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HESLINGTON EAST:

ARCHAEOLOGICAL REMAINS MANAGEMENT PLAN

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For The University of York

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Cover image : Heslington East looking west.

Abbreviations

IFA Institute of Field Archaeologists
NMR National Monuments Record
SMR Sites and Monuments Record
WSI Written Scheme of Investigation
YAT York Archaeological Trust

Note on York Archive Gazetteer

Sites in the York area investigated by York Archaeological Trust (YAT) are referred to by the YAT or Yorkshire Museum Accession code in the form 1970.00 and details can be found on: www.yorkarchaeology.co.uk/gaz.index.htm

1. Scope of Document

This document concerns the archaeology of the Heslington East site, Heslington, York (centered on NGR SE 640506; Figs 1-2). It is intended to be a proposal for a

programme of fieldwork in mitigation of the development of a new campus for the University of York. This programme will be agreed with the City of York Council as the relevant Planning Authority. The document reviews archaeological work which has taken place on the site already, assesses the potential of the site for further research and includes a project design and method statement for that research.

2. Development Description

The Heslington East site is to be redeveloped for a new campus of the University of York. The development will involve a combination of building construction and landscaping. In addition there will be a lake up to 1km in length on the southern side of the site.

The development will be undertaken in two phases (Figs1-2):

1. The western part of the site, which will be redeveloped as soon as necessary planning and ownership issues have been resolved.

2. The eastern part which will be developed about five years later.

3. Planning Background

3.1 Current Status

Following the successful outcome of a public inquiry under the terms of the Town and Country Planning Act 1990, the University has now received outline planning permission for the development.

The City of York Council Officer dealing with archaeology and planning matters is:

John Oxley
Principal Archaeological Officer
City of York Council
9 St Leonard's Place
York
YO1 2ET

3.2 Principles

The impact of the University of York's redevelopment proposals on archaeological deposits at Heslington East is being managed by the local authority (City of York Council) through the development control process, in line with guidance provided by Planning Policy Guidance Note 16: *Archaeology and Planning* (PPG16; DoE 1990). Archaeological planning advice has been provided to the University by the City's Principal Archaeological Officer.

PPG16 establishes procedures to ascertain the archaeological impact of a development so that the local authority can make an informed decision on how best to safeguard archaeological remains. It rests on the principle that archaeological remains are a valuable and finite part of the nation's heritage that should ideally be preserved in

situ. Should this not be feasible then developers are required to produce a strategy to mitigate the impact.

3.3 Archaeological Work to Date

In accordance with PPG16 several stages of archaeological work have already been undertaken at Heslington East as follows:

- Two preliminary desk-top studies (Evans 2002; Mason and McComish 2003)

- A campaign of field walking (Kendall 2003; Mason 2003). This was based on 100m x 100m grids, further divided into 20m x 20m squares. During the collection process the southern and western edges of each square were walked and material was picked up from up a band 1.5m wide on each side of those edges.

- A series of geophysical surveys (Bartlett 2003; Bartlett and Noel 2003; 2004a; 2004b) which eventually covered *c.* 50% of the site with a fluxgate magnetometer. The survey used a system of alternating 40m strips aligned on the north-west / south-east field boundaries. A resistivity survey was conducted on the intermediate strips in Field 7 and the northern part of Fields 8 and 9. Conditions were generally favourable for the investigation of subsurface features, although the response was more complete on the higher ground to the north of the site than on the lower lying ground to the south. No survey was possible in Field 17 due to the ploughed condition of the ground. The survey identified a number of areas on the site where geophysical anomalies appeared to be concentrated. These were subsequently sampled in the evaluation excavation.

- An archaeological evaluation excavation, undertaken from November 2003 - February 2004 by York Archaeological Trust (YAT) to a brief prepared by the Principal Archaeological Officer for City of York Council (Macnab 2004).115 trenches, usually measuring 100 or 200 square metres, were excavated, the positions of which are shown on Fig. 1. Approximately 1.58% (*c.* 16,300 square metres) of the development area was evaluated, although being targeted in part on geophysical anomalies this was not an entirely random sample. On the whole the geophysical survey was a good guide to areas of archaeological significance. The site records are currently stored by YAT under the Yorkshire Museum accession code YORYM:2002.569 and YAT project number 1069.

- In addition, the archaeology and cultural heritage of Heslington East were covered in two chapters of the Environmental Impact Assessment.

3.4 Further Fieldwork

In advance of development the City of York Council will require a further archaeological investigation in mitigation of the development under the terms of a Planning Condition. The condition requires the University to submit a detailed programme of archaeological work for agreement by the City. Proposals for that programme are contained in this document. It is intended that the Phase 1 investigation will be undertaken by a commercial contractor and Phase 2 undertaken,

at least in part, as a training programme for the University and as a Community Archaeology project.

In Phase 1 work will take place in two parts. The first part will involve Area 1 (see 5.1 below) and additional geophysics and evaluation (see 8.1 below). The second part will involve work in Area 2.

4. Site Location and Description

The Heslington East site which occupies c. 103ha, lies *c.* 3km to the east of the centre of the City of York and on the east side of the village of Heslington. With the exception of a plot of land in the village envelope (see below) the site is bounded by Field Lane and Hull Road (A1079) to the north, the A64 trunk road to the south-east, and Low Lane to the south. The site is currently divided up into 18 fields as shown on Fig. 1. At present they are largely under arable cultivation, principally sugar beet, potatoes, and cereal crops.

The highest point in the site is at *c.* 32m OD, on Kimberlow Hill, in the north-eastern corner. The land falls away steeply from here towards the Vale of York basin to the south, with the lowest point in the site being at *c.* 11m OD. It falls more gradually from Kimberlow Hill to the south-west reaching *c.* 21m OD in the north-west corner of Field 5 and then falls away again to the west. From Kimberlow Hill there are good views across the Vale of York to the south, south-west and south-east; the tower of York Minster can also be seen to the west-north-west.

A trapezoidal addition to the site is situated within Heslington village, centred on the parish church with Windmill Lane to the east, Field Lane to the south-east, and University Road to the west. A part of this known as Dean's Acre, east of the church, was evaluated for archaeological purposes. It currently exists as a small tree nursery and an adjacent field left as open pasture. Elevation varies across the site from 17.7m OD close to Windmill Lane to 13m OD opposite Heslington Hall.

The whole of the northern part of the main Heslington East site is situated on the glacial moraine which exists as a ridge or ridges of elevated ground running roughly east-west across the Vale of York and cut by the river Ouse at York. The moraine is composed of gravels, sands and boulder clay deposited at the end of the last glaciation. These materials were revealed in trenches on the northern side of the Heslington East site. In certain areas colluvium (hillwash) covers the glacial deposits. The southern part of the site lies on glacial sands as well as silts and clays. The solid geology is Bunter and Keuper sandstones (*Geological Survey of England and Wales*, Sheet 63).

There is a line of springs along the south-facing slope of Kimberlow Hill in Fields 1 and 8 – 9. Features interpreted as spring heads were excavated in Trenches 33 and 60.

A number of other landscape features have been identified on the site:

- A dry valley runs north-west / south-east across the eastern end of Field 1 / western side of Field 3. This probably drained an area of former peat bog or marsh (now a green area in the Badger Hill estate) which formed on top of the moraine.

- A shallow linear depression runs east - west, along the southern edge of Fields 1, 3, 6 and 8-10. The land to the south of this rises slightly to form a chain of low relief clay islands in Fields 4, and 13 - 17.

- Adjacent to Low Lane, the land drops away to a second shallow east - west linear depression. It is thought that this was created when a number of streams, which may have once meandered across the site were either culverted or dyked to follow the modern field boundaries. This work was probably carried out when the fields were enclosed in the post-medieval and modern periods.

- A natural depression or possible quarry hole is located in the centre of Field 5A.

5. Summary of Archaeological Discoveries

5.1 Introduction

Evaluation excavation has identified a number of areas with significant archaeological research potential, particularly for the prehistoric and Roman periods (Fig.2). In the case of three areas (A1-3), this potential is particularly high, although in seven others (B1 to B7) sufficient features of interest were found as to warrant their further evaluation.

Areas A1 – 3 are located as follows :

A1: South of Field Lane opposite Badger Hill estate (c. 6.25ha, centre SE63555075)

A2: North of Low Lane near centre of site (c.4.25ha, centre SE63805060)

A3: At the eastern end of site, immediately below Kimberlow Hill (7.5ha, centre SE64255100)

5.2 Prehistoric Period

In fieldwalking some 97 pieces of worked flint were found, the majority of which were dateable to the late Neolithic or early Bronze Age. They included part of a polished stone axe, two scrapers, several broad-flat flakes and end-scrapers, and an angle graver. The evaluation produced only one worked flint fragment (Trench 33 in Field 8).

Area A1 This area includes the dry valley in Fields 1 and 3. Excavation in Field 3, in Trenches 13-14, located a preserved peat deposit of probable prehistoric date. At the top of a colluvial (hillwash) deposit in the north-eastern corner of Trench 13, a number of large, unabraded fragments of a prehistoric (Bronze Age or Late Iron Age) pottery jar were recovered. They may derive from a settlement situated close-by. In addition, a number of ditches and gullies of either late prehistoric or Roman date were located.

Area A2 Undated shallow gullies and ditches, perhaps indicative of early prehistoric (Neolithic or Bronze Age) settlement were located in Field 4, notably in Trenches 102, 105 and 115. An early date for these features is suggested because their backfills appear to have been heavily leached making them much lighter than deposits backfilling demonstrably Iron Age (or Roman) ditches also found in this area.

Area A2 is slightly higher than the surrounding land and may have been well-drained ground suitable for settlement. An Iron Age ditched enclosure was located in Trenches 103, and 106-7 (Field 4) which contained the ring ditch or circular drip gully for a small round house (Trench 107), c. 5.5m in diameter. The earliest backfills of the enclosure ditch and other ditches nearby contained well-preserved organic material indicating grazing land and/or an animal enclosure in the vicinity. There were a number of post-holes, possibly for a gate, across the enclosure entrance. They were sealed by a cobbled trackway.

Area A3 This area produced a number of ditches and gullies some of which may be late Iron Age.

Areas B1 – B6 These areas contained a few ditches and gullies some of which may be late Iron Age. Part of a saddle-shaped quern stone (a diagnostic artefact of the Late Neolithic to Middle Iron Age) was found unstratified in Trench 109 (Field 4). A pit in Trench 25 (Field 5) contained a number of fragments of probable Iron Age pottery and a spindle whorl. Several large saddle quern fragments and an associated grind stone, were recovered from the top of a thick colluvial (hillwash) deposit in Trench 51 (Field 10).

B7 Several fragments of pottery that may date from either the late Iron Age or the Anglian period were recovered from Trench 3 (Field 1). It is also possible that Roman burials additional to those found on the opposite side of Windmill Lane (see 6.3.3 below) survive in this area, although none was found in the evaluation excavations.

5.2 Roman Period

In terms of the local Roman geography Heslington East lies *c.* 3km east of the Roman fortress and civilian town (*Colonia*) at York (*Eboracum*).

Very little Roman material was found during the fieldwalking stage of evaluation, although the tenant farmers reported that investigation by metal detectorists had produced a small number of Roman coins. This lack of Roman material was surprising in view of the substantial evidence for Roman activity and occupation recovered during the evaluation excavation. There were concentrations of remains in several discrete areas as follows:

A1, A2 and B1-6 – In these areas there was evidence for field systems, possibly of late Iron Age origin, defined by ditches. The Iron Age enclosure in Field 4 may have still been used in the early part of the Roman period, the enclosure entrance being consolidated by a cobbled trackway thought to be Roman.

A3 – There was evidence for ditched enclosures, dated to the early - mid 2nd century, but again possibly of Iron Age origin. Two areas of unusually intense activity were

investigated in Trenches 33-9 (Field 8) and 56 (Field 9). In Trench 36 there were the foundations for the northern end of a building which included the hypocaust, including fifteen *pilae* in three rows, and furnace base, for a heated room, probably the *caldarium* of a small bath house. Adjacent to the building was a small pit containing five deliberately placed, miniature pottery vessels. A cobbled road (Trench 38) led to the building from the north-east. Found in Trench 56 were the remains of a small stone structure, roughly square in plan, of unknown function. A few small pits apparently containing domestic waste were also recorded.

Unusual finds included a hoard of four bronze coins (*sestertii*) in Trench 33 (Field 8), probably datable to the reign of Hadrian (AD 117-138). Animal burials were found in Trenches 34 (horse) and 35 (cow), possibly with ritual associations. The horse was very fragile and left in situ, the cow made up part of an assemblage of 183 fragments of bone from Roman deposits. The bones were scattered in 27 stratified deposits in eleven trenches mostly in Fields 8-9.

Features identified as spring heads were identified in Trenches 33 and 60 (Fields 8 and 9 respectively) and contained deposits with good organic preservation.

In the late Roman period (late 3rd – 4th century) the bath house was demolished. A few late Roman features were found including two large ditches on a north-west / south-east alignment in Trenches 35 and 36 (Field 8) and part of a mammal burial in Trench 39 (Field 8).

5.3 Anglian and Anglo-Scandinavian Periods (*c.* 450 – 1066)

Determining whether there was any Anglian activity on the site depends on further analysis of an assemblage of hand made pottery sherds which are currently thought to be either Anglian or Iron Age. Should all or some of this material turn out to be Anglian, then it is possible that there was some activity on the higher ground on the northern edge of the site in Fields 1 (sherds from Trench 3), 3 (Trench 13), 5A (Trench 22), 7 (Trench 43) and 8 (Trench 38). These sherds apart there was no evidence for activity in either the Anglian or Anglo-Scandinavian period.

5.4 Medieval Period (*c.* 1066- 1550)

The Heslington east site remained as fields throughout the medieval period. Fieldwalking produced a large quantity of medieval pottery and tile fragments, the distribution of which suggests a source in manure brought from the villages of either Heslington or (at the eastern end of the site) Grimston.

Most of the evaluation trenches and geophysical surveys produced evidence for medieval ploughing in the form of ridge and furrow. The earliest pottery (gritty ware) recovered from the furrows during the evaluation dates from the 11th - 12th centuries.

No evidence for the tithe barn thought to have stood in Dean's Acre was found in the evaluation.

5.5 Post-medieval Period (*c.* 1550 – 1850)

The site was clearly used primarily for agriculture throughout this period. The medieval open field, known as either Heslington Field or Kimberlow Field, survived until enclosure in 1857. Evidence for field ditches and land drains pre-enclosure was recovered during the evaluation excavations. A pond backfilled with deposits containing well-preserved organic material of post-medieval date was located in the south-east corner of Field 1 (Trench 11). Remains of a bank that divides Fields 5 and 6 may have been created by the insertion of a drove-way, or track; this was partially removed in the late 20th century.

5.6 Modern (Mid 19th Century - 2000)

A number of modern features were found during the archaeological evaluations. They included a backfilled gravel quarry of 20th century date in the north-western corner of Trench 1. Evidence was also found for attempts by successive generations of farm tenants to improve the agricultural land quality by the introduction of new land drainage schemes and drainage dykes, as well as by deep ploughing and subsoiling the land. Since enclosure some hedges have been removed and ditches infilled to increase the size of the fields.

No evidence for the documented demolition of the tithe barn, or the use of Dean's Acre during World War II was found.

6. The Archaeology and History of Heslington East: a Discussion and Review

6.1 Introduction

This section discusses and reviews the archaeology and history of the Heslington East site in the context of the immediate York area or hinterland, i.e. for the most part within a *c.* 5km radius of the city centre, but also, where appropriate, in the context of the Vale of York and other regions. It is based on the desk top studies undertaken before the evaluation stage of fieldwork, on the results of the evaluation itself (Macnab 2004), summarised above, and on other recent research into the archaeology of the York area. For the Roman period this includes work by the author of this document for a fascicule in Volume 6 of the Archaeology of York series, provisionally entitled : *Excavations on Blossom Street, at 16-22 Coppergate and Other Sites, 1976 – 2004* (Ottaway in prep.).

6.2 Prehistoric Period

6.2.1 Early Prehistory (Neolithic – early Iron Age)

There are no major prehistoric monuments known in the immediate York area, although *c.* 700m to the north-west of Heslington East lies Siward's How (SE 6219 5086). This has been variously interpreted as a prehistoric burial mound (Elgee 1933), an early medieval burial mound (Thurnham 1849; Ramm 1965) or even a late medieval mill mound (Short 1994). A scraper and a few flint flakes have been

recovered as surface finds in the area immediately to the south-west of the mound, but they are undiagnostic as to date ((Short 1994; Perring 1999). None was found in trenches south of the mound in 1997.

Artefactual evidence for activity from the Neolithic period (*c.* 4000 – 2500 BC) and Bronze Age (c. 2500 – 700 BC) in the York area is particularly concentrated on the high ground formed by the moraine (see above). The moraine provided both a route for travel across the low lying Vale of York, and suitably well-drained land for early agriculture (RCHMY3, xxxxviii; Radley 1974; Manby 1980; 1988; Manby *et al.*, 2003, 94). In addition to artefactual evidence for prehistoric activity, there are also features in the moraine known as 'kettle holes', below later colluvium, in which deposits containing palaeoenvironmental material may survive. A recent example of such a feature was found at St Paul's Green, on the west side of York where a 'Cumbrian' type stone axe and cord-decorated pottery were recovered from peat exposed in construction trenches (excavated by York Archaeological Trust under Yorkshire Museum accession code 1999.251).

Individual, early prehistoric finds from the Heslington area which appear on the City of York Sites and Monuments Record (SMR) include a flint axe found 'near Heslington Common' (i.e. *c.* 2km south of Heslington East), and a flint scraper found in an uncertain location in Fulford. Two bronze socketed axes of Bronze Age date were found in the area of York Cemetery, *c.* 2.5km to the west of the Heslington East site, a bronze palstave was recovered in Fulford (SE *c.* 61004900), and a looped spearhead, possibly of the Bronze Age, was found somewhere in Heslington Field (i.e. on the Heslington East site itself) in 1889 (Elgee 1933, 240).

The fieldwalking at Heslington East significantly increased the quantity of flint found in the locality. As noted, the majority of worked pieces were late Neolithic or early Bronze Age. In addition, there was Bronze Age / early Iron Age pottery from Field 3. This prehistoric assemblage may be set alongside that from the Germany Beck site, Fulford, *c.* 3.25km south of York and c. 2km to the south-west of Heslington East, where evaluation of a site 19ha in extent produced 174 pieces of worked flint in fieldwalking and excavation (MAP 1996). A smaller assemblage of ten worked flints of the later Neolithic and early Bronze Age was recovered in 2005 from excavation of a site 0.36ha in extent at St Oswald's School, Fulford (SE 61110 4945) just north of Germany Beck (MAP 2005). Although the quantity of material from these sites is not large, they imply early prehistoric activity, albeit at a low level on and close to the moraine on the east and south-east side of York.

As far as Heslington East is concerned, however, the contrast between the yield of worked flint in fieldwalking and excavation (a single piece) is very striking. It is possible that this is because the flint found on the surface is a recent import which had arrived in material brought to the site for agricultural improvement or other activities. This suggestion may be supported by the apparently random distribution of the flint with no indication of distinct activity areas, for example on the higher ground (Mason 2003, fig. 4). Only further investigation can determine whether any of the flint could have derived from activity on the Heslington East site itself. Small evaluation trenches are not necessarily the best way of identifying remains of settlement which may be very ephemeral in nature and only detectable when large areas are stripped of overburden.

6.2.2 Late Iron Age (*c.* 200BC – AD71)

The character of late Iron Age settlement and society in the Vale of York is a topic for which there is considerably more information today than there was 30 years ago and it is possible to give the discoveries in the evaluation at Heslington East some sort of local context. However, few of the potential sites of the period identified by aerial photography and other means have been excavated and those excavations which have taken place have produced little accurately datable pottery or other finds. It can therefore be difficult to distinguish between sites of late Iron Age and Roman date and many of the field systems referred to below may be essentially Roman rather than earlier.

At Heslington East the principal discovery of late Iron Age date consisted of a ditched enclosure containing the remains of a round house (Field 4). Only one of the many ditches on the site could be ascribed to the Iron Age with any confidence on the basis of pottery. This was in Trench 107 adjacent to the enclosure. However, at least some of the other ditches which contained no dating evidence may be Iron Age also.

Found in three trenches (103, 106-7) in Field 4 and (as noted in 5.3 above) in other trenches in Fields 1, 3, 5A, 7 and 8, largely on higher ground on the north side of the site, were sherds of a hand-made pottery thought to be either Iron Age or Anglian. Unfortunately, however, the assemblage is small and there were few diagnostic rims or bases to determine the date conclusively. An objective of further excavation will be to gather a larger assemblage of this pottery for analysis. Should all or at least some of it prove to be Iron Age then its distribution may allow a clearer picture of activity in the period to be established than is possible at present.

Even on the basis of what is known already, Heslington East can be seen to have a contribution to make to the picture of late Iron Age settlement in the Vale of York. Elsewhere settlement usually occurs on well-drained land, for example, on sandy subsoil as at Heslington East itself, at Lingcroft Farm, Naburn, *c.* 5km south of York (Jones 1988; 1990) and at Germany Beck (MAP 1996). A site on the moraine itself *c.* 1km north-east of Heslington East may be indicated by a north-south ditch found in the so-called 'Flat Iron Field', Dunnington in 2004 (OSA 2005). However, settlement also occurs on alluvial clays once thought unsuitable for prehistoric agriculture, for example at Rawcliffe Moor, 4.5km north of York (excavated by YAT in 1996) and on the Easingwold bypass *c.* 20km north of York (Whyman and Howard 2005).

Many sites which probably span the late Iron Age – Roman periods have been detected by aerial photography. The state of knowledge in the early 1980s was summarised in Addyman 1984. Since then a comprehensive survey (as yet unpublished) has been undertaken as part of the Vale of York National Monuments Record (NMR) mapping project. In a summary by Horne (2003) a good scatter of sites is shown to the east and south-east of York, although fewer to the north-east. The distribution to some extent reflects the fact that, although much of the Vale is amenable to and accessible for aerial photography, some areas are not. However, late Iron Age sites, including Heslington East itself, not recorded by aerial photography, may also be found by geophysical survey and / or excavation.

Inasmuch as sites have been either identified or suggested as late Iron Age they indicate a character of settlement in the Vale of York which was one of dispersed farmsteads composed of a single round house or small groups of round houses within a field system. At Naburn several round houses were excavated which do not seem to have survived into the Roman period, although the surrounding field system remained in use and continued to develop. The enclosure with its round house in Field 4 at Heslington East suggests a similar type of settlement to Naburn, although it is not yet possible to determine the character of the field system. At Germany Beck a small quantity of late Iron Age pottery was found which may indicate that some of the undated ditches on the site were of this date.

The economy of the late Iron Age in the Vale has not been studied in detail, but was presumably based on a mixed farming regime of cereals and stock rearing. An important objective of further work at Heslington East would, therefore, be to recover sufficient samples of well-dated animal bone and other organic material to tackle this topic. Although preservation of animal bone appears moderate at present, it is very encouraging that plant and insect remains in the fill of the enclosure ditch were well preserved.

Finally in this review of the late Iron Age in the York area, mention may be made of the earthwork known as the Green Dykes, located *c.* 1km west of the study area, existing as a line of banks and ditches running north – south across the moraine. The precise date of this feature is uncertain, although it has been thought of as an Iron Age dyke cutting across the approach, via the moraine, to the valley of the Ouse from the east (Ramm 1966; RCHMY3, xxxviii); an early medieval date is preferred by Perring (1999, 21).

6.3 Roman Period

6.3.1 Introduction

Knowledge of York (*Eboracum*) and its region in the Roman period depends in small part on contemporary written sources, but primarily on archaeological material. A great deal is now known about York and its immediate environs such as to allow Heslington East to be set in its regional context and to identify a series of research issues which further work can address.

The Roman historian Tacitus provides a background to the archaeological evidence for interaction between the Roman empire and Britain north of the Humber in the third quarter of the 1st century AD, before the conquest took place. It is usually surmised from Tacitus (*Annals* XII, 32) that the Roman army first entered the region we now know as Yorkshire in the year AD48. Its task was to assist in the suppression of a rebellion against Queen Cartimandua of the Brigantes, a Roman ally. The Roman army returned to the north in about AD51-2 once again to support Cartimandua who was, Tacitus tells us (*Annals* XII, 40), under attack by her former consort Venutius, probably as a result of handing over the fugitive Caratacus. In AD69 a dispute between Cartimandua and Venutius, for which Tacitus is again the source (*Histories* III, 45), provided a pretext for the Roman army to begin the conquest of the whole of northern Britain.

6.3.2 The Early Roman Period, c. AD 69 – 120

Settlement

There is some evidence for a military base at York in *c.* AD 69, when Vettius Bolanus as governor of Britain was apparently attempting to rescue Cartimandua. This derives largely on the discovery at 9 Blake Street of pre-fortress pits and ditches (Hall 1997). However, this episode was short lived and a legionary fortress was built in *c.* AD71 which extended over *c.* 22ha and adopted the usual playing-card shaped plan. As already discussed, archaeology suggests that when the Ninth Legion of the Roman army established themselves at York they probably found that they were in a well-populated landscape. There is no evidence for a pre-Roman settlement in the historic core of York itself, although excavations by York Archaeological Trust in 2004 at St Leonard's Hospital near the Multangular Tower, produced a ditch below the fortress defences which may indicate a settlement yet to be more fully explored.

In addition to the fortress itself, there is evidence for Roman settlement elsewhere in York in the late 1st – early 2nd centuries: on the north-east bank of the river Ouse, in the form, for example, of a grain warehouse at Coney Street (Hall 1986) and east of the east corner of the fortress at Peasholme Green where kilns for pottery and tile making were located (Swan and McBride 2002). South-west of the Ouse there was probably an early settlement zone in the Old Station area on high ground, another part of the moraine, adjacent to the main Roman approach road to York from the south-west.

Roads

The main Roman road from the south-west has been shown by excavation at Wellington Row near the Ouse bridgehead to have been established in the late 1st century (Monaghan 1997, 1108) and other principal approach roads to York were probably laid out at this time including two which passed north and west of the Heslington East site. The former approached York from the east, originating in Brough-on-Humber (*Petuaria*; RCHMY1, 1; Road 2), the line of which is largely followed by the present-day A1079. The road and a roadside ditch to the south were recorded just south of Bingley House, near Grimston Bar in 1975 (SE64665156; YAT Site code 1975.17) a little to the north-east of the Heslington East site. In general terms one effect of Roman conquest in the York region (as elsewhere in Britain) is the attraction that roads exerted on settlement. It may be noted that what appeared to be the densest area of Roman settlement at Heslington East, in the north-eastern part of the site, was closest to the line of the road from Brough, being only *c.* 100m away from it.

The line of a second Roman road (RCHMY1, 1; Road 1), approaching York from the south-east, appears to be preserved in the form of a straight parish boundary over 3km long between Pool Bridge (*c.* 6.5 km south-east of York) and Germany Beck, Fulford, and the *agger* can be seen on Fulford Golf Course. The road was observed at Germany Beck in a drainage trench in 1965 (Radley 1966, 559). There is some uncertainty about the exact line of the road to York itself, but if projected in a straight line north-west from Germany Beck, then the road would lie *c.* 1km to the south-west of the western end of Heslington East.

Artefacts

Evidence for the impact of Rome in the York area, and for the degree and character of interaction with the native population in the late 1st – early 2nd centuries relies heavily on the distribution of diagnostic artefacts. In the York area the earliest Roman pottery including early Ebor Wares (Monaghan 1997, 869-70) and South Gaulish Samian, imported to Britain until *c.* 110 (Dickinson and Hartley 1971, 128) is not found outside the fortress and a few other adjacent sites. At Naburn Jones noted (1988, 168) that Roman pottery did not reach Lingcroft Farm until the early 2nd century, but when it did the range was wide with samian, amphorae and mortaria, as well as glass vessels, included. This appears to be a pattern repeated elsewhere. At Germany Beck, Fulford, the evaluation excavations produced *c.* 1000 sherds of Roman pottery, in which there was no 1st century material, the majority being 2nd – early 3rd century (Evans 1996). At Heslington East itself white–slipped Ebor flagon sherds suggest that Roman pottery was beginning to reach the site in the second quarter of the 2nd century (Monaghan 1997, 876-7). They may be seen alongside the Hadrianic hoard of four bronze *sestertii* as indicating the first signs of a new relationship between local people and Rome.

Landscape

One context for the interaction of the Roman legion and native population in the York region may have been the taking of land adjacent to the fortress under the legion's direct control. Such land is usually referred elsewhere to as a *prata* or *territorium* and could, on the basis of estimates made for other fortresses in the empire, have been as much as 50,000ha in extent. The location and size of any York *territorium* is unknown and will probably never be known (although see Mason 1988), but it is possible that it incorporated areas all round York leading to the dispersal of the native population in settlements such as Naburn and Rawcliffe Moor. This might account for an apparent lack of artefactual material for the first 50 years or so of Roman rule.

As noted above, there is evidence from the York region for late Iron Age field systems defined by ditches. However, the majority of crop mark sites thought to be either Iron Age or Roman cannot be dated closely. The pattern adopted by many of them is often described as 'co-axial', meaning that boundaries lie along one dominant axis, sometimes for up to 1km or more. This sort of regularity suggests a Roman rather than earlier date at least for the systems in their mature form. For the York area Horne (2003, fig. 4.5) cites examples of co-axial fields at Elvington *c.* 10km south-east of York and at the Naburn site referred to above. Another possible Iron Age or Roman crop mark site in the immediate Heslington East area was identified by aerial photography in 1952. It is a ditched enclosure *c.* 80m x 50m within which are a number of smaller rectilinear features, located in a field north of what is now the University Science Park on the high ground close to Heslington Hill (Perring 1999, 21). A number of other crop marks lie *c.* 1.5km south of Heslington East. They include two ditched enclosures (at SE 6305 4885, NMR No. SE 64 NW 18, and SE 6397 4916, NMR No. SE 64 NW 19) and a double- ditched enclosure (NGR SE 6315 4872, NMR No. SE 64 NW 17).

6.3.3 The Roman Period c.120 – 280

By the time the emperor Hadrian had arrived in Britain in AD120 the Ninth Legion had moved on and was replaced at York by the Sixth, although the bulk of the legion was probably based on the northern frontier in the years *c.*120 –160. It is likely that the abandonment of forts in the north of England and movement of much of the army of Britain to the frontier in Hadrian's reign was accompanied the granting of autonomy to two new *civitates* based on the former tribal territories of the Brigantes and Parisi. This is a possible context for the greater integration of York and its region into the Roman economic and political system which is suggested by archaeological evidence.

Settlement

In York itself civilian settlement expanded both on the north-east and south-west banks of the river Ouse and also east of the river Foss, the process often represented by drainage and ground levelling followed by the construction of buildings and streets. Archaeological evidence suggests that the area occupied by Roman settlement at York had reached its maximum extent by the early 3rd century. The growth of population which this implies is graphically shown by the expansion of the cemeteries along the lines of the main approach roads (Jones 1984).

Hinterland

Contemporary with the expansion of the civilian settlements in the centre of York is an increasing level of activity in the city's hinterland. For example, a small roadside settlement grew up at Dringhouses *c.* 3.25 km south of York. However activity usually takes the form of what might be called 'field ditches', which have been recorded on many sites, usually where there was no previous activity (Ottaway in prep.). In the majority of cases the width of these ditches was in the range 0.50m – 2m and depth 0.25m – 1m. The ditches usually adopt the alignment either of the principal axes of the legionary fortress or of adjacent Roman roads, although in an urban area sites are too small to claim there is evidence for co-axial systems as defined above. Dating the cutting of a ditch by means of the pottery in its infilling is not necessarily reliable given that the feature may be regularly cleared out and may take an indeterminate time to silt up naturally. However, the fill descriptions given in the site records usually to imply that the ditches silted up naturally after a brief episode of use; identifiable re-cutting was rare.

On occasions, for example, at 35-41 Blossom Street (SE59725130) located immediately outside the Roman town south-west of Ouse, the ditches were probably cut in the mid 2nd century, but elsewhere they appear to date largely to the late 2nd – early 3rd centuries. This was the case, for example, at Metcalfe Lane, Osbaldwick, 1km north of Heslington East which produced shallow gullies, probably plough-damaged ditches (Macnab 2002). At Germany Beck, the datable ditches belonged to the same period, including one which contained over 600 sherds of pottery, suggesting a settlement close by. Another contemporary ditch complex was located at St Oswald's School (MAP 2005). Here one ditch was remarkable for producing over 50 clay coin moulds and a number of associated coins which appeared to have been deposited in a single episode in the early 3rd century. The context of this material, presumably a forger's stock, is not apparent although the tile and brick assemblage

from the site probably originated from a nearby building. In respect of date and character, the ditches and other cut features at Heslington East fit in well with what has been found elsewhere in the locality, although further research will be needed to establish this with certainty.

Agriculture

The context for what appears to be a marked change in land use in the York area as indicated by these ditches is probably some development in the agricultural regime. One possibility is that better drainage was required, perhaps to assist in improving the quality of agricultural land for arable farming. In addition, or alternatively, more intensive stock rearing may have required ditched enclosures for new forms of management and also, perhaps, to prevent stock escaping into the arable fields.

If what we are witnessing in this outbreak of ditch digging is an improved or more intensive use of agricultural land this would not be unexpected given a growing local population, including the men of the Sixth Legion returned to base after *c.* 160, whose demand for foodstuffs would have risen correspondingly. There is a well-recorded body of data for food supply to Roman York itself from excavations, primarily of sites in Tanner Row and Rougier Street in the civilian town south-west of the Ouse (O'Connor 1988; Hall and Kenward 1990). These data pertain to animal bones and plant remains which include cereals for both human and animal consumption, and also grassland hay used for animal feed and as stabling litter. The largest assemblages of material were from contexts dated to the mid 2nd – early 3rd centuries and so are contemporary with the majority of what has been recovered at Heslington East, although, of course, those from Heslington East are very much smaller.

The source of the cereals and beasts for which there is such good evidence from Roman York is likely to have been very local. Evidence from weed seeds suggests the town tapped into a variety of ecological zones, but none need have been more than 25km distant. One would imagine that the farmers at Heslington East were closely integrated into the food supply system for York, but further excavations offer an important opportunity for looking at the production end of the supply chain, both in terms of stock and cereals, although in both cases excavation on a large scale will be needed to produce samples sufficiently large to be statistically valid.

While agricultural products were moving out of hinterland sites like Heslington East and into Roman York, there is also evidence, principally represented by pottery, for the movement into them of various commodities. The majority of the pottery from Heslington East and other sites takes the form of coarse wares, but at Heslington East it also includes a small quantity of samian and amphorae. The coarse wares need not necessarily have originated in York and Evans (1996) comments on the Germany Beck assemblage that it is very different from what one might expect from York in the 2nd – 3rd centuries suggesting supply networks which bypassed the city. None the less, samian and amphorae almost certainly did pass through York. As at Germany Beck, these sherds speak of elements of a Romanised life style in the hinterland of York, including consumption of imported olive oil and wine. An important objective of further excavation will be to recover a sufficiently large assemblage of pottery to determine trading and consumption patterns which can be compared with other sites.

The Bath House

If the generation of agricultural surplus over and above subsistence level, such as to allow acquisition of samian vessels and amphorae (and their contents), is indicated by the pottery from Heslington East, then even more striking evidence took the form of the bath house of which remains were found in Field 8. Bathing in the Roman manner is one of the most important indications of a Romanised life style and in a rural area a bath house is likely to have been part of a villa. If a villa existed either on Heslington East itself or, more likely adjacent to it, then it may be of a relatively early date (mid 2nd century) for the region in which most emerged from humbler farmsteads in the early 3rd century or later. No evidence was either found in the evaluation excavation or was indicated in the geophysical survey for other villa buildings at Heslington East, but it will be an important objective of further investigation to pursue this matter further.

Should the Heslington East bath house prove to be part of a Roman villa, then not only its date, but also its location is of some significance as hitherto the nearest known villa to York has been at Wilstrop Hall *c.* 11km to the west, close to where the Roman road from Aldborough to York crosses the river Nidd (Lawton 2002-3). It has also been suggested that the quality of finds from Germany Beck is indicative of high status occupation in that area, possibly a villa, but no structures have come to light. Discovery of a villa at either Heslington East or Germany Beck might demand a revision of the view that York differed in some way from other Roman towns like Brough-on-Humber and 'small towns' like Malton which were surrounded by villas and formed hubs for a type of economic system, sometimes known as 'the villa economy', from which York was excluded.

A further point of some interest regarding the context of the bath house is that the remains of another, equally small *caldarium* have been found within a Roman building, possibly a bath house, at Burnby Lane, Hayton *c.* 25km south-east of York, close to the main approach road to York from the south-east (Halkon *et al.* 2000; Halkon 2003). As yet there is no evidence that this was part of a villa. One possibility is that these two buildings are bath houses sited adjacent to a good water supply but at a short distance from the rest of the villa. At Heslington East the *caldarium* was close to a spring line and at Hayton there was a well nearby.

An alternative context for both these bath houses is that they were associated with shrines in which a water source played an important role in cult practice. Perhaps the best-known example of a bath house in a cult context in Britain is at the shrine of Nodens at Lydney, Glos. (Wheeler and Wheeler 1932). Here a sacred spring on a local high point, formerly an Iron Age hill fort, was the focus of worship. The fact that the Heslington East bath house also stands on a local high point adjacent to springs should not be overlooked. An elevated location with such excellent views would also provide a suitable venue for the sort of cosmic contemplation which formed an important part of Romano-British religion. There is evidence for cult practice adjacent to the Heslington East building, for example, in the form of the enigmatic burial of five small pots, the animal burials and quite possibly the hoard of four apparently unused coins. As a shrine Heslington East would fall within a small group known at water sources in Yorkshire, including Elmswell (Dent 1988) and Millington (Ramm 1978, 101-4; Halkon et al., 2002-3). It has also been suggested by

Stephen Moorhouse (pers. comm.) that the Roman bath house at Middleham in Wensleydale was part of a temple site. Although there is no evidence as yet, any Roman period shrine at Heslington East is likely to be a successor to one of pre-Roman origin, a feature of the Roman period being the reorganisation of earlier cult sites using permanent structures.

Burials

Finally, having considered the evidence of artefacts and structures, mention should be made of another indicator of the aspirations of a local Romanised elite in the form of two stone coffins found in 1831, *c.* 250m east of Heslington parish church in a field immediately north of Field Lane, on the corner of Windmill Lane (Yorkshire Philosophical Society 1832; NMR No. SE 65 SW 35). In one case the body was encased in gypsum (calcium sulphate) which represents a local tradition, perhaps representing a form of embalming. It is also reported that the coffin contained two glass vessels and fragments of amphora. These burials are difficult to date closely, but gypsum suggests a 4th century date, although they could be earlier. As far as the north-east of England is concerned, the custom of burial in stone coffins appears to have had a major centre at York and a number have also been found in its hinterland. For example, a lid was found at Belle Vue House *c.* 1.5km north-west of Heslington East. About 1km south of the Germany Beck site another stone coffin was found (recorded by YAT: YORYM 1997.51) which must again have been the last resting place of a member of the landowning community. The extent of any cemetery at Windmill Lane is unknown, but there has probably been a good deal of destruction in the field by gravel quarrying and little may now survive. No burials were found in the evaluation of Dean's Acre immediately west of Windmill Lane but it is just possible that the north-west corner of Heslington East will produce Roman burials; this is one reason why part of Field 1 has been designated as having archaeological significance (Area B7).

6.3.4 Late Roman Period (*c.* 280-410)

The beginning of the late Roman period in the York area may usefully be indicated by the appearance in archaeological deposits of Crambeck ware and expansion in the distribution of calcite gritted ware dated to *c.* 280 (Monaghan 1997, 866). Later in the period another important indicator of date is the appearance of painted Crambeck ware in c. 350-60.

Based on the occurrence of pottery, the evidence for occupation in the York area *c.* 280 – 350 is sparse and confined to sites close to the main approach roads, some of which are cemeteries rather than settlement sites. Even at Dringhouses, where, as noted above, there was apparently a flourishing 2nd – early 3rd century settlement on the main approach road to Roman York from the south-west, recently excavated sites have produced no late Roman pottery at all. The field ditches referred to above seem to have largely disappeared from the landscape by the end of the 3rd century.

At Heslington East three trenches (36, 38-9) on the northern side of Field 8 and one at the southern end of Field 10 (54) produced a few sherds of what was thought to be

late Roman calcite gritted ware, but there was no Crambeck ware. These sherds probably date a large ditch aligned north-west / south-east in Trench 36, west of the bath house, now demolished, and another aligned north-east / south-west in Trench 54. Other sherds occurred in a gully late in the sequence in Trench 39; other undated ditches may also be late Roman. There is slight evidence, therefore, for re-organisation of the landscape at least in Field 8, although earlier alignments were maintained. However, lack of artefacts suggests an end to the sort of interaction between York and this part of the hinterland which had prevailed hitherto.

From the middle of the 4th century the distinction between core settled areas at York, the fortress and the civilian town south-west of the Ouse, and the surrounding locality becomes even starker. There is very little evidence for activity in the latter, except burial, although two large houses immediately outside the core areas, one at Aldwark, north-east of the Ouse (Magilton 1986) and the other at Clementhorpe, south-west of the river (Brinklow and Donaghey 1986) appear to have continued in occupation. In addition, whilst no early 4th century material was found at Germany Beck, Fulford (Evans 1996), there were a few sherds of late 4th century, 'Huntcliffe type'.

Coinage tells much the same story as pottery. Although a hoard of 2800 coins dated to 358-9 was found in a pottery jar during the construction of Alcuin College in 1966 (Carson and Kent 1971), issues datable after this, either casual finds or from excavations are very scarce except in the fortress and town south-west of the Ouse.

6.3.5 Anglian (*c.* 410 – 850) – Anglo-Scandinavian (*c.* 850 – 1066)

Archaeological evidence for these periods in the vicinity of Heslington East is almost completely absent and cannot be said to be abundant in the hinterland of York as a whole. However, a watching brief on Heslington Hill *c.* 500m to the north-west of Heslington East on the site of a new University car park and medical school in 2003 recovered 6th century Anglian pottery, an iron knife, metal working debris and two glass beads. These finds presumably indicate either a cemetery and/or occupation in the locality (Roe 2003).

6.3.6 Medieval (*c.* 1066 – 1550)

As noted above the evidence for medieval agriculture at Heslington East appears to date from the 12th century onwards. As such there is nothing remarkable about the site in its regional context and the main focus of research in future fieldwork will be directed elsewhere unless important new and unexpected discoveries come to light.

6.3.7 Post-medieval – Modern (*c.* 1550 – 2000)

Whilst some evidence was found for activity on the site in these periods, there is no reason further research.

7. Project Research Objectives

7.1 Introduction

The size of the Heslington East site and the character of the archaeological resource present the York region with an unrivalled opportunity to examine a large area of prehistoric and Roman landscape with considerable research potential. There follow a discussion of four research topics from which objectives for further fieldwork may be derived. In Section 8 a fieldwork methodology for addressing these objectives is presented.

7.2 Landscape and Environment in Early Prehistory

The Neolithic period and Bronze Age in the immediate York area, and to a large extent in the Vale of York, are, as noted in 6.2.1 above, known primarily from the distribution of artefacts. Any opportunity to investigate sites where activity or settlement took place would therefore be of the greatest interest. It is at present unclear, however, what potential exists at Heslington East. The promising evidence of the flints from the fieldwalking and inferences subsequently drawn from the geophysical survey about settlement were not borne out in the excavation, although a number of undated features may be of early prehistoric date. None the less, as already noted also, trenching as carried out in the evaluation, is not necessarily the most effective way of locating traces of activity which may survive in an ephemeral form. What is required to determine whether the flint material from field walking and the late Bronze Age / early Iron Age pottery from the excavation has a context on the site is the opportunity to examine large areas with a combination of geophysical survey and careful excavation.

Of greater obvious research potential is the probable dry valley or palaeochannel identified in Field 3 (Trenches 13 and 14) which in Trench 13 was associated with the pottery of late Bronze Age / early Iron Age date. The first step of modelling the land form in this zone may be addressed by means of borehole survey (see 8.5.1 below) followed by targeted excavation. Although preservation of organic material in the feature was not outstanding, the opportunity to examine the palaeoenvironment of the prehistoric period in the Vale of York is very important, especially if deposits can be dated. Comparison with the deposits from Holgate and Askham Bog may begin to address the state of affairs summed up by Gearey and Lillie (1999, 121) as follows : 'The environmental history of the Vale, in particular the role of human communities in the modification of the landscape, is very poorly understood...'

Specific questions under this heading include:

- Do remains of landscape management from early prehistory survive on the site?
- What is the context for the late Bronze Age / early Iron Age pottery? Does a settlement of this period survive on the site?
- What can the organic material in the dry valley tell us about the environmental history of the area?

7.3 Iron Age into Roman: the Processes of Change

The transition experienced by the York region in the 1st – early 2nd centuries AD, as native political and social systems were replaced by those of the Roman empire, is a

topic which is not simply of local interest. It resonates with both regional and national research agenda and is especially significant given York's importance in the Roman period. As far as the Yorkshire region is concerned, the period was identified by the Regional Resource Assessment as one requiring further investigation and publication (Ottaway 2003, 146). At the national level 'Briton into Roman' was identified as a research theme by English Heritage in the strategy document *Exploring our Past* (1991).

Heslington East presents an opportunity to examine the prevailing view that the Roman conquest made little in the way of an immediate impact on settlement and society in Britain, but rather initiated processes of change which took as much as 50 years to take effect, or at least to register in the archaeological record as Romanised artefacts on sites at any distance from military sites and towns. One might argue, however, that undue attention has been paid to landscape features, notably field systems which, as noted above, are often assumed to have been established in the Iron Age and remained largely unchanged by the Conquest. As far as York region is concerned this assumption is heavily based on aerial photography and has not been extensively tested in excavation.

Further excavation at Heslington East gives an opportunity to examine the transition from the context not only of landscape but also of material culture and plot the introduction of Romanised artefacts such as pottery and metalwork, including coinage, which speak of economic and social relationships in a way that field systems cannot.

Specific questions under this heading include:

- Can a distinctively late Iron Age landscape be identified?
- Did this Iron Age landscape survive unaltered after the Roman Conquest and if so for how long?
- What changes – if any – were made to the Iron Age landscape in the Roman period? Do they represent changes in the agricultural regime, in terms of type of farming or intensity of exploitation of the land?
- When did Rome's impact as revealed in material culture begin to take effect? – is the early 2nd century date already proposed for Heslington East valid?
- What are the implications of the introduction of Romanised material culture? Do they mean Heslington East and surrounding area were now integrated into a Romanised economic system geared to supplying the fortress and town with agricultural products, and receiving manufactured and traded goods in return?
- Did all commodities reaching the site come from York itself or is there evidence (as at Germany Beck – see 6.3.3 above) for trade networks which bypassed York? If so what light does this throw on York's role in the local economy?
- Are changes in the economy and society of the area manifested in characteristically Romanised displays of status such as the construction of a villa?

7.4 Cult and Ritual in a Rural Context

There is some evidence for cult activity in Field 8 at Heslington East and it is quite possible that the bath house in Trench 36 formed part of a shrine complex. The evidence for Roman religion in York itself is very much weighted towards cults, whether official or otherwise, of Mediterranean origin, and those such as Mithraism, with their origins in the eastern empire popular with soldiers and the governing class. Evidence for religious cults of native origin, although not absent, is less good.

In the Yorkshire region few cult sites are known from excavation and the Resource Assessment Document concludes: 'In any list of research priorities, a prominent place should probably be given to the excavation of temples or shrines' (Ottaway 2003, 148).

Specific questions under this heading include:

- To what extent is there evidence for prehistoric and Roman cult and ritual activity at Heslington East?

- What was the relationship between cult and ritual activity and the landscape? – was it solely focused on the spring line on the northern side of the site, or did other features play a part?

- How was cult and ritual activity organised in the sense of structures of various forms and ritual deposits of artefacts and animal remains?

- Is there any distinctive patterning in the ritual deposits from relevant parts of the site which informs the character of cult and ritual activity at Heslington East?

7.5 Late Roman – Post-Roman : the Processes of Change

The development of the countryside in the late Roman period (late 3rd century onwards) and its fate in the post-Roman is another topic of more than purely local significance. Once again the Regional Resource Assessment proposes various patterns of development, but identifies the need for more fieldwork, especially to look at the late 4th – 5th century (Ottaway 2003, 148). *Exploring Our Past* also identifies what it refers to as 'the early medieval period (c. 350 – 700)' as a key academic objective.

At present the extent of the research potential for the study of late Roman – post-Roman change at Heslington East is uncertain given that features in the evaluation likely to be of this date were few and confined to the north-east part of the site . Nonetheless intimations of change in the late Roman period may turn into a much more comprehensible picture when a larger area is examined.

As far as the transition to the post-Roman period is concerned, it is difficult to determine whether there is a great deal of research potential at Heslington East until the hand made pottery referred to in 5.3 above has been dated. If it proves to be the case that some or all of this material is Anglian rather than Iron Age, then determining

its context will be of the greatest interest as very little is known of the 5th – 7th centuries in the York hinterland.

Specific questions under this heading include:

- In what way and to what extent was the late Roman landscape, especially in terms of the field system, different from what existed hitherto?
- Does change in the landscape indicate change in the agricultural regime?
- In what way and to what extent was the Heslington East area integrated with the economy of the core areas of Roman York in the late Roman period?
- Is a smaller quantity of material culture from the late Roman period than from the 2nd – 3rd centuries indicative of change in the economic system or of some other phenomenon such as depopulation?
- Is it possible to identify an Anglian presence on the site? If so is this purely agricultural or is there a settlement of the period?

8. Fieldwork Methodology and Techniques

8.1 Introduction

A mitigation strategy for archaeological fieldwork at Heslington East will be undertaken in two phases corresponding to the two phases of development (see Section 2 above). This is summarised in the table below.

Summary Schedule of Archaeological Investigation

Phase	Area	Scope of Fieldwork
1	A1	Completion of geophysics followed by excavation within zones impacted by the development
1	A2	Completion of geophysics followed by excavation within zones impacted by the development
1	A3 NW corner	3 evaluation trenches of 200 sq.m – followed by further work if warranted
1	B1-4, 7	Further evaluation : 12 trenches of 100 sq.m – some further work may be required dependent on results - completion of geophysics
2	A3	Up to 80% strip and excavate – use for training and community project
2	B5-6	Further evaluation : 8 trenches of 100 sq.m – some further work may be required dependent on results - completion of geophysics
2	Field 13	Further evaluation in areas where no access in 2003-4: 4 trenches – some further work may be required dependent on results
2	Field 17	Geophysics survey (omitted in 2003-4)
1-2	All	Watching brief on groundworks not covered by the above

As noted, the management basis for the two phases will be different in that Phase 1 will be undertaken by a commercial contractor whilst Phase 2 will be undertaken, in part at least, as a training project for the Department of Archaeology at the University of York and as a Community Archaeology project for local residents and interested members of the general public. In terms of methodology and fieldwork techniques, however, the same fundamental standards should apply, although there may be greater opportunities for methodological experimentation and development of techniques in Phase 2.

A key principle to be applied in both Phases 1 and 2 is that of maximising the yield of information by means of effective sampling strategies. The Heslington East development requires the mitigation of very large areas and it is neither feasible nor desirable for a range of practical and resource reasons to expect the whole site to be fully excavated. However, a sufficiently large and well chosen sample will be needed to ensure that the character of the below ground archaeology is fully understood and recorded.

In both Phases 1 and 2 it is envisaged that fieldwork will be a staged process as described below to allow feedback and review during the project and, thereby, the most efficient use of resources.

8.2 Aims

The archaeological fieldwork will record the location, extent, date range, character and function of archaeological features and deposits encountered within the excavation areas of the site in order to achieve the research objectives set out above. The scope of the excavation areas should be as set out in this document, or as finally agreed with the City of York Council and the archaeological contractor.

8.3 Management of the Project

Work will be conducted in Phase 1 by an archaeological contractor of recognised competence with experience as follows:

- in the archaeology of large rural sites.
- a good academic record, backed up by publication, in research into the prehistoric and Roman periods.

Contractors registered with the Institute of Field Archaeologists (IFA) will be preferred, but any contractor will be required to conform to the Code of Conduct of the IFA (www.archaeologists.net). At least one senior member of the project staff should be a member of the IFA.

The University undertakes to manage Phase 2 such that appropriate standards of fieldwork, archiving, analysis and publication are ensured.

8.4 Specialists

The range of specialists required during the conduct of the fieldwork and post-excavation work will depend on the nature of the archaeological deposits encountered.

However, it is reasonable to predict that the services of the following specialists will be required during the project:

1. Ceramics specialist, preferably with expertise in the Iron Age and Roman periods

2. Non-ceramic artefact specialist preferably with expertise in the Iron Age and Roman periods

3. Palaeoenvironmental specialists

4. Conservation specialists - these will be required to carry out 'first-aid' treatment of fragile artefacts on site as necessary as well as to tackle the longer term treatment, stabilisation and analysis of such artefacts.

5. Geoarchaeology specialist

8.5 Phase 1 Fieldwork

8.5.1 Boreholes

A specific research issue to be addressed in Phase 1 of the project is the extent and character of the dry valley or palaeochannel identified on the western side of Field 3 (see Section 7.2). The fill is a degraded peat deposit in which preserved organic material dating perhaps to the Bronze Age was found. An appropriate method of determining the extent of the dry valley has been proposed by Steve Roskams (Dept of Archaeology, University of York) :

A series of bore holes, initially at 10m intervals in two transects, one north-south to determine the length and the other east-west to establish the width. Intermediate coring may be required to provide greater resolution once preliminary readings have been collated

The survey should use a standard Dutch auger with a 200mm 'closed chamber' head. If practical, a hand auger will be employed, allowing maximum depth, with extensions, of 3.3m. Positions of all cores will be recorded using a total station theodolite. Soil profiles will be described in line with conventional, professional practice in geoarchaeology.

8.5.2 Further Evaluation

Further evaluation of the areas of secondary archaeological significance B1-4 and 7 (excluding Dean's Acre) will be undertaken in order to better define any surviving archaeological deposits and features. Location of these trenches will in part be guided by geophysical survey and in part be based on random selection. Up to 12 trenches of 100 square metres will be required. If this evaluation produces little additional archaeological information, then the importance of the area in question can probably be downgraded such that no further excavation will be required. Should significant archaeology be revealed, however, then some further mitigation may be required.

It will be apparent on Fig.2 that the Phase 1 development impinges on the north-west corner of Area of archaeological significance A3 (*c.*0.4ha). In order to determine whether there are significant archaeological deposits in this part of area it is proposed to excavate three evaluation trenches, each 200 sq. m. Should they reveal significant archaeology the whole of the corner will be stripped and treated in the same way as Areas 1-2. If not, then no further excavation will be required.

8.5.3 Further Geophysical Survey

In order to ensure a full record of archaeological and significant natural features the excavation stage described below will be preceded by completion of the geophysical survey undertaken in 2003-4 in the areas of archaeological significance (A1-A2 and B1-4 and B7). This will involve a magnetometry survey of the strips, 40m wide, between those previously investigated, a total area of *c.* 13ha.

Advice from Prof. Mark Noel of Geoquest Ltd, who conducted the survey in 2003-4, is that prospection over ground where the overburden has been removed will probably allow a geophysical survey to achieve greater resolution than if overburden is left in place. If feasible Areas A1-A2 will be surveyed following stripping.

Steve Roskams (Dept of Archaeology, University of York) has identified an appropriate procedure as follows:

A magnetometer survey will be carried out using standard procedure for such work. An appropriate piece of equipment would be a FM36 Fluxgate Gradiometer taking readings in parallel transects with a 0.5m sampling interval at a resolution of 0.1nT. In addition, a resistivity survey may be undertaken selectively to allow comparisons and contrasts between the two techniques to emerge. An appropriate piece of equipment would be an RM15 instrument with PA5 hardware and an AD1 interface in 1m wide, zigzag traverses taking readings at 0.50m intervals.

Both techniques employ 20m x 20m grid squares set out using total station theodolites. These instruments will also be used to produce a detailed topographical survey of the surface configuration of the area being investigated geophysically, and the whole tied into the site grid. If possible the same grid as that established in initial evaluation work by YAT should be used to allow comparisons between data sets to be investigated. The resulting three-dimensional plan and survey data, viewable using CAD software, will allow digital field plans to be created pre- and post-excavation. All data archiving will follow appropriate ADS guidelines on good practice.

8.5.4 Mitigation Excavation

As noted in 3.4, in Phase 1 it is proposed to examine Areas 1 and 2 in two parts. The first will involve Area 1, and additional geophysics and evaluation. The second part will involve work in Area 2.

Should further evaluation of the north-west corner of A3 and of B1-4 and 7 reveal archaeological deposits and features of significance then, as noted above, additional mitigation may be required in these areas.

Releasing the research potential of Areas A1-2 in respect of the research objectives depends on being able to both map features, such as ditches, over large areas and recover sufficient samples of artefacts etc for statistically valid inferences to be made about the site itself and for comparative purposes. Work will therefore take place in two stages:

1. Mechanical removal of overburden under archaeological supervision to the level of any archaeological remains or to the level of natural subsoil whichever is the higher. The surface exposed to be quickly cleaned by hand to allow preliminary mapping of archaeological features (geophysical survey may take place at this stage).

2. After a review of the mapping exercise there will be a targeted excavation programme to, firstly, define and date archaeological features and determine stratigraphic relationships between them, and, secondly, recover samples of artefactual and biological material

Inasmuch as it can be determined, the aim should be to sample at least 20% of the fill of all cut features. However, this figure may be increased substantially for features in which deposits contain substantial numbers of artefacts or artefacts of particular interest, and / or which have good organic preservation.

8.6 Phase 2 Fieldwork

8.6.1 Fieldwalking

In 2003 a programme of fieldwalking formed part of the evaluation. This failed to produce any patterning in the distribution of artefacts and was not a reliable guide to activity or settlement on the site as revealed by excavation. It is not recommended therefore that further fieldwalking takes place in advance of excavation in Phase 1. However, there may be some value in a further fieldwalking exercise as part of the training programme in Phase 2. This to be targeted initially in areas of particular archaeological interest (e.g. Fields 8-9), although the practicability and, therefore, value of this will depend on the condition of the land.

Steve Roskams (Dept of Archaeology, University of York) has outlined a methodology as follows:

In the area not covered in the initial fieldwalking, the more intensive methods used in the 'control' zones will be applied so that a second area investigated in more detail can be compared with the more general patterns derived across the whole site. This intensive approach will involve each 20m x 20m square being walked for the equivalent of one person hour (thus four people for 15 minutes, or equivalent), initially dividing the material recovered between modern finds, pre-18th century pottery, ceramic building material and other finds. All artefacts will be washed by hand, identified by relevant specialists, and plotted onto a database to allow integration with other data sets.

8.6.2 Further Evaluation

Preliminary to the main investigation, further evaluation will be required in Field 13 at the east end of the site. This could not be fully investigated due to limited access during the programme of 2003-4. This evaluation will take the form of four trenches each of 100 square metres.

As in the case of Areas B1-4 and 7, further evaluation of B5-6 will be undertaken in order to better define any surviving archaeological deposits and features. This will involve eight trenches each of 100 square metres.

Should these evaluations reveal archaeological deposits and features of significance then additional mitigation may be required.

8.6.3 Geophysical Survey

A geophysical survey using magnetometry will take place in Field 17 which was omitted from the survey in 2003-4.

In addition, the survey undertaken in 2003-4 will be completed in Areas B5 and B6. This will involve the strips, 40m wide, between those previously investigated.

The context of a training excavation will potentially allow some methodological experimentation. For example, resistivity could be used on a selective basis for comparative purposes with the magnetometry survey.

8.6.4 Mitigation Excavation

Up to 80% of Area A3 will be examined according to the two stage approach described above for Areas A1-2 in Phase 1 (8.5.4).

As already noted, if further evaluation of Areas B5-6 and Field 17 reveal archaeological deposits and features of significance then additional mitigation may be required.

8.7 Watching Brief

In parts of the Heslington East site not examined in detail as described above, a watching brief will be maintained on all soil stripping and other groundworks likely to disturb archaeological remains.

8.8 Metal Detecting

Thorough metal detection sweeps of areas prior to excavation, of exposed features and of excavation spoil will be carried out during the project.

8.9 Fieldwork Recording

All recording systems used at Heslington East will be compatible with those used elsewhere in York. This means a single context based recording system, employing suitable forms and indexed appropriately. Context descriptions, artefact registers, photographic records, etc, will be entered on pro-forma sheets similar to those used on other archaeological sites in York. Individual measured plans will usually be produced at a scale of 1:20 for all excavated features and deposits, although there may be circumstances where plans of several related features can be made. Measured section drawings of trenches, major features and other parts of the site as appropriate will be produced, usually at a scale of 1:10. In addition, all layers and features will be levelled relative to Ordnance Survey datum.

Recording systems employing capture of primary site data in digital form will be acceptable providing adequate safeguards against accidental loss of data can be adequately demonstrated. In the training programme (see below Section 14) use of a recording system of this type on an experimental basis would be welcome.

To ensure that the positions of excavation areas are accurately recorded for future study, and to assist the entry of data into the City of York Sites and Monuments Record, trench locations will be accurately surveyed. The data will be stored digitally in an agreed CAD format with the areas located relative to Ordnance Survey National Grid (or with the transformation from the local grid to National Grid co-ordinates supplied). Raster images of trench positions will include the correct positions and National Grid co-ordinates of at least four separate points. Major features uncovered during the excavation will be similarly located.

A photographic record using 35mm monochrome film and digital images will form part of the excavation record. This will consist of general site, and feature specific photographs and progress record shots.

8.10 Deposit Sampling

8.10.1 Palaeoenvironmental Sampling

Suitable deposits will be sampled for retrieval and analysis of biological remains. Particular attention will be paid to peat deposits, as have been shown to exist in Trench 13, and to parts of the site where there is good organic preservation as has already been shown in Fields 4 (Trenches 103 and 106), 8 (Trench 33) and 9 (Trench 60).

The sampling strategy will be based on a reasoned justification for the selection of deposits for sampling and will be developed in conjunction with appropriate specialists. The appointed animal bone specialist will be consulted in order to ensure retrieval of assemblages of a meaningful size for subsequent analysis. In addition, the sampling strategy will be agreed in advance with the English Heritage Regional Science Adviser.

Sampling methods will be informed by those put forward in *Environmental Archaeology: A Guide to the Theory and Practice of Methods from Sampling and Recovery to Post -Excavation* (English Heritage 2002).

Any bulk samples and samples taken for coarse-sieving from dry deposits will be processed at the time of the fieldwork wherever possible, partly to permit variation of sampling strategies if necessary, but also because processing a backlog of samples at a later stage causes delays.

8.10.2 Geoarchaeological Sampling

Sediment sequences and buried soils will be inspected and recorded on site by a recognised geoarchaeologist. Sampling will follow the outline strategy presented in the Contractor's Written Scheme of Investigation (Section 16).

Procedures and techniques presented in the English Heritage document *Geoarchaeology* (English Heritage 2004) will be followed.

8.10.3 Sampling for Craft or Industrial Residues

Where there is evidence for any craft or industrial activity, such as metalworking, macroscopic technological residues (or a sample of them) will be collected by hand.

In respect of metalworking separate samples (*c.* 10ml) will be collected for micro-slags (hammerscale and spherical droplets). In order to guide the sampling strategy, reference will be made to the documents *Archaeometallurgy in Archaeological Projects* (English Heritage / Historical Metallurgy Society 1995) and *Archaeometallurgy* (English Heritage 2001).

8.10.4 Scientific Dating Samples

Samples will be collected for scientific dating. This will be of particular importance in the prehistoric period for which a near absence of datable artefacts may render establishing a chronological sequence difficult. Radiocarbon dating of bone or charred plant material will probably be the principal method of dating but might be supplemented by applying optically stimulated luminescence (OSL) dating to deposits.

For archaeomagnetic dating reference will be made to *Guidelines on Producing and Interpreting Archaeomagnetic Dates* (English Heritage 2006)

Should well-preserved timbers survive, then sampling for dendrochronology will follow procedures in the document *Dendrochronology: Guidelines on Producing and Interpreting Dendrochronological Dates* (English Heritage 1998).

8.10.5 Sampling Advice

The Regional English Heritage Adviser for Archaeological Science will be consulted about the sampling strategy and all other aspects of archaeological science, including dating and his / her recommendations will be followed. Provision will be made for the Regional Adviser to monitor the fieldwork as appropriate.

8.11 Finds and Conservation

8.11.1 Finds Collection and Recording

All finds (artefacts and ecofacts) encountered during excavation will be collected and registered, unless variations to this principle have been agreed. In certain circumstances a sampling strategy may be more appropriate. However, the circumstances for such a strategy and policy for discarding excavated materials which are not to be retained will be explicitly stated in the Contractor's WSI and agreed with the City of York Council.

All bulk material will be washed. All bulk material except animal bone will be marked with materials resistant to abrasion. All bulk finds will be appropriately boxed and recorded on computer.

All small finds will be recorded both in the finds register and on computer. The small find recording system will be compatible with the Yorkshire Museum accessioning system.

8.11.2 Finds Storage

All finds will be appropriately packaged and stored under optimum conditions to minimise damage, following methods detailed in *First Aid for Finds* (Watkinson and Neal 1998) and to the standards agreed by the Yorkshire Museum and set by the United Kingdom Institute of Conservators.

Methods will include:

- Controlled environment storage where appropriate
- Correct packaging with inert materials
- Regular checking of the condition of objects
- Immediate selection for conservation of vulnerable material
- All material stored in buildings with appropriate security

8.11.3 Finds Conservation

Finds will be regularly transferred from the site to the conservation laboratory for security reasons and to ensure the long term well-being of the finds themselves.

In accordance with procedures outlined in *Management of Archaeological Projects* (MAP2; English Heritage 1991) all iron objects, a selection of non-ferrous artefacts (including all coins) and, if appropriate, a sample of any industrial debris relating to metallurgy will be x-radiographed before assessment.

8.11.4 Compliance with Treasure Act 1996

Finds of gold and silver will be removed to a safe place and their discovery reported to the Coroner in accordance with the terms of the Treasure Act 1996. The Yorkshire Museum will also be informed.

8.12 Human Burials

Any human burials which are revealed will be immediately brought to the attention of the Department of Constitutional Affairs (DCA), the University and the City of York Council. A DCA licence for the removal of human remains will be applied for by the Archaeological Contractor before any burials are removed. The licence conditions will be fully adhered to.

9. Project Monitoring

Provision will be made for monitoring the progress of the archaeological work in order to ensure its effectiveness and proper execution, and that proper standards are being maintained. At least two weeks notice of the commencement of archaeological works will be given to the Principal Archaeological Officer, City of York Council.

For Phase 1 regular monitoring points will be agreed between the Archaeological Contractor, the Principal Archaeological Officer, City of York Council and the University so that proper notice of any site visits can be given to all interested parties. The Archaeological Contractor will provide an area within their temporary accommodation suitable for occasional use by the interested parties for site meetings etc. The Archaeological Contractor will be required to provide a progress report on a monthly basis (or as appropriate) outlining progress both achieved and expected with any relevant comments on resources.

10. Archive

10.1 Introduction

The initial result of the fieldwork stage will be the site archive which will be prepared in accordance with *Management of Archaeological Projects,* Appendix 3 ((MAP2; English Heritage 1991). This represents the minimum that is produced following on from the fieldwork stage. It will contain all original records, suitably ordered, catalogued and indexed, as well as matrices and summaries of the context record and artefact record.

It is expected that in addition to the hand written and drawn records, archived records will be stored in digital form. The Contractor should ensure that systems employed are compatible with those used by the Yorkshire Museum.

10.2 Archive Deposition

A copy of the archive will be deposited with the City of York Council Sites and Monuments Record (SMR). For Phase 1 issues of copyright and ownership of records and artefacts will be clarified between the contractor and the University before the commencement of work. Agreement will also be reached with Yorkshire Museum in order to make suitable arrangements for the deposition of the archive and to ensure standards required by the Museum (e.g. for storage) are achieved. All artefacts will, where applicable, be conserved *before* transfer to the Museum.

For digital data particular attention will be given to the Archaeological Data Services guides to good practice (www.ads.ahds.ac.uk). For artefacts particular attention will

be given to the United Kingdom Institute for Conservation's *Guidelines for the Preparation of Excavation Archives for Long-term Storage* (1990).

The site archive and research archive for each excavation phase will be completed and deposited with the Museum as soon as possible and in any case no later than six months after the completion of fieldwork. Any variation to this time scale will be discussed and agreed with the Principal Archaeologist, City of York Council.

10.3 OASIS

The City of York Council SMR is a participant in the *Online Access to Index of Archaeological Investigations* (OASIS) project. The overall aim of the OASIS project is to provide an online index to the results of large-scale developer-funded archaeological fieldwork. The archaeological contractor will therefore complete the online OASIS form at http://ads.ahds.ac.uk/project/oasis/.

11 Assessment

11.1 Introduction

Accompanying the completed archive there will be a report which assesses the character and significance of all categories of the excavated evidence. This will lead to the production of an updated project design for further analysis and publication of results.

11.2 The Assessment Report

The site assessment report will follow the model as set out in *Management of Archaeological Projects* (MAP2; English Heritage 1991) and in the Institute of Field Archaeologists' *Standard and Guidance for Archaeological Excavations*, para. 3.4 and Annex 2 (IFA 1999). The report will include reports on all stratigraphic analyses, artefacts and ceramic studies, deposit samples and other aspects of archaeological science, and on any other aspect of the project which may be relevant for further study. In discussing all aspects of the project there will, in each case, be a clear statement of potential so as to inform an updated post-excavation project design.

11.3 Assessment of Artefacts

Assessment of artefacts will include inspection of the x-radiographs of all iron objects, of a selection of non-ferrous artefacts (including all coins) and of a sample of industrial debris.

A rapid scan of all excavated material will be undertaken by conservators and finds researchers in collaboration. Material considered vulnerable will be selected for stabilisation after specialist recording. Where intervention is necessary, consideration will be given to possible investigative procedures (e.g. glass composition studies, residues in or on pottery and metal-replaced organic material). Once assessed, all material will be packed and stored in optimum conditions, as described above.

11.4 Assessment of Samples

Deposit samples selected for assessment will be processed as considered necessary by the specialist, particularly where storage of unprocessed samples is thought likely to result in deterioration. Selection will be based on the perceived quality of preservation, capacity to inform on the character of the deposit in question, and ability to provide information on diet, economy etc.

11.5 Assessment of Human Remains

Any human remains collected will be assessed as recommended in the *Centre for Archaeology Guidelines for Assessment of Human Remains* (English Heritage 2002).

11.6 Updated Project Design

Following discussion and agreement on future analysis and publication, an updated Project Design, following the model put forward in *Management of Archaeological Projects*, Appendix 5 (MAP2; English Heritage 1991) and the Institute of Field Archaeologists' *Standard and Guidance for Archaeological Excavations* (IFA 1999), must be agreed in writing with the Principal Archaeological Officer, City of York Council. This updated project design will address the potential of the excavated data to address the project research objectives, identify any new objectives and form the basis of the ensuing publication programme.

12 Analysis and Publication

12.1 Introduction

It is essential that the results of the excavation are published in some form. The most appropriate form of publication will be discussed with the Principal Archaeological Officer during the compilation of the archive, although preliminary ideas regarding the most likely publication type should be considered by the contractor during compilation of the initial Written Scheme of Investigation.

12.2 Post-Excavation Analysis

The post-excavation analysis should follow the proposals as set out in the updated project design and include an agreed strategy for specialist analyses of palaeoenvironmental, archaeometallurgical and geoarchaeological samples, and for artefact conservation.

A timetable for completion of reports must be agreed with all specialists. Agreements in writing with all sub-contracted external specialists are to be encouraged in all cases. As a minimum, all specialists should be provided with contextual information, provisional dating and stratigraphic relationships of contexts. Specialists should also be given the opportunity to comment on draft publication texts, well in advance of submission of texts for final publication.

In addition to the programme which the archaeological contractor will adopt, the University Department of Archaeology may wish to undertake analyses over and

above what would be considered appropriate for a developer to resource as part of a commercial operation.

12.3 Final Publication

As noted above, the form of publication will be agreed in due course but a web-based component at least for dissemination of basic data sets and specialist reports not appropriate for a printed volume is to be encouraged.

The Department of Archaeology will disseminate results of any additional analyses either with the contractor's report if appropriate or in a manner and format of their own choosing.

12.4 Popular Publications

Resources should be made available during the fieldwork project for the production of popular publications and reports, in either paper or web-based form, aimed at the interested layperson of all ages.

13. Ownership of Finds

Subject only to the provision of the general law on Treasure Trove, any item recovered during the excavation will remain the property of the University of York and will not be disposed of by the archaeological contractor without permission. Subject to the approval of the University, it is recommended that the archive be offered to the Yorkshire Museum.

14. Training Programme

14.1 Introduction

Phase 2 of the Heslington East project presents an important opportunity for the development of a high quality archaeological training programme. This would be focused on the investigation of some or all of Fields 8 and 9 which include one of the areas of highest research potential on the site (A3) containing remains of prehistoric and Roman field systems and a possible Roman shrine (see 6.3.3 above).

Heslington East is an ideal site for a training programme as it will allow trainees to become involved in a project which addresses a number of important research issues. In other words this would not be a project in which archaeology simply takes place for its own sake. From a practical point of view the site is also ideal in that the remains are varied, but not overly complex in their stratification. In addition to excavation, it will be possible to offer training in other field skills including fieldwalking, surveying, geophysics and sampling for geoarchaeological analysis. As the evaluation has demonstrated there will be sufficient in the way of artefacts for instructing trainees in their treatment and analysis. Good organic preservation in certain areas will allow the study of organic remains – environmental archaeology - to form an important part of the programme.

There should be no undue Health and Safety considerations as there can be in deeply stratified urban sites. Access to the site is easy as it is close to roads leading to York centre. Accommodation for trainees not locally based in either the University's own facilities or in the locality should not be a problem.

Fieldwork training programmes have the potential to constructively address two issues currently the subject of considerable interest and debate in the archaeological world and beyond: professional training and public participation.

14.2 Professional training: the background

Archaeology in the UK today is conducted for the most part by highly skilled professional organisations, known in the jargon as 'contractors', with a wide range of capabilities and functions. The principal part of their work is development-led, meaning that commercial developers resource archaeological work in advance of construction, extraction etc in order to fulfil the requirements of a planning system guided by *Planning Policy Guidance Note 16*. The resources for this type of work have become very substantial. A few of the larger archaeological contractors, for example, have an annual turnover in excess of £5m. A successful business requires an archaeological contractor to have the ability to respond rapidly and effectively to the demands of clients, and to complete work on time and in budget. At the same time the quality of their work and its research value are subject to scrutiny by local authorities, in the first place, but also by the academic community and wider public. Working within this context can provide a very challenging, varied and satisfying career for a university graduate. However, as anyone with the experience of running a professional field team will know, what is required from graduate recruits is a competence in a range of field skills, rather than simply a willingness to 'learn on the job'.

Opportunities for university students to gain field experience are of necessity limited by the demands of the academic year. However most archaeology students in the UK are required to spend a certain period in the field learning the basics. There are also post-graduate courses which focus on fieldwork methods and techniques. York University, for example, runs a successful MA in Field Archaeology, graduates from which are now working for YAT and other professional organisations.

The archaeological profession is very concerned about the need to maintain and improve standards. This concern can be seen against the background of government policy to improve access to vocational training and qualifications. Professional training in archaeology is, for example, promoted by the Archaeological Training Forum, supported by the Association of Local Government Officers (ALGAO), the Council for British Archaeology (CBA), English Heritage and the IFA amongst others.

14.3 Training in York

In recent years York has begun to make use of its status as a great historic city to develop its archaeological resources for training purposes. The City of York Council actively encourages public involvement in archaeological work through the planning process. The City was one of the sponsors, along with English Heritage, of an

archaeological training programme run by York Archaeological Trust at St Leonard's Hospital, adjacent to the west corner of the Roman legionary fortress in 2001-4. St Leonard's was run as a self-funded project which was aimed, first of all, at students from British universities studying archaeology and related subjects, and, secondly, members of the public with a serious involvement in archaeology in a non-professional capacity. Training in a full range of excavation skills was offered as well as in building recording, surveying, finds analysis and digital archiving. The site was open to the public and trainees were encouraged to act as site guides. Evening lectures and tours completed the programme. A variety of packages, usually for a one or two week stay, some involving accommodation and others not, were offered to the trainees. In total some 700 trainees took part in the St Leonard's project.

In 2005 a partnership between the York Archaeological Trust and the York Museum's Trust led to a training project run on similar lines to St Leonard's in the grounds of St Mary's Abbey. In 2006 the York Archaeological Trust ran another project adjacent to The Dig interpretation centre in St Saviourgate.

What these projects have shown is that there is a ready market for high quality training which is geared, in the first instance, to preparing trainees for careers in field archaeology and secondly for serious involvement at an amateur level.

14.4 Community Archaeology

An aspect of public participation in archaeology which English Heritage, local authorities like York and other public bodies, including the Heritage Lottery Fund, are keen to promote is usually known today as Community Archaeology. This means projects initiated and run, often with professional assistance, by local people who are keen to learn more about their heritage.

An example of a small Community Archaeology project in York, which can be seen as something of a pilot for what has happened since, took place at Osbaldwick in 2003 (Macnab 2005). Metcalfe's Lane, Osbaldwick is a green field site destined for the Derwenthorpe housing development by the Joseph Rowntree Foundation (JRF). Following a standard archaeological evaluation excavation by York Archaeological Trust, local metal detector users were invited to join the Trust in recording and recovering metal artefacts on the site. Supported by JRF, the project was successful in bringing together two mutually suspicious groups (metal detectorists and archaeologists) and also provided a non-confrontational opportunity for local residents to become involved in their heritage at a time of considerable disquiet about the developer's plans.

Following on from the Osbaldwick project and complementing the YAT projects described above a Community Archaeologist for York was appointed, funded by the Heritage Lottery Fund and sited at the Archaeological Trust. The Community Archaeologist has a brief to encourage the creation and development of active local archaeological groups and societies. As a result of this initiative a number of parish-based groups have begun to undertake field projects. For example, with the assistance of On-Site Archaeology, a local professional contractor, the Dunnington Through the Ages group, has recently undertaken fieldwork at several sites in the parish. There is also an active group based in Heslington itself. Another local project with an

archaeological component supported by the Heritage Lottery Fund has been undertaken by The Fulford Battlefield Society.

14.5 Training at Heslington East

The University of York is committed to running an archaeological training programme at Heslington East and this can only add to the City's reputation as a centre of excellence in the training field. The programme will, first of all, be a training opportunity for the University's students. It will thereby address the archaeological profession's requirement for a well-trained stream of new graduate recruits and improve professional opportunities for graduates by developing their practical skills. Secondly, the programme will provide an opportunity for members of local community groups in the city to receive practical training at levels appropriate to their ability and ambition. One might also add that via the medium of an archaeological project there may be an opportunity for the university and local residents to get to know each other better. As at Osbaldwick, sharing actively in the project may help to improve the reception which the new campus receives locally.

It is proposed that prior to Phase 2 of the Heslington East development the archaeology of the eastern part of the site is investigated, at least in part, by participants in a training programme along the lines of the YAT projects described above. The University is committed to managing the programme such that appropriate standards of fieldwork, post-excavation archiving, assessment and publication are achieved. It is expected that the Department of Archaeology and the Community Archaeologist will be fully involved in management of the programme.

One option under active consideration is a programme spread over a 3-5 year time period, which would involve site work taking place during each May in association with Department undergraduate training, during June with York local community involvement and in the summer as a field school for a wider public including students from other universities in the UK and abroad. The latter might be supported, at least in part, by participants paying to attend, as has been shown to be successful by the YAT projects and by the Archaeology Department's work at Castell Henllys in Wales, Sutton Hoo in England and Tarbat in Scotland.

15. Public Access and Participation

(compiled with the assistance of Steve Roskams)

For those members of the public who are unable or unwilling to participate actively in the field project a full range of other forms of access can be made available. The Community Archaeologist will be invited to become fully involved in the provision of access facilities and outreach activities.

Community access may be effected by a number of mechanisms including pamphlets distributed to local communities and to schools; for the latter perhaps structured around different Key Stages in the educational curriculum. In addition, dedicated web pages can provide information in the form of site diaries and research updates. These materials will provide background information about the work in its own right, but

will also aim to stimulate site visits, displays of current findings and so forth, both formally through school visits or designated open days, and less formally by giving directions to the site itself, contact details and so forth.

During the main fieldwork seasons, physical access to the site will be organised, display boards set up, and perhaps guides and other experts made available to interested publics. This commitment to educational development, in its broadest sense, will be facilitated by the University as part of its obligation to making its past available to the people of Heslington and beyond. In the longer term, the display and explanation of the most important uncovered remains may perhaps be incorporated into the structural development of the new campus, thus providing a lasting contribution to our understanding of the earlier development of the landscape on which Heslington East was founded.

16. Contractor's Written Scheme of Investigation

16.1 Introduction

It is recommended that a Written Scheme of Investigation (WSI) be submitted to the University and Principal Archaeologist, City of York Council for approval as part of the archaeological contractor's tender for Phase 1. This document will form the basis for all subsequent works, including post-excavation works. It should put forward a thought-out scheme of work, taking into account local and national research frameworks, and provide the basis for a clearly measurable standard against which performance can be monitored and the outcome assessed.

16.2 Involvement of Specialists

It is essential that the WSI is compiled in close collaboration with all the specialists who will be employed in the project team. Specialists should be asked to quote their costs which should be included in the overall budget for the project. It should be borne in mind that specialists will wish to visit the site during the progress of work and allowance for this should be made in the fieldwork budget. The costs to specialists for attending subsequent meetings should also be allowed for in the budget.

16.3 Content of the WSI

The WSI must be compiled following the guidance in *Management of Archaeological Projects* (English Heritage 1991) and the Institute of Field Archaeologists' Standard and Guidance for Archaeological Excavations, Appendix 3 (IFA 1999). Content should be divided under the following headings:

1. Background

- site description
- previous work
- reasons for project

2. Aims and Objectives

Academic or research design

The WSI should pay particular attention to the contribution which the work may make to local, regional and national research themes, taking into account the objectives set out above in Section 7, as well as other research objectives which the contractor may feel can be advanced by the current project.

Publication and presentation

This section should indicate the intended form of publication – e.g. monograph, journal or web site. There should also be a clear intention to produce popular publications aimed at a more general readership.

3. Method

This section should include:

- a clear and detailed statement setting out the recording and sampling policies that will be employed, in the gathering of stratigraphic, artefactual and scientific data.

- proposed sampling strategies for the recovery and assessment of organic and non-organic ecofacts, and for geoarchaeological examination of sediments

- a discard strategy for all artefacts

- arrangements for liaison with the selected conservation service, including the expected frequency for delivery of vulnerable artefacts to the conservation laboratory.

It is also important that the English Heritage Regional Adviser for Archaeological Science is contacted during the compilation of the WSI for his / her comments and advice.

4. Resources and Programming:

- the numbers of staff should be listed and the staff member(s) who will be responsible for the day-to-day conduct of the work should be identified.

- individual tasks as identified in the WSI should be allocated to particular project team members.

- the WSI should state the experience of both the staff members responsible for the day-to-day conduct of the work, and of the individual specialists in this area of work.

  The CVs of all staff members and specialists should be included to ensure their suitability for the work.

- operational issues such as site security, safe working arrangements, particularly shoring, public safety and reinstatement of trenches should be addressed and suitable costs included.

- A detailed cascade chart indicating the projected timetable for fieldwork, assessment, analysis and publication should accompany the WSI.

5. Archive deposition

Curatorial staff of the Yorkshire Museum must be consulted during compilation of the WSI to clarify questions of storage requirements and to allow museum staff to make suitable provision for future storage.

16.4 Statements of Commitment

Either as part of the WSI, or as a document forwarded subsequently, a copy of the agreement between the archaeological contractor and the University should be provided to the Local Authority such that it is satisfied that there is a clear understanding and commitment by all parties to the extent of the work required, including post-excavation analysis and publication. In addition, statements of commitment from the specialists named in the WSI should be provided.

17. Acknowledgements

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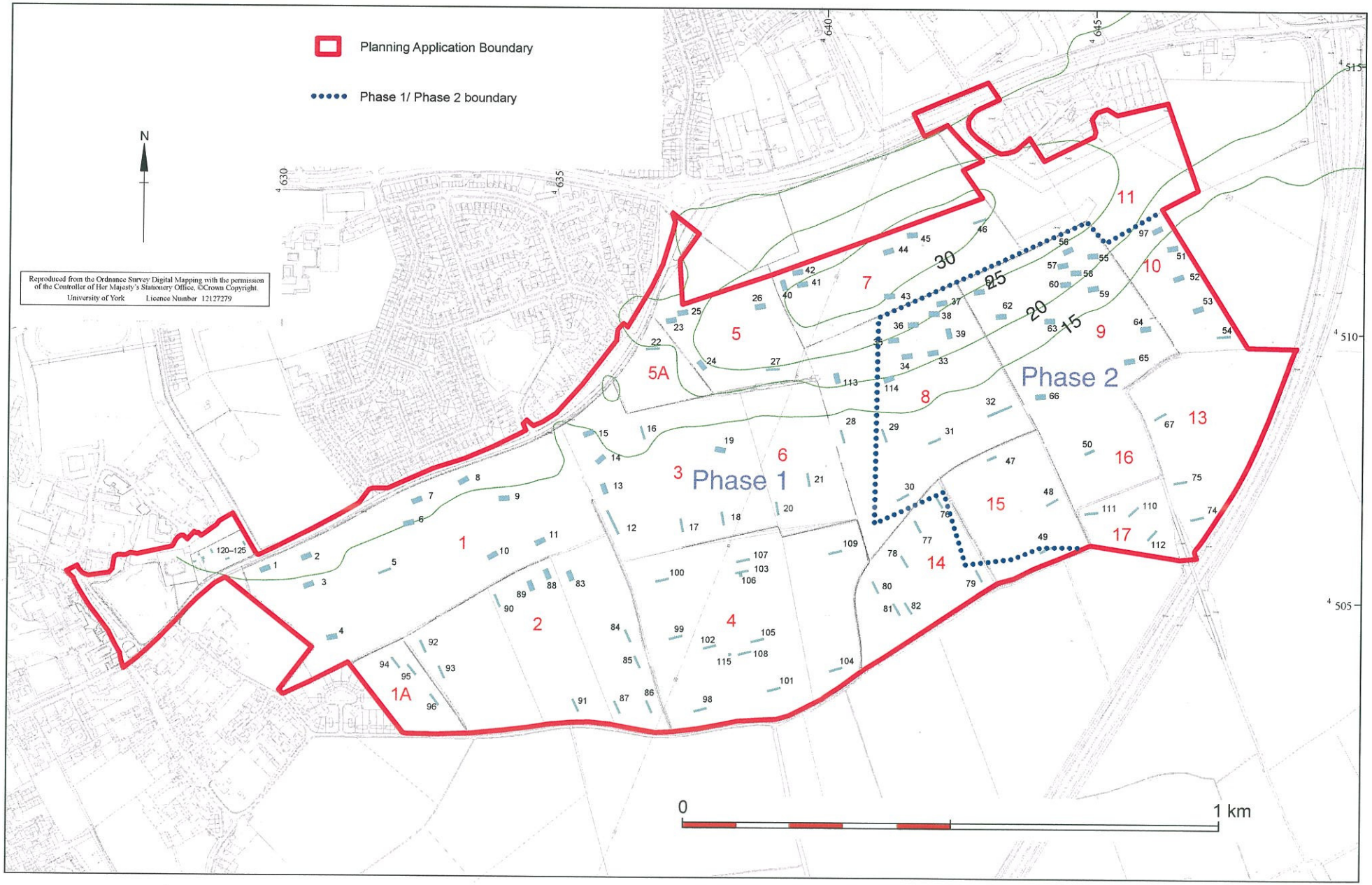

Fig.1 Trench location plan

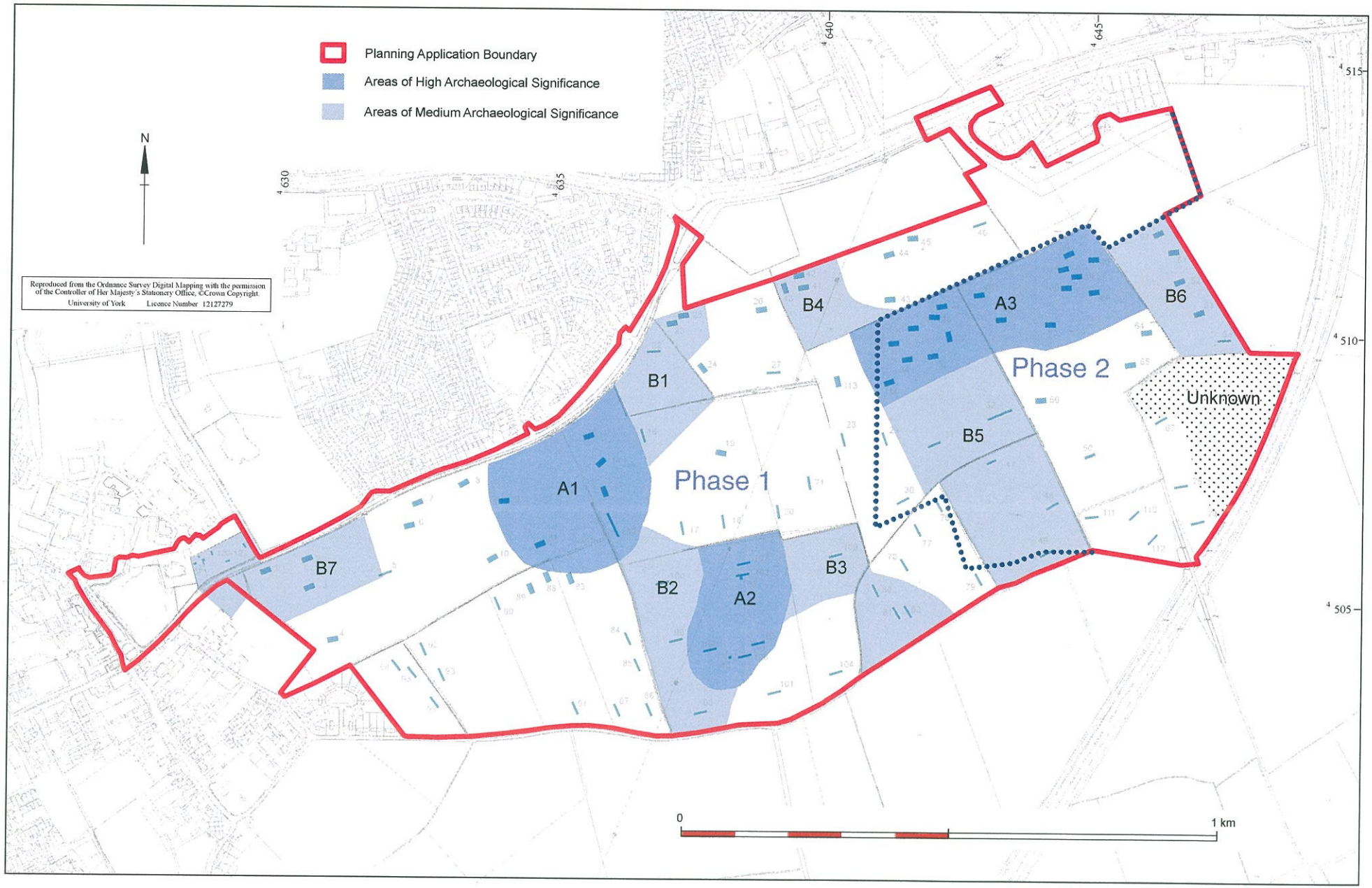

Fig. 2 Areas of Archaeological Significance