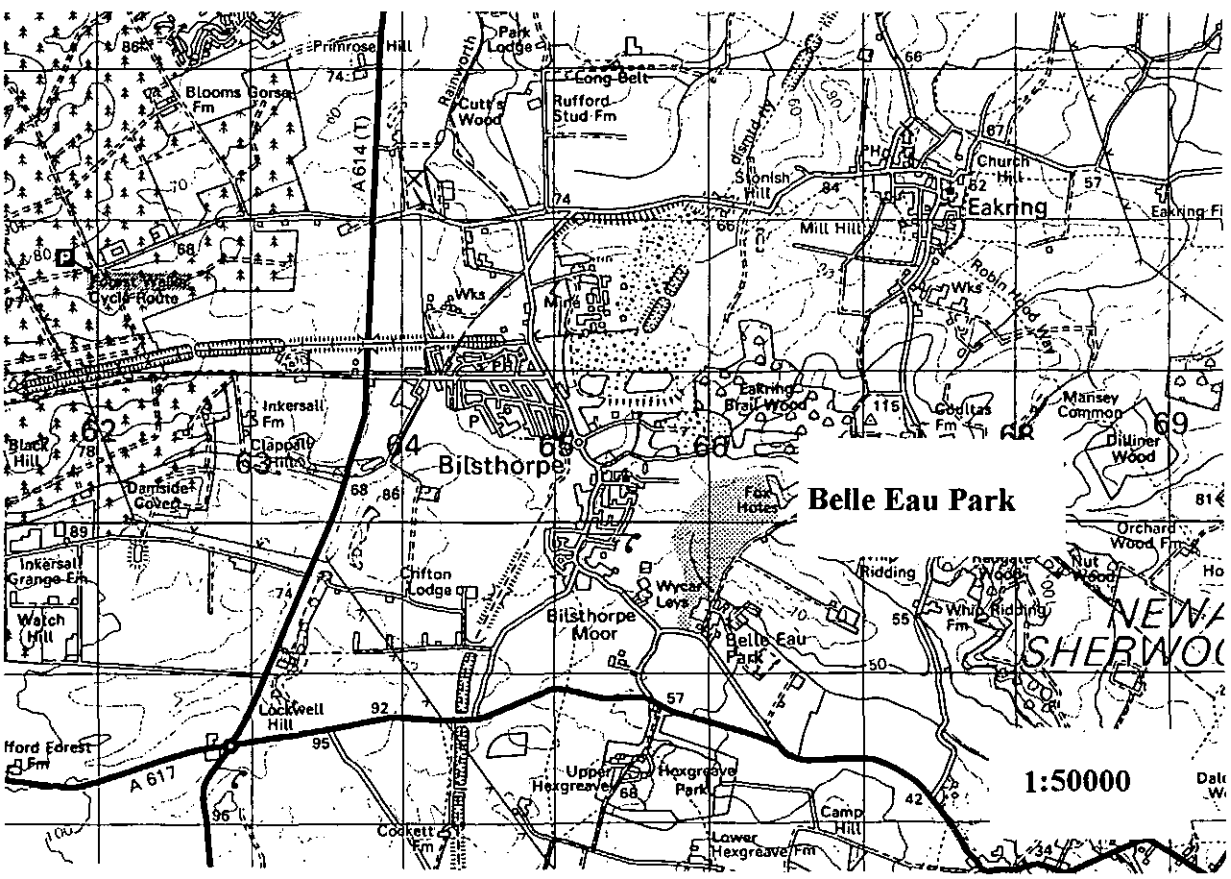

Figure 1: Plan showing the location of the proposed development area.

1.2 PROJECT BACKGROUND

This evaluation was commissioned by Chelwood Brick Limited and Eakring Farming Limited in connection with a proposed development of a brickworks and clay extraction site at Belle Eau Park, near Bilsthorpe, Notts. It follows a desktop assessment of the proposed development area, undertaken in 1997 by Trent & Peak Archaeological Unit (Kinsley 1997). Following the assessment a written project design for the evaluation was agreed with Nottinghamshire County Council in 1998 (Allen 1998). Trent & Peak Archaeological Unit undertook the first stage of the evaluation, a geophysical survey pilot study, in January 1999 (Allen 1999a). A detailed air-photograph appraisal of the development area followed in March 1999 (Allen 1999b). This report, covers the excavation of three trial trenches and a programme of fieldwalking, and represents the final stage of the evaluation.

1.3 SUMMARY OF THE KNOWN ARCHAEOLOGICAL POTENTIAL OF THE SITE

1.3.1 Cropmark Trackway

Cropmarks on the Sherwood Sandstones south-west of the site indicate the presence of a group of rectilinear enclosures flanking an east/west-orientated trackway whose projected line would pass within the southern part of the development site. Detailed examination of air-photographs indicated that this feature continues into the southern part of the development areas (Figure 2). There is no direct dating evidence for the enclosure group or the trackway, but the form is characteristic of the late-prehistoric or Romano-British periods.

1.3.2 Roman Road

A Roman road, clearly seen as a linear double-ditched cropmark, passes through the southern part of the site (Figure 2). The road may be traced from between Edingley and Kirklington to intersect with the A614 north-west of Bilsthorpe. Other important sites of the period in the vicinity are the enclosure complex at Camp Hill and a vexillation fortress at Osmanthorpe.

1.3.3 Moated Site and Park Boundary

Immediately beyond the south-east corner of the development site a double-ditched moat is recorded, whose ditches could extend into the development site. The eastern boundary of the development site follows the boundary between the parishes of Bilsthorpe and Kirklington. The two vills which these parishes represent were separate at Domesday and the boundary between them is likely to have remained unaltered until the present day. Belle Eau Park occupies the western end of Kirklington parish where it abuts Bilsthorpe parish, and the earliest traced record of this is 1536. Medieval park boundary features may thus impinge onto the development site, though nothing is visible on the ground, and it seems likely that such features would have been contained within the existing lands of Kirklington, as would be the boundaries of the moat.

1.3.4 Old Bilsthorpe Village

Old Bilsthorpe village contains at its northern end a medieval church set between two linear ditches. This could represent an ancient village boundary earthwork, or

manorial enclosure lying within 250m west of the development site. Although there is no direct evidence for more extensive settlement, earlier settlement could well have extended further east and the possibility of locating medieval settlement remains relating to Bilsthorpe within the development site cannot be ruled out.

The remainder of the development site appears to have been enclosed farmland as far back as 1751, while open fields lay immediately west of the development site.

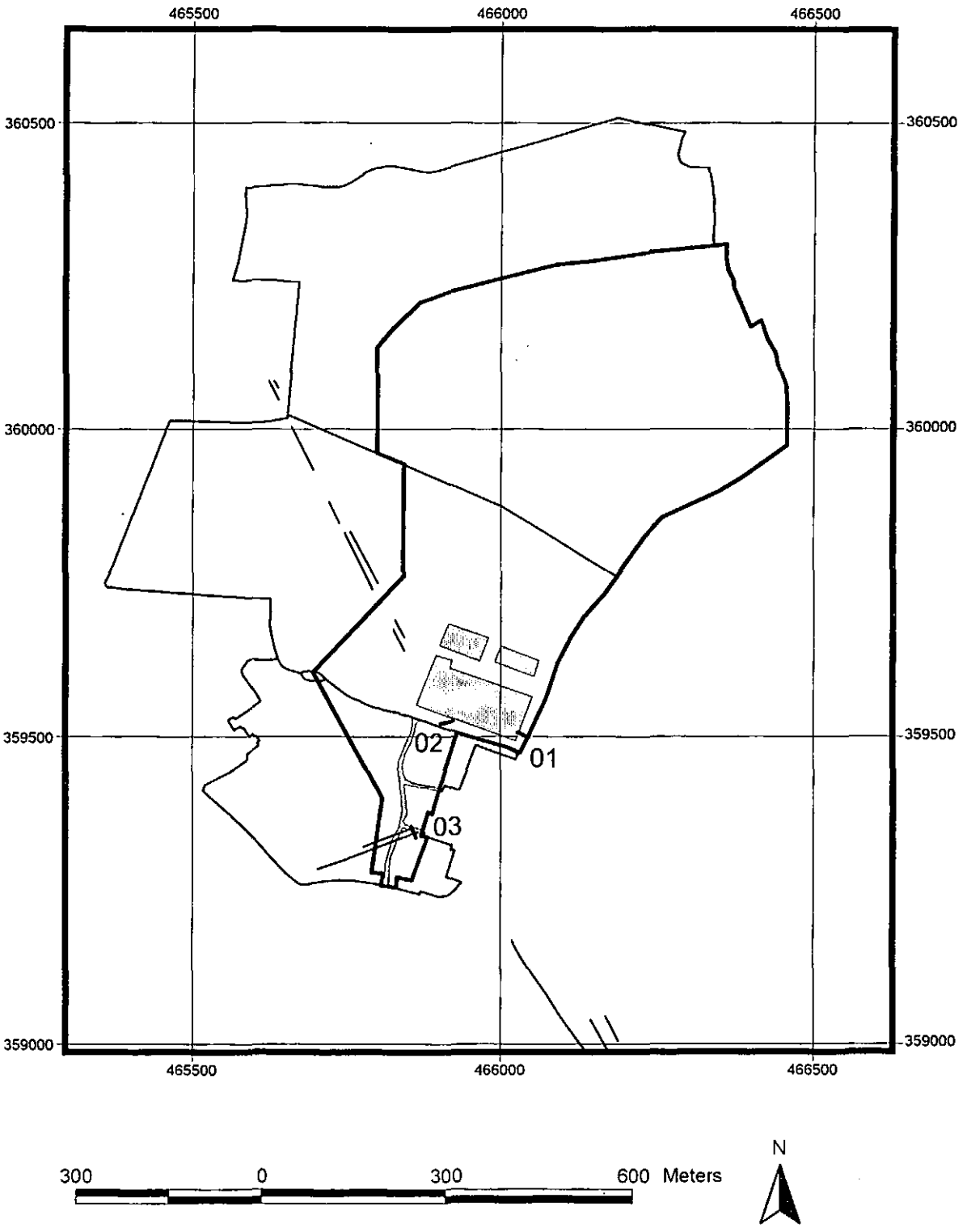

Figure 2: Plan showing the extent of the development area (bold outline), field boundaries, cropmark features, the location of trenches 01 to 03 (labelled) and approximate extent of proposed brickworks and access road (grey tone).

2 TRIAL EXCAVATION

2.1 INTRODUCTION

Excavations were carried out between 10th and 24th May 1999. The trial trenches were excavated to investigate cropmark features and the possible extension of the park moat into the proposed site (Figure 2). Trench 01 (15 x 3m) was located to look at the possibility of the park moat or structures associated with it lying within the development area. Trench 02 (16 x 3m) was positioned on the projected line of a cropmark thought to be the line of a Roman Road. Trench 03 (20 x 3m) was located to look at a trackway of unknown date known from cropmarks.

2.2 METHODOLOGY

In each trench the topsoil was stripped with a toothless ditching bucket on the back actor of a JCB under archaeological supervision. The exposed surface was studied and in trenches 01 and 03, further 0.1m spits of the subsoil were removed by machine to the top of the natural sands or clays. These trenches were then cleaned by hand and recorded. In trench 02 archaeological deposits were present immediately below the topsoil and all further excavation was by hand. The location of all of the trenches was surveyed using EDM with reference to the 1:2500 OS Map and tied into the National Grid.

2.3 RESULTS

2.3.1 Trench 01

Trench 01 (Figures 2 and 3) was located perpendicular to the track following the parish boundary, across an area where an infilled moat ditch or associated structures might be expected to survive. Approximately 0.4m of topsoil was removed followed by *c.* 0.3m of subsoil in 0.1m spits to the top of orange sandy clay. Both the topsoil and subsoil were disturbed and contained modern debris (brick fragments, metal and plastic). Once cleaned, the western edge of a large ditch (0006; *c.* 3m wide) was visible at the east end of the trench. The east edge of the ditch was obscured by the edge of the road and by a land drain running parallel with it. The cuts for two other land drains were also visible. Several rotted roots and branches of what appeared to be the remnants of a hedge were also noted along the eastern edge of the ditch.

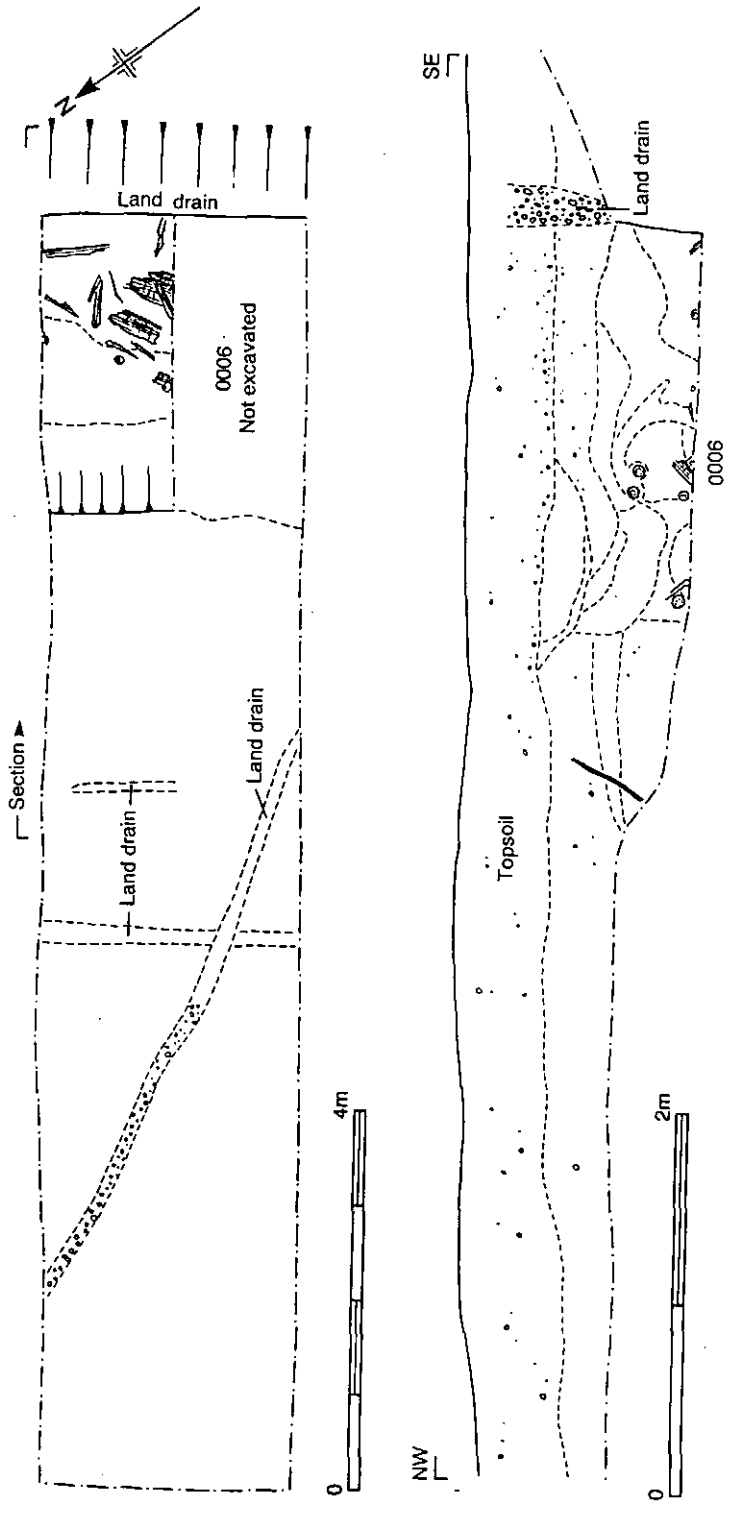

Figure 3: Plan and south-east facing section of trench 01.

Three spits were removed from the ditch fill, to a depth of 1.2m below ground level at which point ceased for safety reasons. The stratigraphy of the ditch fill comprised a very mixed fill of dark clay containing large amounts of rotting wood, broken ceramic pipe and fragments of fencing. No further excavation was attempted and after recording the trench as backfilled with the excavated material.

2.3.2 Trench 02

Trench 02 (Figure 2 and 4) was located to cross the projected line of the cropmark thought to be a Roman road. Topsoil was removed by machine and a metalled surface (0004; *c.* 9m wide) was clearly visible in the centre of trench immediately below approximately 0.2-0.25m of topsoil. No ditches were immediately visible on either side of the road. A 1m cutting was then excavated by hand in 0.1m spits against the north facing trench section. This revealed the metalled surface to be between 0.1 – 0.15m thick with cambered edges to the east and west, and orange sand subsoil overlying the edges. Ditches (0008/14) and 0009/13) were also revealed on either side beneath the subsoil. The ditches were 'v'-shaped and shallow (approximately 0.3m deep). Both appeared to have been recut once slightly further out from the edge of the road. Immediately beneath the metalled surface a grey-brown sandy clay layer (0016) was tentatively identified as a buried land surface *c.* 0.2m thick and well preserved under the eastern section of the road. Samples were taken of this deposit for later study and analysis. Three further features were identified lying beneath the road and sealed by the grey-brown layer. The most obvious of these was a large pit (0007) lying almost centrally beneath the road. The top of the road and the underlying land surface had partially subsided into the top of this feature. The pit was approximately 0.7m deep with a fill comprising uniform grey and orange-brown sandy clays. The two other features (0010 and 11) lay to the east of the pit and were irregular scoops with grey clay fills. No artefacts were recovered from any of the features or deposits within the trench.

2.3.3 Trench 03

Trench 03 (Figures 2 and 5) was positioned to cross two parallel cropmarks, tentatively identified as a ditched trackway. The topsoil and underlying subsoil layers were removed by machine in spits to a depth of 0.5m. Two 0.1m spits were then removed by hand along the east facing section of the trench. No features were immediately apparent, however, after a rain shower a feature (0020) became visible in the east facing section, and continued into the base of the trench. This feature appeared to be a shallow ditch (*c.* 0.5m deep) with an irregular base. The sides of the ditch were extremely ill defined and the feature was hardly visible in the west facing trench section. A second very shallow gully (0022; *c.* 0.25m deep) was also present in the east facing section although no evidence was found for it in the opposite section. Both features appear to have been cut from high in the subsoil layer.

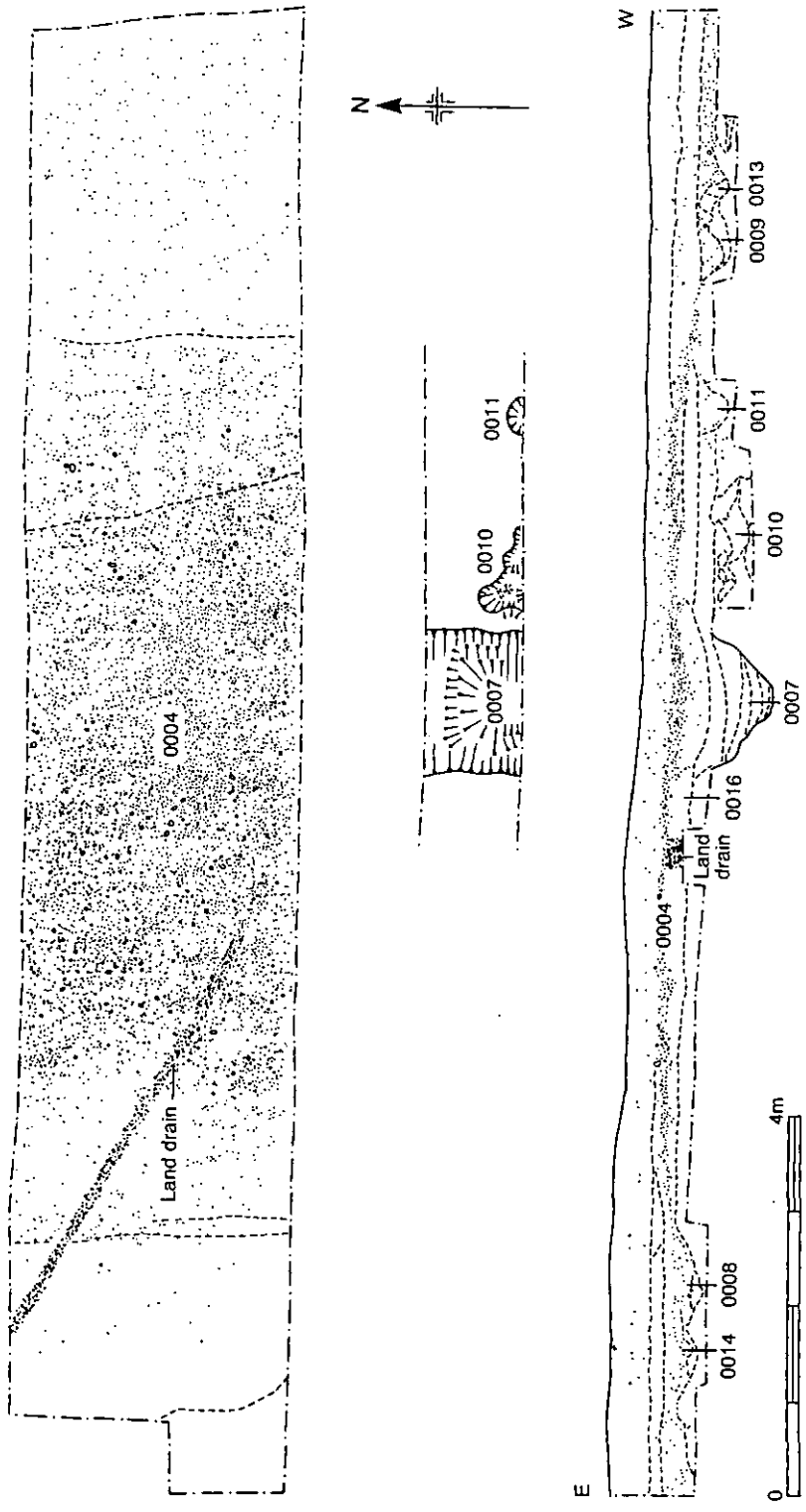

Figure 4: Plan and south facing section of trench 02. Inset plan shows features beneath the road metalling.

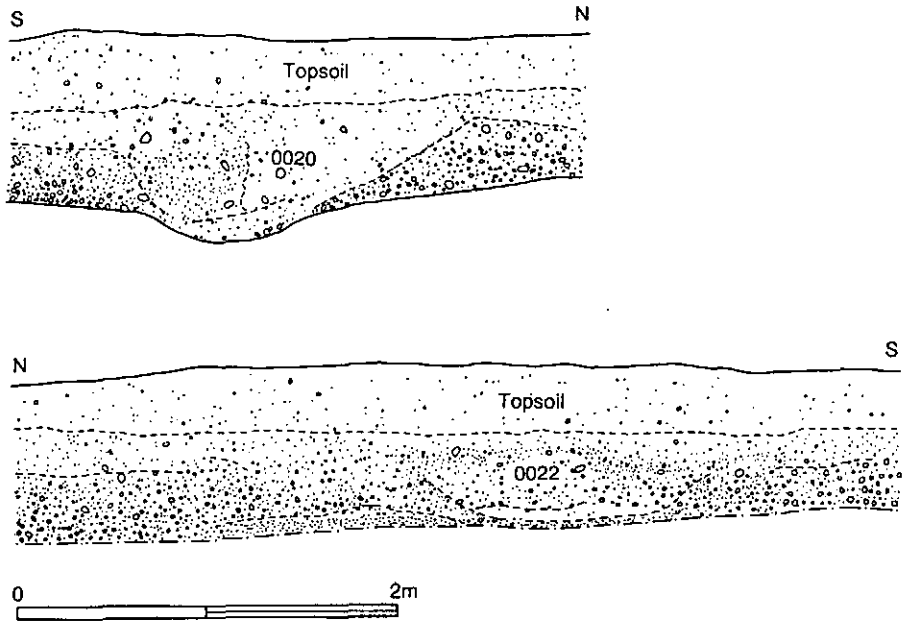

Figure 5: Detail of section of trench 03 showing features 0020 and 0022.

3 FIELDWALKING

3.1 INTRODUCTION

Fieldwalking was undertaken over the entire of the proposed development area with the intention of identifying concentrations of artefacts within the ploughsoil that may indicate the presence of underlying archaeological features of deposits. Initially, the entire development area was walked at 10m intervals (Figure 6a). Subsequently a part of the development area was rewalked at 5m intervals (Figure 6b).

3.2 FIELDWALKING METHODOLOGY

The area to be walked (Figure 6) was laid out in transects, each marked with flags at convenient points. The transects were walked by members of the fieldwalking team, and finds searched for, and marked, for a distance of up to 1m to each side of the centre line of each transect. These finds were individually inspected by the fieldwalking supervisor, and ignored or recorded as the collection strategy (outlined below) demands. Find spots were recorded in three dimensions using an EDM (Topcon GTS-3B), and survey date recorded in the field on a computer. Details of ground conditions and survey protocol were recorded on standard *pro-forma*.

3.3 FIELDWALKING COLLECTION STRATEGY

The collection strategy is summarised in tabular form below.

Category	Sub-category	Treatment		
		Ignore	Record location	Record location & save
pottery	medieval and earlier			x
post-medieval and later	-	-	-	
brick/tile	certainly Roman, & medieval ridge			x
	uncertain date	-	-	-
baked clay		x		
bone	uncertain/human/animal	-	-	-
	worked			x
metal	(medieval & earlier)			x
	post-medieval or later, or undatable	x		
flint	worked			x
	unworked	x		
stone	artefacts and faced stone			x
	possible building stone i.e. unworked stone over 200mm (e.g. skerry, limestone, miscellaneous angular stone)		x	
	pebbles, fire-cracked pebbles	x		
mortar		-	-	-
glass			x	
slag			x	
coke			x	
coal			x	
charcoal		x		

KEY

Ignore	do not record location or save find
Record location	record location in three dimensions, note material category and save a sample of this type of find
Record location & save	record location in three dimensions, allocate three-letter code, and save artefact for further study
-	level of recording at discretion of supervisor.

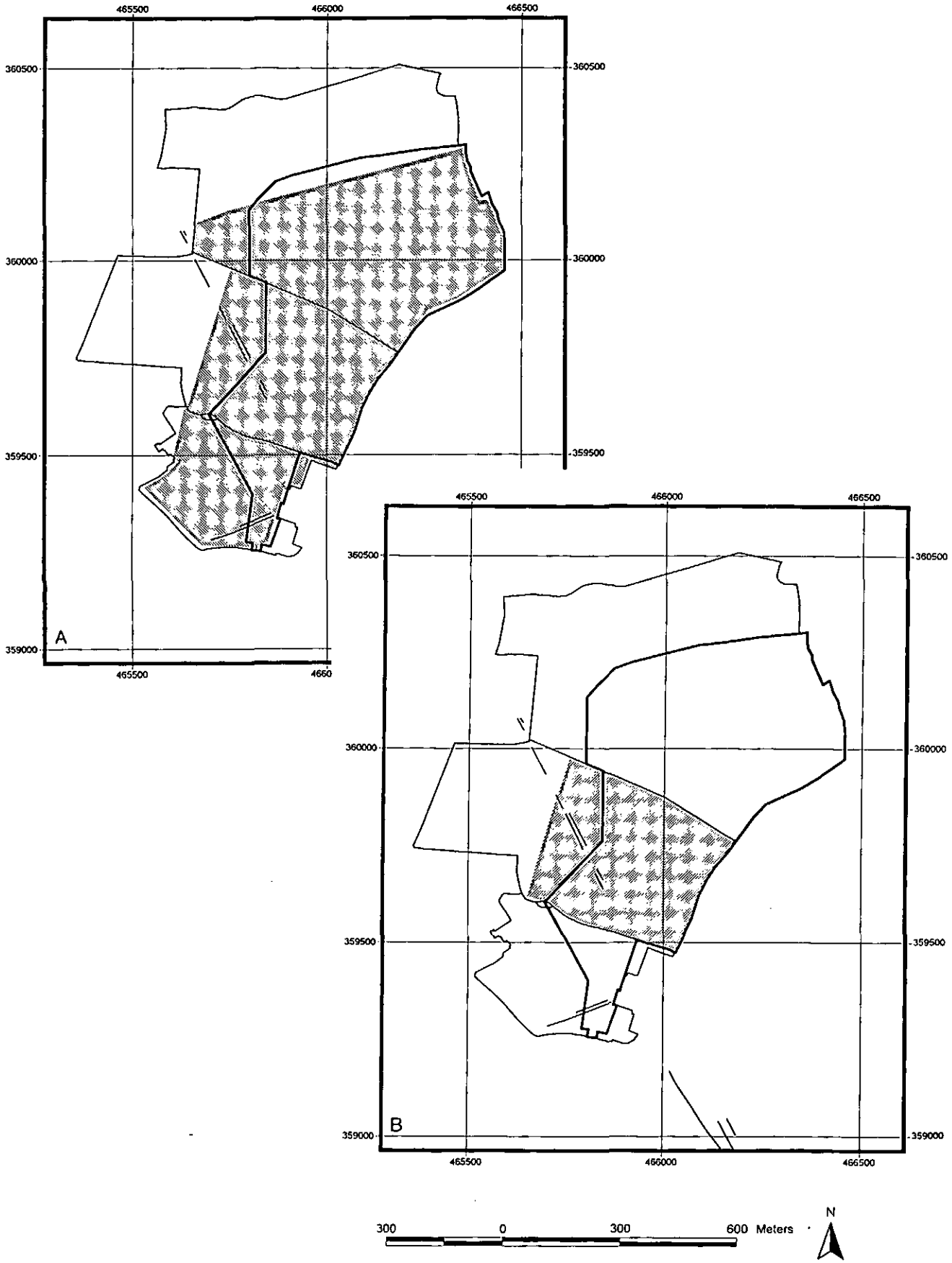

Figure 6: Plan showing the extent of areas fieldwalked at 10m intervals (top) and 5m intervals (bottom).

3.4 FIELDWALKING RESULTS

3.4.1 Flintwork from 10m Walking Intervals

A scatter of flint was identified, restricted to two fields, forming a relative concentration of material at 3 - 5 pieces per hectare (Figures 7 and 8).

At least two periods of flintworking are represented. The earlier group would include the pyramidal core with blade-like removals (BAJ) which is likely to be of Mesolithic or Early Neolithic date. The two small cores (BAL, BAM) with bladelet removals, could be contemporary, and their small size would perhaps be best paralleled in Later Mesolithic assemblages elsewhere. The flake with the possible partial cresting on its dorsal surface (BAN), and the flake removed parallel to a previous striking surface (BAS), are possible core rejuvenation flakes that are most often associated with blade production, and therefore could belong with the cores.

The later material is represented by the barb-and-tang arrowhead (BAD) which is a well known Bronze Age type. The thick, crude flake of the miscellaneous retouched fragment (BAP) could easily belong with it.

The mixture of corticated and uncorticated pieces may merely reflect very localised ground conditions, or their potential date. If the latter, the difference in the cortication of the arrowhead (uncorticated), and core (BAJ), is suggestive. If so, the heavily corticated fragment from a large flake (BAE), might belong to the earlier group.

The recovery of a high proportion of cores, the waste from flake and blade production, which also are often the largest pieces within most assemblages, suggests that:

1) this is a flint-using area, rather than a background scatter .
2) they are representative of a larger assemblage, of which the smaller pieces have not been recovered.

3.4.2 Flintwork from 5m Walking Intervals

Additional fieldwalking at 5m intervals was conducted in the more northerly of the two fields previously walked at Bilsthorpe (Figure 8). The collection of flint suggests again that at least two periods of activity are represented.

Earlier activity is suggested by the neat core with blade-like removals (BCI), and by the other small cores and fragments with blade-like removals (BBB, BBW, BCG, BCH). All could be contemporary and are then most likely to be found in the Later Mesolithic, or possibly the Early Neolithic. Two possible core rejuvenation flakes (BBF and BBZ), by-products of blade production, may also belong with the cores. Only one blade was recovered (BBI), which may belong with this period of activity.

The recovery of a high proportion of cores and core rejuvenation flakes, the waste from blade and bladelet production, mirrors the flint recovered on the first fieldwalking. All of these waste products are concentrated within a restricted area on top of a ridge running approximately east-west, suggesting this as an area of Later Mesolithic flint-knapping.

The indication of later activity is slight, but may be represented by the flake with a broad, plain platform (BCK) and the used flake/chunk (BBD). The wedge (BBH) is most likely to date from this later period of activity, as could the corticated used fragment (BCL) with its plain platform.

The flint used in this assemblage is translucent honey-to-brown flint, available locally from the Trent Valley Gravels. BBD, BBY, BCB and BCL are all lightly corticated, but the form of these is not readily dateable and there is no real indication that cortication is effected by age rather than soil conditions.

3.4.3 Romano-British Pottery

Two sherds of Romano-British pottery were recovered (Figure 7). Neither sherd is particularly diagnostic, though the fabric suggests a date in the 1st - 2nd century AD. This small quantity of pottery is not likely to be archaeologically significant.

3.4.4 Medieval Pottery

Four sherds of Medieval pottery were recovered (Figure 7). None are particularly diagnostic in form or fabric and the small quantity recovered is not likely to be of archaeological significance.

3.4.5 Heat Affected Stone

Nine fragments of heat-affected stone (Figures 7 and 8; also called fire-cracked pebbles - FCPs) were recovered. While not specifically datable, such material is often found in a settlement context, where it is usually associated with domestic activities such as cooking. . The presence of a concentration of such material particularly associated with prehistoric flintwork, is therefore suggestive of prehistoric domestic activity.

3.4.6 Slag

Six fragments of ironworking slag were recovered from fieldwalking. The majority of the slag is highly porous, heavily vitrified and may be derived from a blast furnace . The fact that the majority of the slag is concentrated close to the unmetalled track at the eastern edge of the site suggests that it has probably been introduced to the area as an *ad hoc* surfacing material for the trackway and is therefore not of archaeological significance.

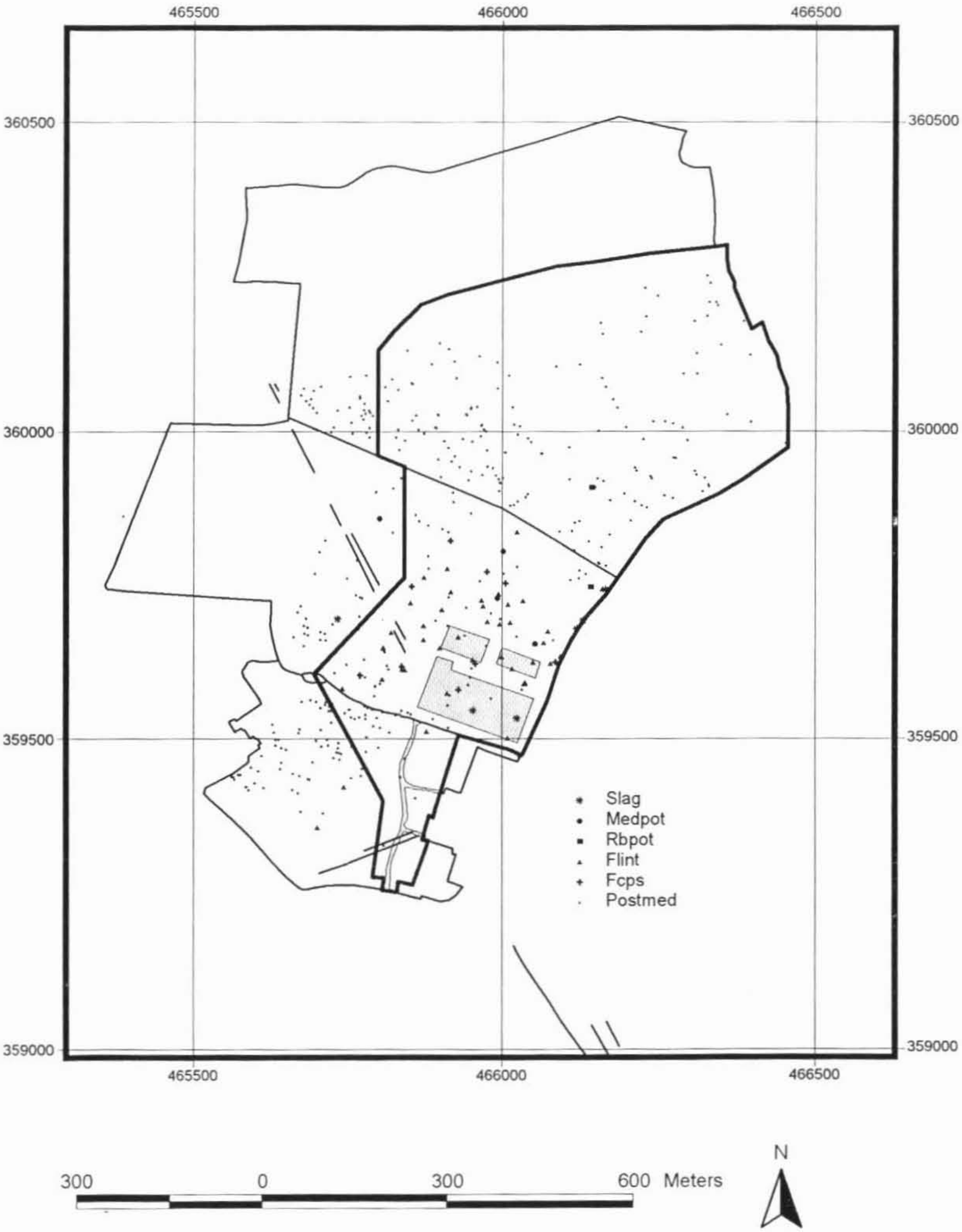

Figure 7: Plan showing the distribution of all finds from both episodes of fieldwalking.

Figure 8: Plan showing the distribution of flint (labelled triangles) and heat affected stones (FCPs) from both episodes of fieldwalking. Surface contours (2m interval) also shown.

4 CONCLUSIONS

4.1 ARCHAEOLOGICAL POTENTIAL

4.1.1 Prehistoric Flint Scatter

A well-defined scatter of prehistoric struck flint occupies the south-central part of the proposed development area. The flint scatter appears to represent activity of two periods. The recovery of a high proportion of cores and core rejuvenation flakes, the waste from blade and bladelet production, concentrated within a restricted area on top of a ridge running approximately east-west, suggests this as an area of Later Mesolithic flint-knapping. Later activity is represented by a few items, including the barb-and-tang arrowhead which is a well known Bronze Age type and a number of other fragments which could easily belong with it.

4.1.2 Cropmark Trackway

The features in trench 03 correspond approximately with those plotted as cropmarks. The excavation of these features produced no dating evidence and their function remains uncertain. Typologically it remains reasonable to assume that these features are of later prehistoric or Romano-British date, though their ephemeral nature makes further conclusions difficult to draw.

4.1.3 Roman Road

The results from trench 02 confirm the location of the cropmark and its interpretation as a metalled road surface, undated by excavation, but morphologically most likely to be Roman in date. Structurally, the road is fairly typical of a Roman Road, being approximately 9-10m wide with cambered edges and shallow flanking ditches. The recuts moving the ditches further out suggest a slight modification during its period of use. The unexpected features sealed beneath the road area also undated, although they are obviously earlier the land surface that the road is built on. These may represent isolated features or possibly part of an archaeological landscape preserved locally beneath the Roman road.

4.1.4 Park Boundary

There is no clear evidence relating the ditch in trench 01 to a parkland or parish boundary feature and on balance it seems most likely that it is a field boundary of relatively recent date.

4.1.5 Depth of Archaeological Deposits

Within the main development area the archaeological deposits producing cropmarks appear to be directly beneath *c.*0.3m of topsoil. The subsoil varies markedly in character, from gravel in the locality of trench 03, to dense red clay (Mercia Mudstone) in the vicinity of trenches 01 and 02. In the western corner of the development area, around trench 01 was located, there appears to have been some past ground disturbance and excavation suggests that both topsoil and subsoil in this area are disturbed and redeposited.

4.2 IMPACT OF THE PROPOSED DEVELOPMENT

Archaeological remains identified by the evaluation are concentrated at the southern end of the proposed development area, close to the location of the proposed brickworks.

The prehistoric flint scatter lies beneath and immediately to the north of the brickworks site. All archaeological remains in this area are likely to be destroyed by the development.

The cropmark trackway will be affected by the construction of a new access road at the southern end of the development. Only a small part of this ephemeral feature will be destroyed.

A 250m length of the Roman Road will be effected by the construction of the brickworks, which will lead to its complete destruction.

There is no evidence to suggests that any of the archaeological remains identified across the proposed development area are of sufficient quality or value to warrant preservation *in situ*. In each instance properly conducted excavation, prior to the commencement of development, will ensure that an adequate record is made of the archaeological remains.

Elsewhere across the proposed development area evaluation has produced no compelling evidence for the presence of archaeological remains. It is however, unlikely that the area is entirely free from the vestiges of past activity. A watching-brief during the early phase of development of the site will ensure that any archaeological remains affected are identified and a record made.

5 REFERENCES

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