ARCHAEOLOGICAL EVALUATION ON LAND AT RED HOUSE PADDOCK, TALLINGTON, LINCOLNSHIRE (TRH05)

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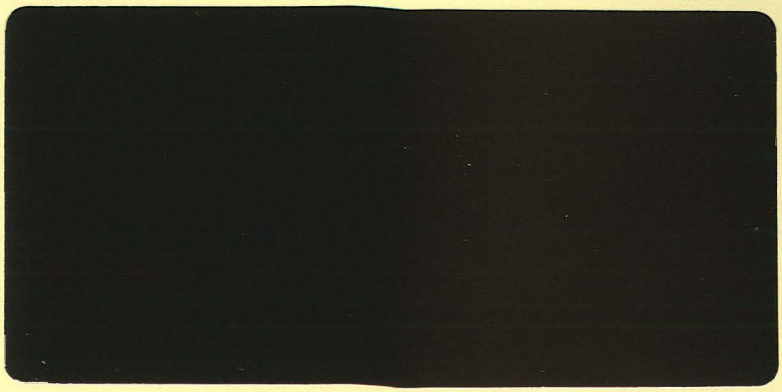

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ARCHAEOLOGICAL EVALUATION ON LAND AT RED HOUSE PADDOCK, TALLINGTON, LINCOLNSHIRE (TRH05)

Work Undertaken For
Hereward Homes Ltd

January 2006

Report Compiled by
Russell Trimble

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Quality Control

ARCHAEOLOGICAL EVALUATION ON LAND AT RED HOUSE PADDOCK, TALLINGTON, LINCOLNSHIRE (TRH05)

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1. SUMMARY

An archaeological evaluation was undertaken on land at Red House Paddock Tallington, Lincolnshire in advance of proposed residential development. The site lies close to the historic core of the village and possible prehistoric cropmarks have been recorded in the vicinity. The channel of the disused 17th century Stamford Canal runs along the southern boundary of the site, while earthworks and an 18th century Dovecote lie within the proposed area of development.

The evaluation comprised geophysical survey of the entire application area, an earthwork survey and the excavation of five 20m long evaluation trenches.

Several linear and two curved anomalies were identified by the geophysical survey. At least one of the linear features appeared to be associated with an upstanding bank recorded during the earthwork survey.

Archaeological remains of 11th – 14th century date were recorded in four of the trial trenches and include pits, ditches and post holes. Later medieval remains were absent and it is suggested that this reflects a reduction in the area of settlement.

2. INTRODUCTION

2.1 Definition of an Evaluation

Archaeological Evaluation is defined as:'*A limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site. If such archaeological remains are present Field Evaluation defines their character and extent, and relative quality; and it enables an assessment of their worth in a local, national or international context as appropriate'* (IFA 1999).

2.2 Planning Background

A planning application (No. S04/0124/75) for construction of 7 residential dwellings was submitted to South Kesteven District Council. Planning permission for the development was granted subject to a condition requiring the implementation of a scheme of archaeological works at the site. In the first instance this was to comprise a staged archaeological evaluation of the application area, comprising geophysical survey, an earthwork survey and exploratory trial trenching. Trial trenching was limited to areas of the site which would be subject to ground disturbance through development

Archaeological Project Services was commissioned by Hereward Homes Ltd to undertake the archaeological evaluation of the site in accordance with the requirements of the local planning authority. The work was undertaken between the 14th and 28th of November 2005.

2.3 Topography and Geology

Tallington is situated 5km west of Market Deeping and 7km east of Stamford in the South Kesteven District of Lincolnshire (Fig. 1). The village lies on the northern side of the Welland valley.

The proposed development is located close to the centre of the village, on the south side of Main Road, approximately 150m northeast of the parish church (Fig. 2) and centred on National Grid Reference TF 09376 08035 at a height of *c.*14m OD. Currently the application area is a grassed paddock with an area of former orchard located in the northeast corner.

Local soils are fine loams of the Badsey 2 Association that overlie post-glacial gravel terrace deposits of the River Welland (Hodge *et al.* 1984, 101).

2.4 Archaeological Setting

Tallington lies in an area of outstandingly high archaeological potential. The gravel terrace deposits along this section of the Welland valley are especially suitable for the formation of cropmarks. As a result, many sites, particularly of prehistoric date, have been identified (RCHME 1960; Winton 1998)

The earliest archaeological remains to have been recorded in the immediate vicinity of the present evaluation site are of Bronze Age date. Cropmarks of several ring ditches, representing barrows of this period, have been identified in the vicinity. One of these lies immediately to the north of the proposed development site (Fig. 2). Further barrow cropmarks have been recorded to the northeast of the railway line and four of these have been excavated (Fennell 1961; Simpson 1976).

Cropmarks of a track or droveway, presumed to be prehistoric in date, have been recorded approximately 250m east of the proposed development site. Further cropmarks of boundary ditches and a pit alignment of Iron Age date have also been recorded in the area (Fennell 1961).

Evidence of the Romano-British period is surprisingly sparse in the vicinity of the proposed development site. King Street, the Roman road between the settlements at Sleaford and Water Newton, forms the parish boundary 1.6km to the east of the site. A Roman site dating to the 3rd and 4th centuries AD has been excavated adjacent to this road (Peacock 1962).

An early Anglo-Saxon cemetery was discovered close to the railway line *c.*500m northeast of the proposed development site in 1965 during the laying of a gas main. Excavations carried out at the site during 1997, recorded nine inhumation burials along with the disturbed remains of three further individuals. Many of these were accompanied with grave goods, including brooches, beads and pottery vessels, which enabled them to be dated to the 6th century (Albone and Leahy 2000). The full extent of the cemetery was not established, although graves were recorded up to the limit of the excavation.

Tallington is first recorded in the Domesday Survey of 1086 as *Talintune*. The place-name is Old English in origin and refers to the, 'farmstead or village associated with Tealla' (Cameron 1998, 123). At that time there were two manors held by Robert of Tosny and Alfred of Lincoln, valued at 30 shillings and four pounds respectively (Morgan and Thorn 1986).

Excavations in 1966, undertaken to investigate the Anglo-Saxon cemetery, revealed stone remains of a medieval building adjacent to Main Road. This structure was further exposed during the 1997 excavation and again in a recent watching brief (Albone 1998) and has been interpreted as a small farmstead. The structural remains consisted of stone foundations, which had perhaps originally supported 'mud and stud' or timber walls. Associated features included boundary ditches and small gravel extraction pits to the east of the building. Associated pottery finds dated from the late 12th to mid 13th centuries, suggesting a seventy-five year lifespan for the farmstead. Ploughing had extensively damaged the remains of the buildings. This was associated with surviving earthwork ridge and furrow,

which was aligned northeast to southwest (Albone 1998, 48).

Recent photographic survey by English Heritage has identified earthworks possibly associated with the medieval settlement of Tallington, on the south side of the study area (Anderson & Glenn 2003).

Evaluation undertaken in 2002 in advance of development at Manor Farm at the north end of the village recovered residual pottery of 9th to 12th century date and probable boundary ditches dating to the 12th to 15th century. Medieval pottery was also recovered from one of two parallel ditches which may be associated with the possible droveway plotted in this area from aerial photographs (Albone 2002).

The parish church, dedicated to St Lawrence, is located at the western end of the village *c.*150m southwest of the proposed development site. It includes a Norman doorway in the south wall with much of the remainder having been rebuilt in the medieval period and later (Pevsner and Harris 1989, 740-1).

3. AIMS

The aim of the evaluation was to gather information to establish the presence or absence, extent, condition, character, quality and date of any archaeological deposits present at the site in order to enable the archaeological curator to formulate a policy for the management of archaeological resource present at the site.

4. METHODS

4.1 Geophysical Survey

Detailed magnetic survey of the entire application area at 0.25m centres along traverses 1m apart was undertaken. The full report of the survey forms Appendix 2 of this report.

4.2 Earthwork Survey

A Total Station EDM connected to a Psion datalogger was used to record earthworks present within the area of investigation. Data was downloaded onto a PC and processed using NSS Survpro software into a Design Cad CAD drawing.

All significant earthworks within the application area were recorded.

4.3 Trial Trenching

Five trenches were excavated, each measuring *c.*20m x 1.6m and located within areas likely to be subject to ground disturbance through development (Fig. 3). Four trenches (Trenches 1 – 4) were located within building plots 1 – 6 towards the northwest corner of the application area. Trenches 2 and 3 were specifically located to investigate linear anomalies identified by the geophysical survey (Fig. 4). The fifth trench was located to investigate building plot 7 at the southwest corner of the application area. The location of the trenches was determined by the South Kesteven Community Archaeologist in consultation with Archaeological Project Services and Hereward Homes.

Removal of topsoil and other overburden was undertaken by a mechanical excavator using a toothless ditching bucket. The exposed surfaces of the trenches were then cleaned by hand and inspected for archaeological remains. Where present,

features were excavated by hand in order to retrieve dateable artefacts and other remains. No deposits with any palaeoenvironmental potential were encountered and no sampling was undertaken.

Each of the deposits exposed during the evaluation was allocated a unique reference number (context number) with an individual written description. A photographic record was compiled. Sections were drawn at scales of 1:10 and 1:20, with plans at scales of 1:20 and 1:50. Recording of deposits encountered was undertaken according to standard Archaeological Project Services practice.

Trench locations were established by Total Station EDM, with reference to fixed points on boundaries and on existing buildings.

4.4 Post-excavation

Following excavation, all records were checked and ordered to ensure that they constituted a complete Level II archive, and a stratigraphic matrix of all identified deposits was produced. Artefacts recovered from excavated deposits were examined and a period date assigned where possible. A list of all contexts and interpretations appears as Appendix 3. Context numbers are identified in the text by brackets. An equals sign between context numbers indicates that the contexts once formed a single layer or feature. Phasing was based on artefact dating and the nature of the deposits and recognisable relationships between them.

5. RESULTS

5.1 Geophysical Survey

The full report of the geophysical survey forms Appendix 2 of this report. Several anomalies with a possible archaeological origin were identified, including two negative curvilinear and several negative linear trends (Fig. 4). It is suggested that the curvilinear anomaly located at the southwest corner of the application may represent a cut feature such as a ring ditch. Three linear anomalies appear to extend northward from the second curvilinear anomaly located towards the east end of the site. Two linear anomalies extending across the northern area of the site appear to be associated with upstanding banks and are likely to be part of a relict medieval ridge and furrow field system. Other linear trends sharing the alignment of the visible banks are likely to be of the same origin.

5.2 Earthwork Survey (see Fig. 4)

The earthwork survey revealed a number of slight earthworks within the area defined by Red House Paddock. For ease of reference, each earthwork has been allocated an alphabetical code.

With the exception of the former canal (L), the most prominent features recorded by the survey were a ridge and flanking hollow (A & D) running NE-SW across the main area of trial trench evaluation. The ridge was interrupted by a slight hollow (possibly a SE-NW ditch) before continuing to the SW as (B). The evidence for a flanking hollow (C) on the SE side (A), as depicted on Fig. 4, was extremely slight.

An area of generally even and slightly raised ground (E) lay to the NW of the proposed ditch (D). The area, which was originally interpreted as a raised enclosure, or toft/croft, contained some slight depressions (F) and (G). To the NW and SW (E) gave way to much lower, generally uneven ground (H), initially interpreted as

a possible pond or quarry but shown by later evaluation to have been undisturbed. The stone and brick lining of a well was visible in this area, located approximately 2m NW and 2m NE of the position of NW end of Evaluation Trench 3.

To the SW of (H), there was a marked fall in ground level from (B). There was also very tenuous evidence for a corresponding rise to the NW and for a resultant hollow (I) orientated SW-NE.

The central part of the survey area (J) was generally level, but slight SW-NE corrugation (not susceptible to survey), particularly in the area closest to the canal, was taken to indicate the possible presence of residual ridge and furrow.

A distinct mound (K) on the edge of the canal, at the SW end of the area, was interpreted as the possible remains of an associated embankment. However, the area also coincides with a curved anomaly, possibly part of a ring ditch, located by the geophysical survey.

On relatively high ground surrounding the Dovecote there was a very distinct hollow (N) running north from a point SE of the Dovecote. The hollow corresponds closely with the central one of three possible ditches leading from a semi-circular anomaly immediately adjacent to the canal. A circular hollow (O), possibly a pit or a pond was located further to the north, near Red House.

A large depression (M), immediately adjacent to the canal, and a linear hollow (P) leading to the NW appear to align with an area of magnetic debris shown on the geophysical survey. A small circular depression (Q) was also recorded in this area.

A series of earthworks (R, S and T) located within the orchard to the NE of the site may be interpreted as the remnants of ridge and furrow.

5.3 Trial Trenching

5.3.1 Trench 1 (Figure 6)

Natural sand and gravel (008), visible in patches across the base of Trench 1, had been largely obscured by a dense complex of archaeological features and deposits.

The earliest dated feature in Trench 1, based upon a single sherd of 12th century pottery from its sandy fill (030), was a ditch or gully [029] orientated SW-NE (Fig. 11 Section 3, Plate 2). Partially excavated to reveal a steep NW side and generally flat base, the feature had been truncated to the SW by ditch [031], before continuing to the SW for a distance of around 4m and turning to the SE to form a probable enclosure. A spur to the SE was visible at a mid point along the length of [029].

A much larger cut [066], containing sandy silt (065), almost certainly forms a continuation of [029] to the NE (Fig. 11 Section 5). This feature was, however, severely truncated on its NW side by a parallel ditch, [064], while its SE side lay beyond the limits of the trench. Its full extent and character could not, therefore, be determined.

Ditch or gully [029] was truncated by a NW-SE ditch [031] (Fig 11 Section 3). Filled by sandy clay (032) and silty sand (033) containing late 12th -14th and early 13th – mid 13th pottery respectively, the feature aligns with a linear anomaly detected by the geophysical survey.

The undated ditch [064] cutting [066] was approximately u-shaped in profile,

containing a very hard, concreted gravel fill (063) (Fig. 11 Section 5). Extending beyond the limits of the trench to the NE, its SW end was indistinct, possibly continuing to SW but perhaps terminating within Trench 1. The gravel fill was unusual and might indicate deliberate backfilling, while a u-shaped sandy silt deposit (062) at the centre of the feature probably indicates the position of a recut along the line of [064].

A concentration of undated features at the SW end of Trench 1 included a partially exposed cut [004] at its southern corner (Fig 11 Section 11). The feature, which contained silty sand fills (005) and (006), was largely truncated to the NE by a later cut, and was not therefore susceptible to interpretation. The later feature [002] was only partially visible, extending beyond the limits of the trench to the SE and SW, and could represent the terminus of a SW-NE ditch, or part of a pit. It contained a fill of sandy clay (003) (Fig. 11 Section 1).

A separate sequence of features lay immediately NE and NW of [004] and [002]. Earliest in the sequence was [012], a feature of indeterminate shape and function located in the opposing corner to [004] (Fig. 11 Section 2, Plate1). The feature, which had been truncated by [010] on its NE side, extended beyond the limits of excavation to the SW and NW, and may be interpreted as either a ditch or pit. Cut [010] was linear in plan, orientated NW-SE, and extended beyond the limits of excavation in each direction. Interpreted as a ditch, or possibly part of a large pit, it contained a fill of silty sand (011). It was in turn cut by another feature [014], possibly a pit or a ditch terminal, which was only partially revealed on the NW side of the trench. The latter was filled by a sequence of sandy clay (015), and sandy silts (016 and 017).

A layer of probable plough-soil, (034), sealing features in the NE part of Trench 1, was in turn sealed by silty topsoil (007)

5.3.2 Trench 2 (Figure 7)

Trench 2 was orientated SE-NW.

Natural deposits of red brown silty sand (112) were visible in patches throughout the base of Trench 2 (Figure 7 Section 6). This material was overlain, at the northern end of the trench, by patches of hard/white gravel (111), in turn sealed by reddish brown silt/gravel (039). The latter was partly removed at the northern end of the trench, by machine.

A clayey sand (038), identical in composition to (095) and (096) in Trench 3 (see below), overlay (039) where Trench 2 intersected with the SW-NE 'bank' (B, 038 not depicted in Section 6).

The western part of an undated feature [044], probably a pit, was located on the eastern side of Trench 2. Its visible extent was semi-circular, with sandy silt fills (043 and 042) (Plate 3).

To the south, the upper levels of [044] were partially truncated by a broad, shallow linear cut [041] orientated NE-SW. The latter was filled by sandy silt (040) and might best be interpreted as a furrow associated with a medieval and/or post-medieval ridge and furrow field system. A 'subsoil' deposit, (037), extending throughout Trench 2 and sealing pit [044] probably derives from the same activity.

Random pits filled by silty material (036) extended throughout the higher levels of the trench. These may be correlated with similar features found in Trenches 3, 4 and 5.

A mid greyish brown sandy deposit (085) extended over earlier deposits located beneath the area of raised ground (see above). The material may be interpreted as relict plough-soil, possibly forming part of a ridge and furrow field system. Deposit (102), observed in the SW facing side of Trench 3, and sealing cut [091], probably represents a continuation of the same material (Fig 11, Section 15).

The probable plough-soil (085) appeared to have been cut by a ditch [084], which coincided with the line of a negative linear feature visible as an earthwork (D) and defined as a negative anomaly by the geophysical survey. The ditch (undated) was 'ridged' in profile, raising the possibility of recutting along a slightly different line to the original ditch. There was, however, no evidence of recutting within its yellowish-brown sandy fill (083).

A number of pits - [078], [080], [082], [070], [073] and [075] – were identified in the NE facing trench side following their removal during machine-based excavation. Pits [078], [080] and [082] – the latter probably representing multiple pits - were sealed by a layer of mixed greyish brown sand and gravel (076), possibly deriving from a much 'cleaner' gravel (086) sealing (094) further to the southeast. Varying in size, the pits had fairly homogenous fills - (077), (079) and (081) respectively - of silty sand. The second group of pits – [070], [073] and [075] - located further to the SE, appear to belong to the same phase of activity but were separated stratigraphically from the first group by gravel layer (076). The latter seals pits [078], [080] and [082] but is itself cut by [075] and is sealed by a layer/fill (074) associated with [075]. The pits, in general, were comparable, in terms of both form and position in the stratigraphic sequence, with features found in Trenches 2, 4, and 5 (see Discussion below for a more detailed consideration).

Yellowish brown silty topsoil (069) extended throughout the upper levels of Trench 3, varying in depth between 0.20 and 0.25m.

5.3.4 Trench 4 (Figure 9)

Trench 4 was located to the south of, and at right angles to Trench 3 (Plate 6).

Natural deposits encountered across the base of Trench 4 comprised a reddish sand (061) overlain by a layer of silt and gravel (060), the latter being removed by machine in the western part of the trench to expose the upper surface of (061).

The only dated feature in Trench 4 was a ditch [055], slightly curving in plan and aligned *c.* WSW-ENE (Fig. 11, Section 9). The feature, which extended beyond the limits of the trench to the ENE and terminated within Trench 4 to the WSW, was present for a distance of *c.* 8.6m. Where excavated, within a *c.* 0.90m wide segment, it revealed a v-shaped profile and sandy silt fill (054). Two sherds of pottery (context 001) of 11th to 12th century date were collected from the surface of (054).

Ditch [055] was cut by a small, undated, feature [052], oval in plan and containing brown sandy silt (053) (Fig. 11 Section 8). In addition, the ditch was flanked on its northern side by an extremely shallow cut [057]. Both features may be interpreted as possible pits or postholes.

A much deeper feature [059], probably a pit, was partially revealed on the NW side of Trench 4, near the terminus of [055] (Fig 11. Section 7). It had steep sides, attaining a depth of at least 1m, and contained a sequence of sandy silt fills (068, 067, 058, and 110). A comparatively

large fragment of Roman Tegula, probably residual, was retrieved from (067).

A deposit (051), extending throughout Trench 4 and overlying the ditch and other features of archaeological origin, may be interpreted as a plough-soil comparable to that encountered elsewhere on the site. It was truncated by multiple 'pits' containing a deposit (050), which was identical in composition to the material filling similar pits in Trenches 2, 3 and 5. It was in turn sealed by topsoil (049).

5.3.5 Trench 5 (Figure 10)

Trench 5, orientated SE-NW, was located at the SE corner of Red House Paddock, immediately NW of the former canal (Plate 7). The trench was excavated, at its NW end, to the maximum permissible depth of 1.2m, gradually reducing in depth with falling ground level to the SE.

Natural, comprising mid reddish brown clayey sand, (107), occurred at 0.90m (max.) below existing ground level. It was sealed by a thick (*c.* 0.65m) mid brown sandy deposit, (106), interpreted as probable plough-soil. This was in turn sealed by the silty sand, (105), fill of multiple pits comparable to those observed elsewhere on the site. This was sealed by topsoil (104) (Fig. 10 Section 17).

Only one feature was located across the base of the trench - a small pit or posthole [108]. Located near the SE end of the trench, the cut was sub-rectangular in plan with rounded corners. Shallow in depth (40mm), with steep sides and a flat base, it contained a silty sand fill (109) (Fig. 11 Section 18). A centrally positioned concentration of limestone fragments can be interpreted as packing material for a timber upright, possibly a fence post associated with use of the canal or a later boundary. An iron object - probably a nail – was recovered from (109).

6. DISCUSSION

Phase I – Natural/ geological deposits
Natural/geological deposits were encountered in each trench. Comparatively loose sand and gravel on lower ground at the NW end of Trench 3 (100) and in Trench 1 (108) could represent the earliest phase of natural deposition. On higher ground to the south, within Trenches 2, 3 and 4, a layer of sand and gravel sealed occasional patchy white gravel interspersed with reddish sands.

Clayey sand (107) extending throughout the lower levels of Trench 5 probably represents a continuation of similar deposits.

Phase II – Possible 'pre-settlement' soils/Romano British activity
Layer 095/096 in Trench 3 and layer (038) in Trench 2, both components within the SW-NE 'bank' (A & B), could represent a pre-settlement (see below) phase of soil formation.

The single fragment of Roman *tegula*, indicative of a roofed building in the vicinity of the site, was recovered from pit fill (067). It seems likely that the fragment occurred residually in this context.

Phase III – Saxo-Norman and medieval settlement (11th – 14th century)
Clear evidence for 11th – 14th century settlement was found in Trenches 1, 3 and 4, with possible evidence also found in Trench 2, in the form of an undated pit. The assemblage of animal bone recovered from the site, while small, provides further evidence of domestic occupation on the site.

Components of this settlement include ditches [023] and [089], relating to a possible enclosure in Trench 3, and a pair of pits [020] and [025]. The latter contained a small but coherent assemblage late 11th-mid 12th century pottery. A feature (028), only partially revealed at the NW end of Trench 3, and containing a single sherd of 11th to 12th century pottery could belong to the same phase of activity.

Dated features in Trench 1 comprised a probable enclosure ditch - [029]/ [066] - orientated *c.* SW-NE, with a turn to the SE at its SW end. The enclosure was cut by a large N-S ditch [031], mapped as a negative anomaly by the geophysical survey. The ditch contained three sherds of pottery consistent within the period.

A concentration of undated features, possibly pits – [004], [002], [012], [010] and [014] - at the SW end of Trench 1, probably belong to same phase of activity.

A curving ditch [055] in Trench 4 produced 11th to 12th century pottery, while undated pits [059] and [044], in Trenches 4 and 2 respectively, may be attributed to Phase III on the basis of their similarity to pits in Trench 3.

Pit [044] in Trench 2 was not dated, but would appear, on the basis of its morphology, to belong in this phase.

Phase IV – Later Medieval/Post Medieval agriculture
Deposits – (034), (037), (085/102), (051) - interpreted as probable plough-soil occurred in Trenches 1, 2, 3, 4 and 5 respectively. It seems probable that this material derives from medieval and/or post-medieval cultivation.

Probable SE-NW 'ridge and furrow' earthworks (R, S and T) were visible in the orchard forming the NE part of the study area, and intact ridge and furrow is present in an adjacent field to the south. The SW-NE 'bank' (A) and the ditch [084] explored in Trench 3 might also form part of this phase of activity, as might a possible furrow [040] and bank (B) explored in Trench 2.

Over much of the study area SW of the Dovecote and SE of Trenches 1-4 ground was fairly level and slightly lower in elevation than the surrounding area. This could reflect post-medieval or more recent modification of the local topography, perhaps as a result of the canal construction, its use, or subsequent abandonment and infilling.

Phase V – Post Medieval/Modern Land use
Randomly distributed pits, varying in size and with bowl-shaped profiles, were evident in Trenches 2-5. With their fairly uniform and generally silty fills, these features could relate to horticultural of agricultural use of the site, possibly as an orchard.

A Grade II listed Dovecote located in the eastern part of Red House Paddock has been dated as late eighteenth century. Semi-derelict, it is rectangular in plan and is constructed from coursed limestone rubble with squared ashlar quoins. There are three openings: a doorway placed centrally in the long elevation facing north and square openings situated high in each gable, which might, originally, have had timber panels containing flight holes. The interior of the building is lined with brick-built nesting boxes (Anderson & Glenn 2003) (Plates 8,9,10 and 11)

7. CONCLUSION

The evaluation at Red House Paddock has revealed conclusive evidence of occupation, probably beginning in the 11th

century and continuing into the 14th century at the latest. This activity, in the form of probable enclosures ditches, linear ditches and pits, appears to be concentrated in the area of Trenches 1 and 3, with more sporadic evidence extending into Trenches 2 and 4 further to the SE. There was no clear evidence of related activity in Trench 5 but the possibility of more extended settlement cannot be dismissed, given the limited nature of the available evidence.

Settlement in the area – at least within the NW part of the site – probably took the form of tofts and crofts associated with the Saxo-Norman and earlier medieval village of Tallington. A possible 14th century date, as indicated by the pottery assemblage, for the abandonment of occupation on the site, would be consistent with a general decline in population and settlement contraction resulting from the 'Black Death' in 1348-9. However, a tighter interpretation of the assemblage (see pottery report, Appendix 4) may support an earlier date of abandonment, at some time in the mid 12th to 13th century. This would be consistent with studies showing a decline in rural settlement prior to the Black Death, owing, it is believed, to deteriorating climatic conditions following a late Saxon/early medieval optimum.

The encroachment of latter medieval arable agriculture into areas of earlier occupation, mirrors the sequence of events found elsewhere in Tallington (see **2.4** above), 500m to the northeast of the current development, where 12th to mid 13th century occupation was overlain by probable ridge and furrow.

8. ACKNOWLEDGEMENTS

Archaeological Project Services wish to acknowledge the assistance of John Gibbison of Hereward Homes Ltd who commissioned the fieldwork and report.

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10. ABBREVIATIONS

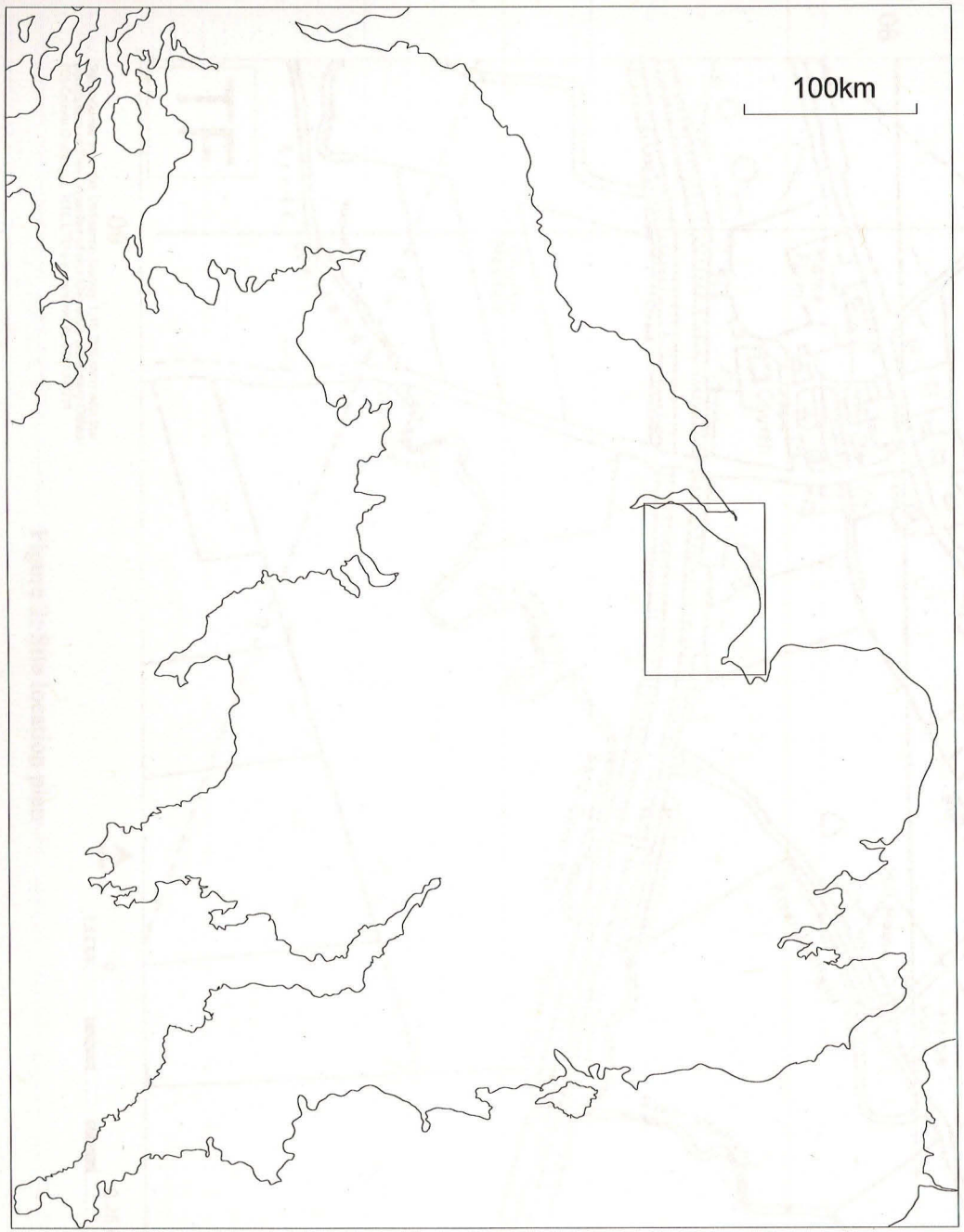
APS Archaeological Project Services

IFA Institute of Field Archaeologists

PCA Pre-Construct Archaeology (Lincoln)

RCHME Royal Commission on Historical Monuments (England)

SMR Sites and Monuments Record



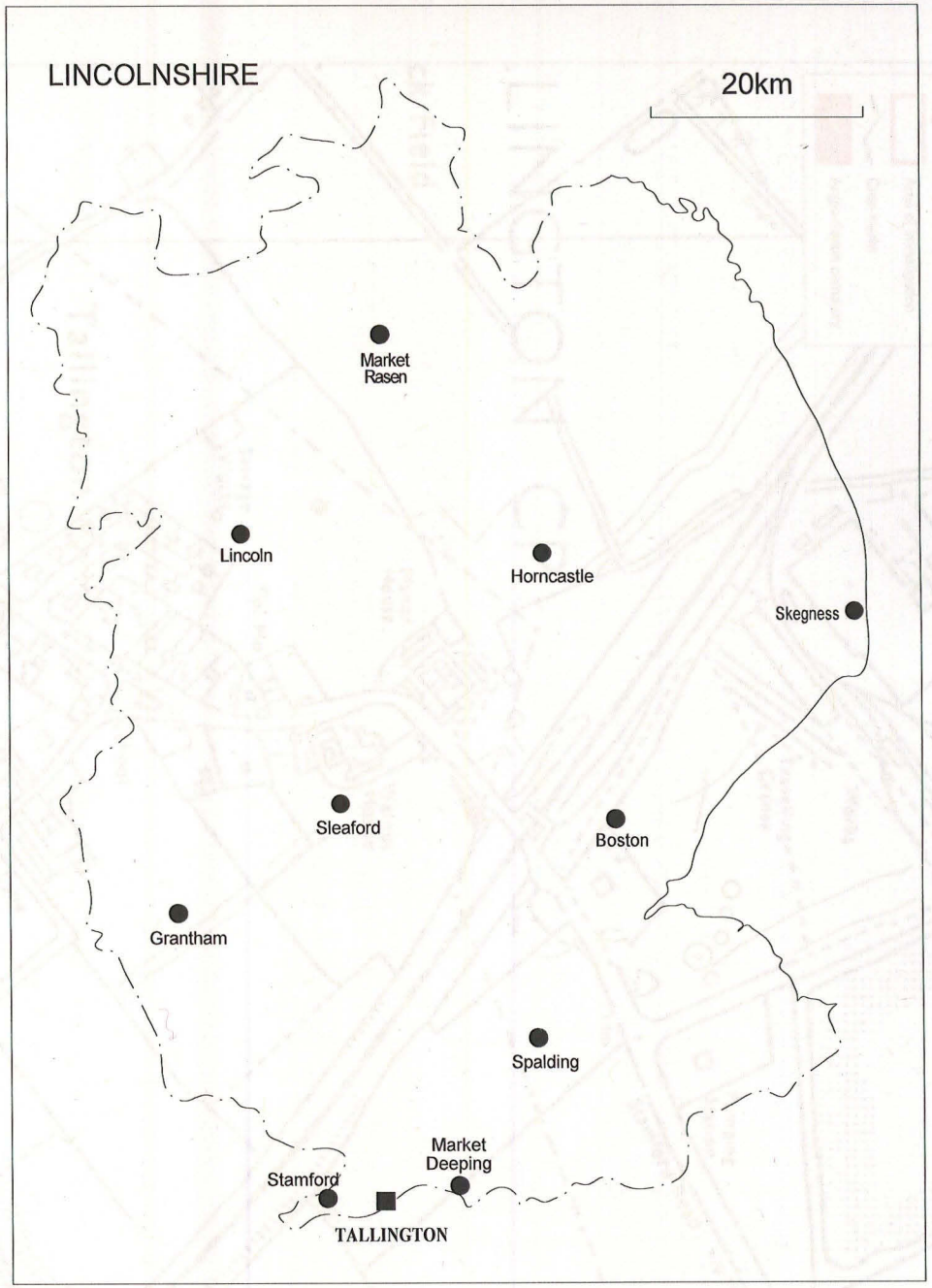


Figure 1 - General Location Plan

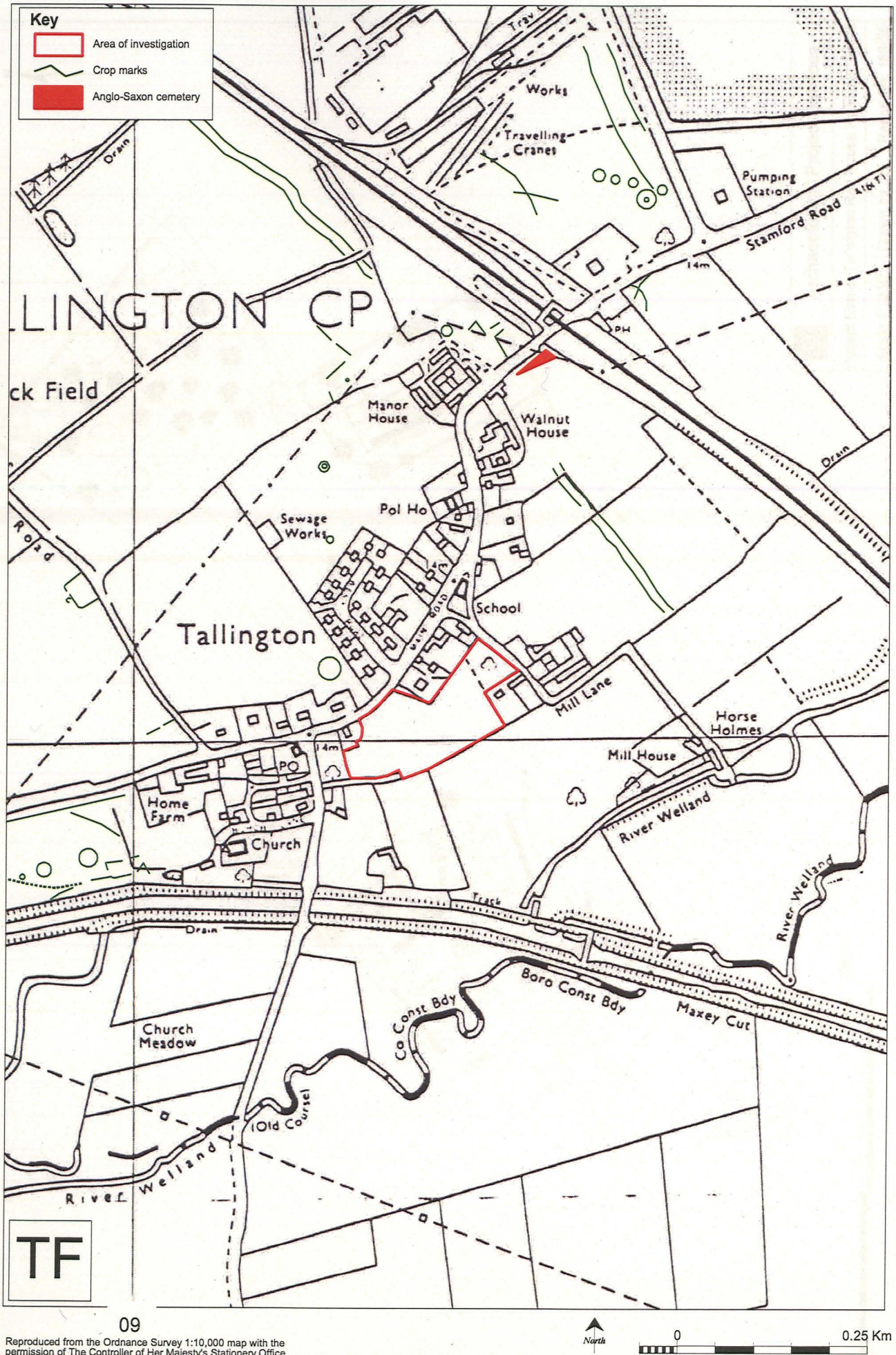


Figure 2: Site location plan

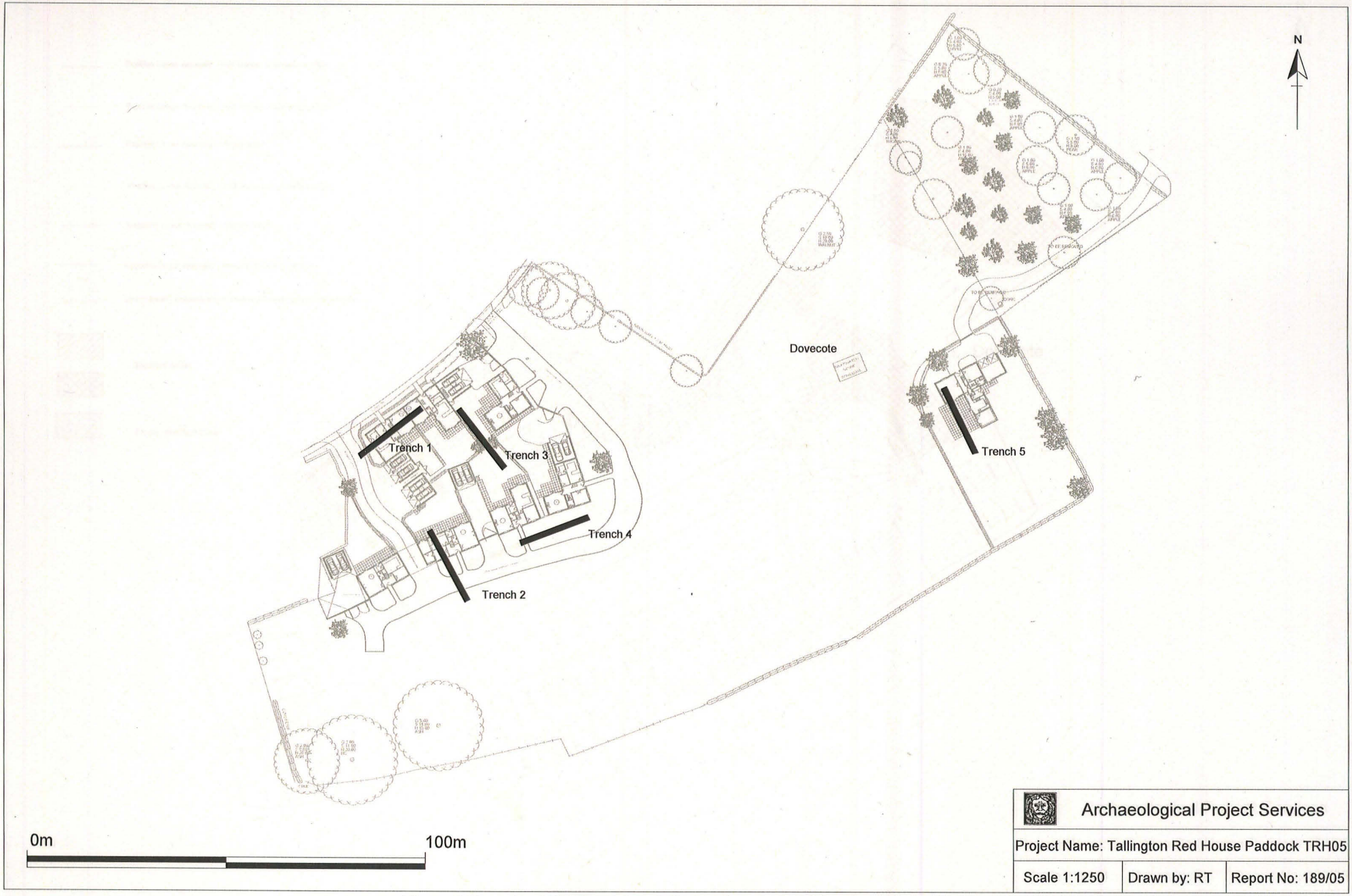


Figure 3 Trenches 1-5 Shown in relation to the proposed development

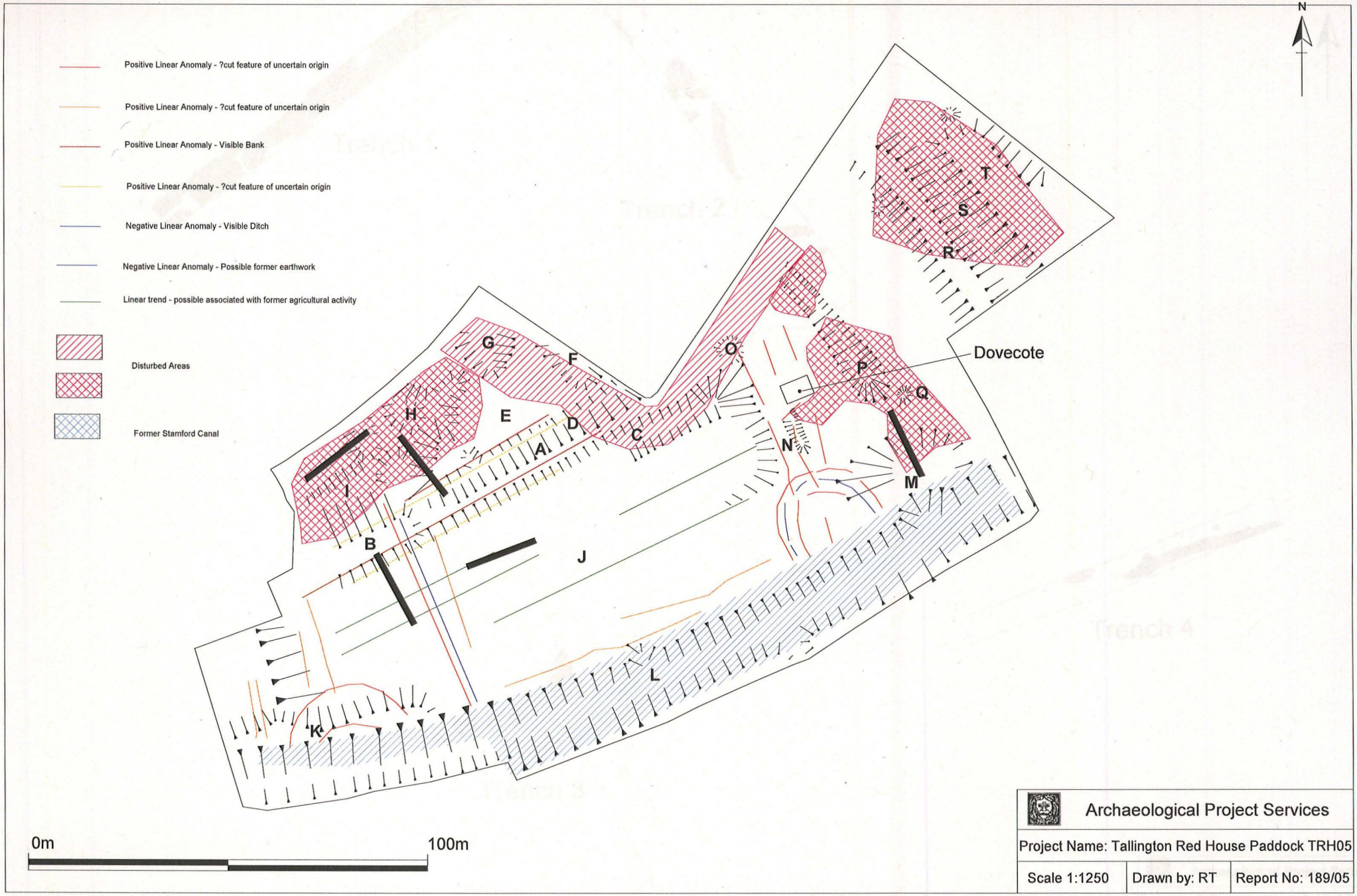


Figure 4 Plan Showing Earthworks in Relation to Geophysical Survey (Earthworks denoted alphabetically)

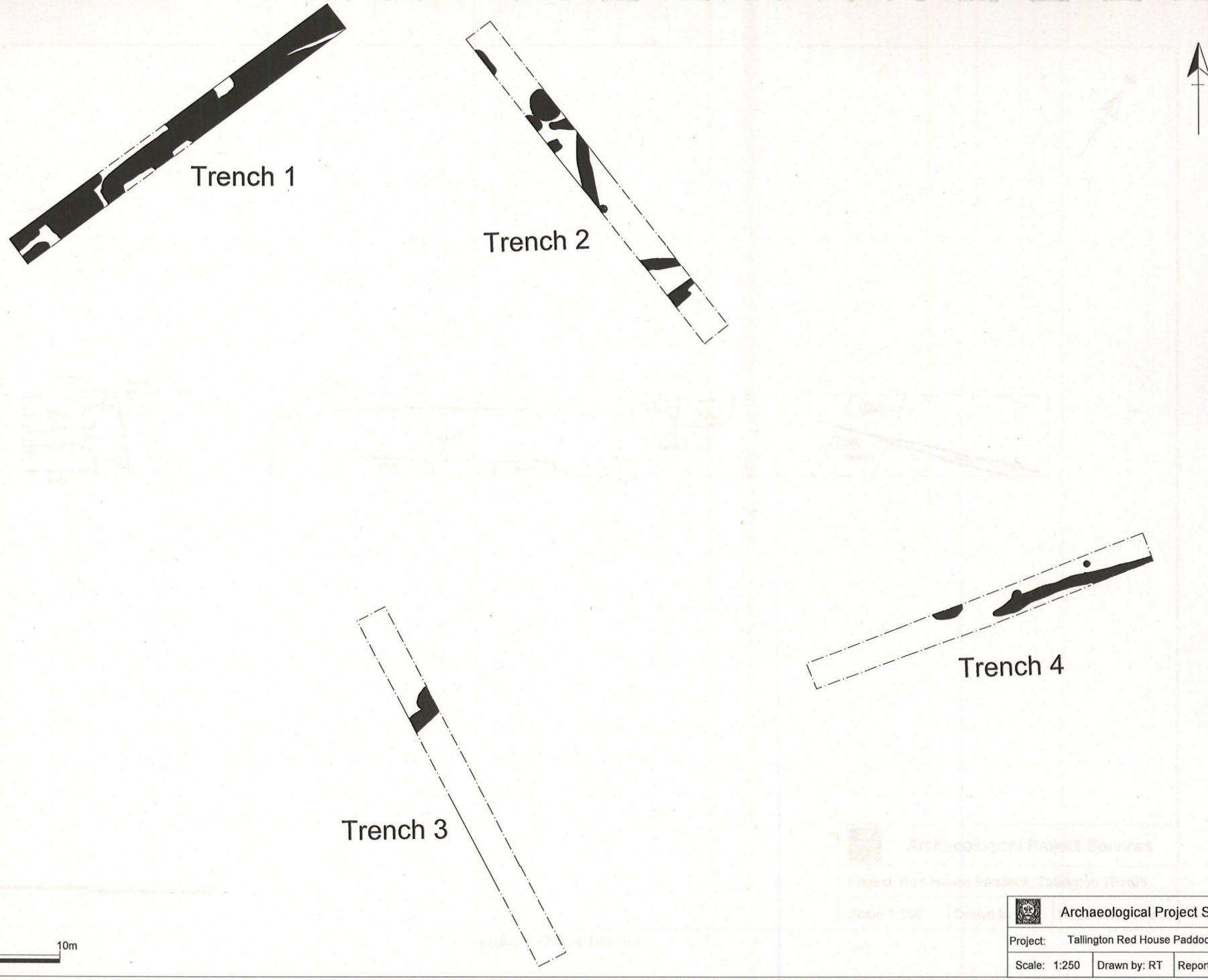


Figure 5. Plan of archaeological features in Trenches 1 - 4.

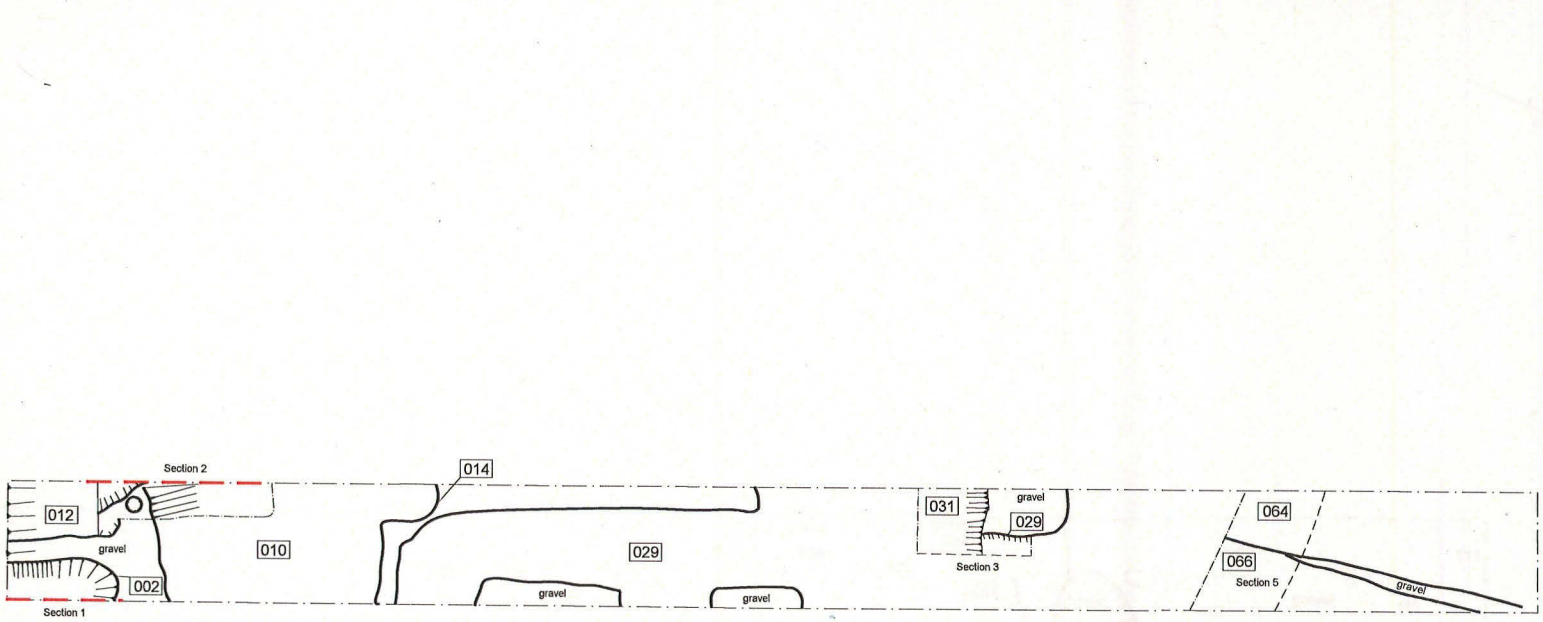


Figure 6. Plan of Trench 1

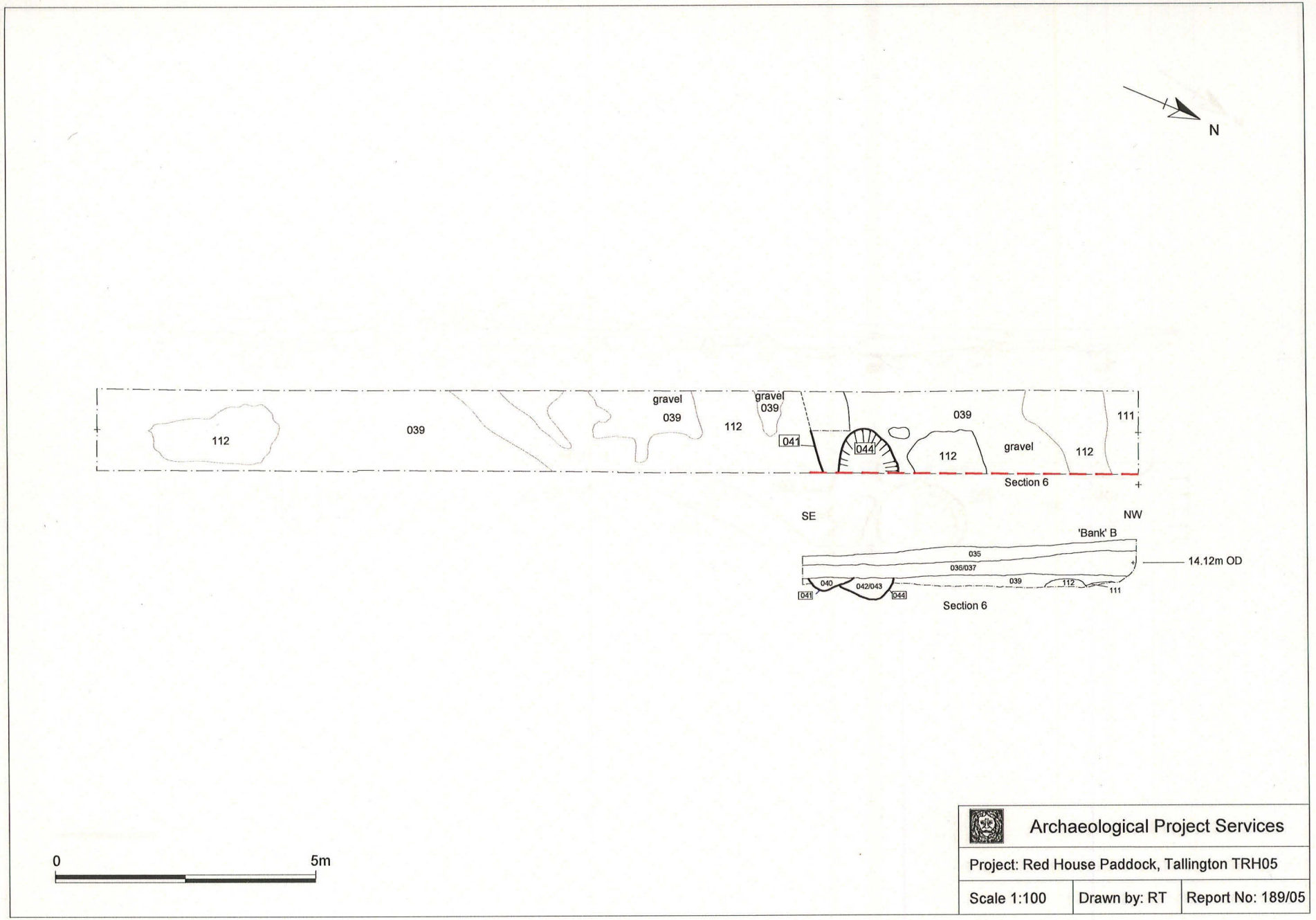


Figure 7. Plan and Section of Trench 2

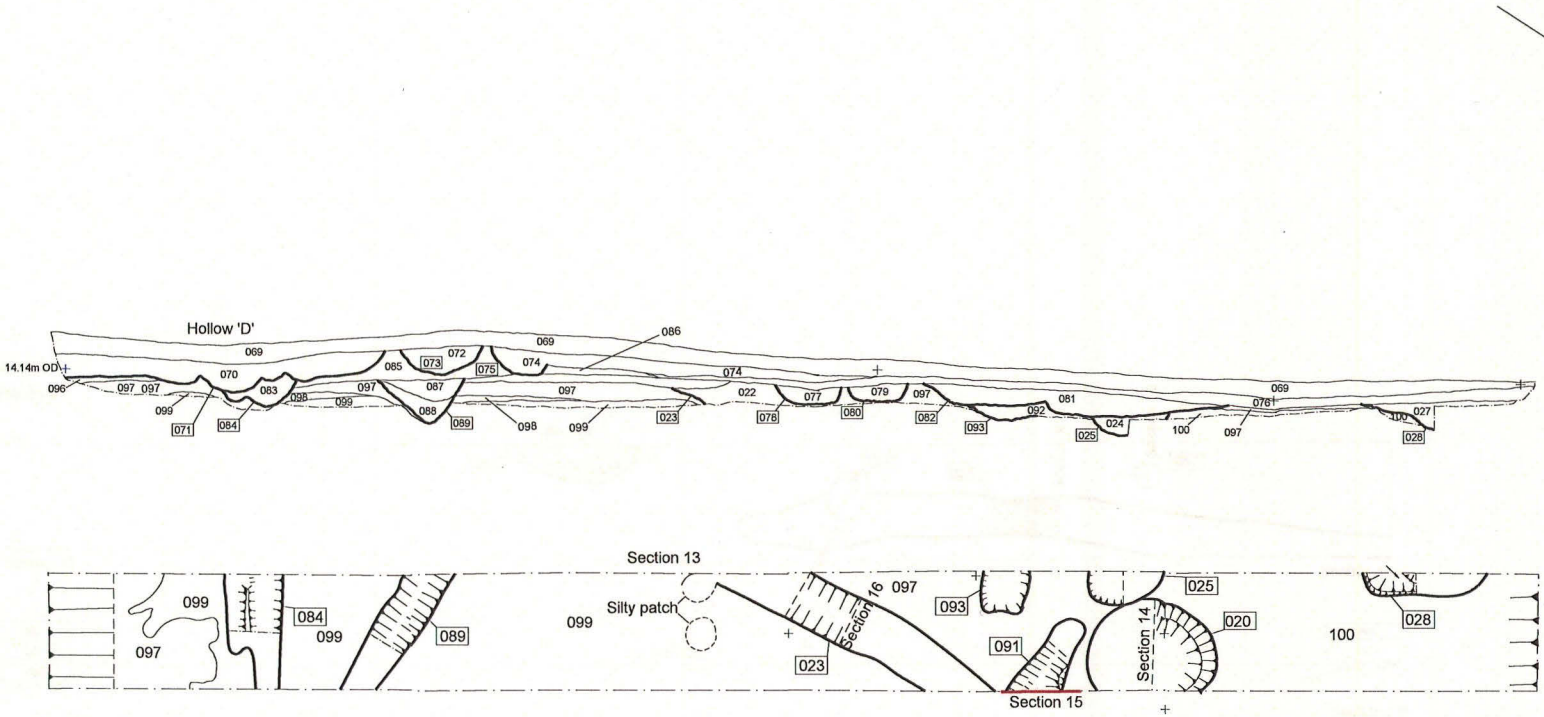


Figure 8. Plan and NE Facing Section of Trench 3

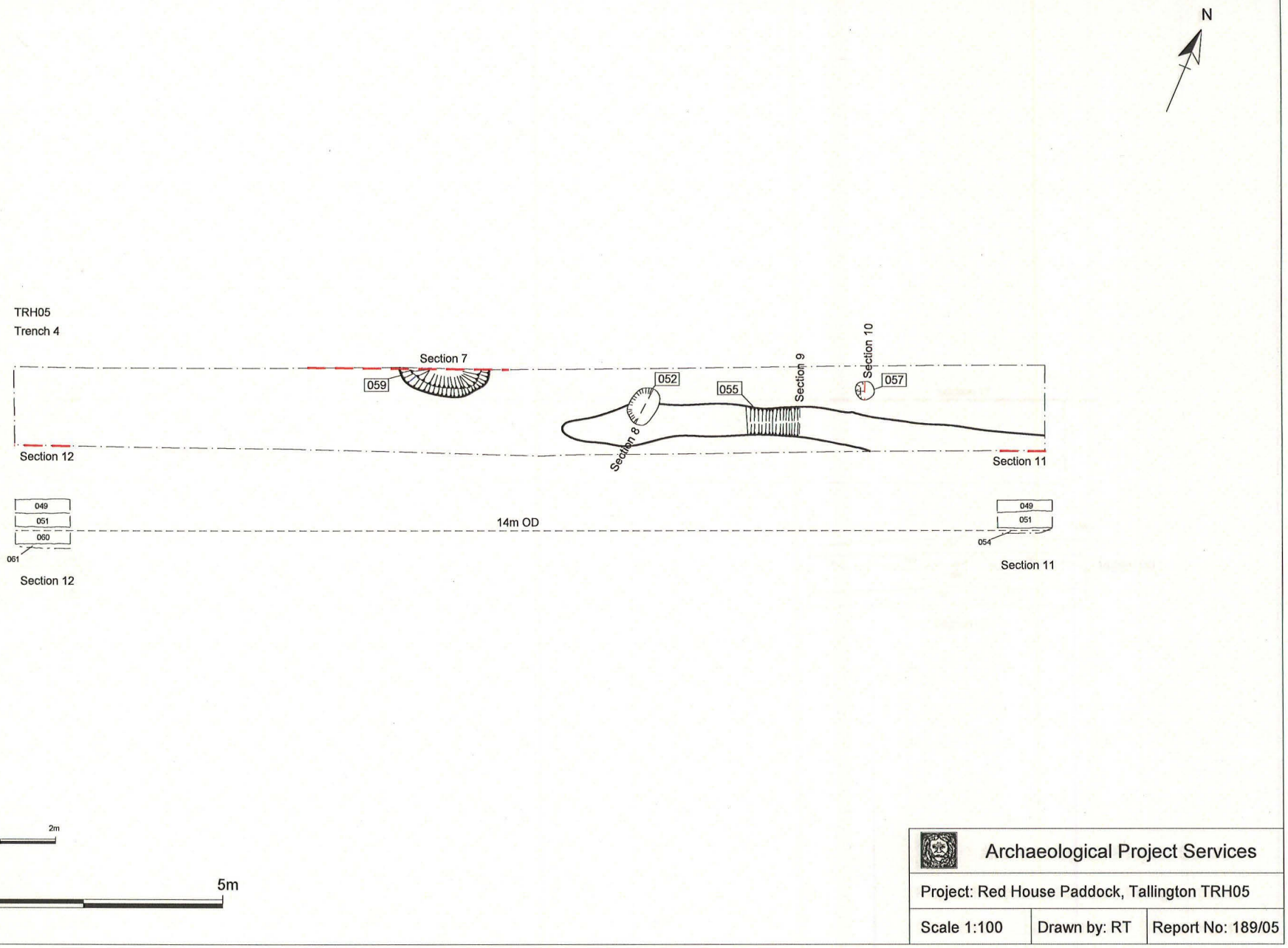


Figure 9. Plan and Sections of Trench 4

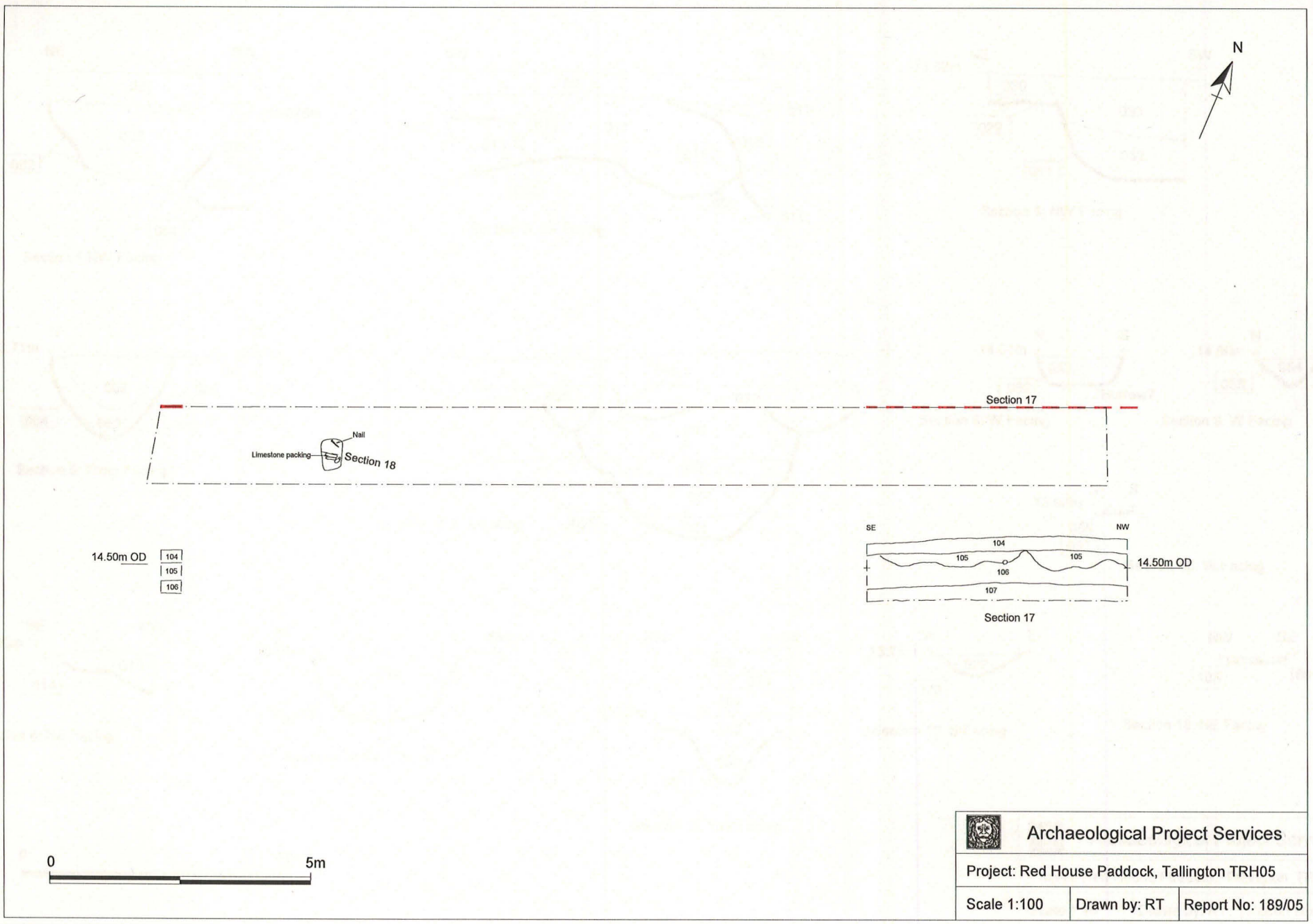


Figure 10. Plan and Sections of Trench 5

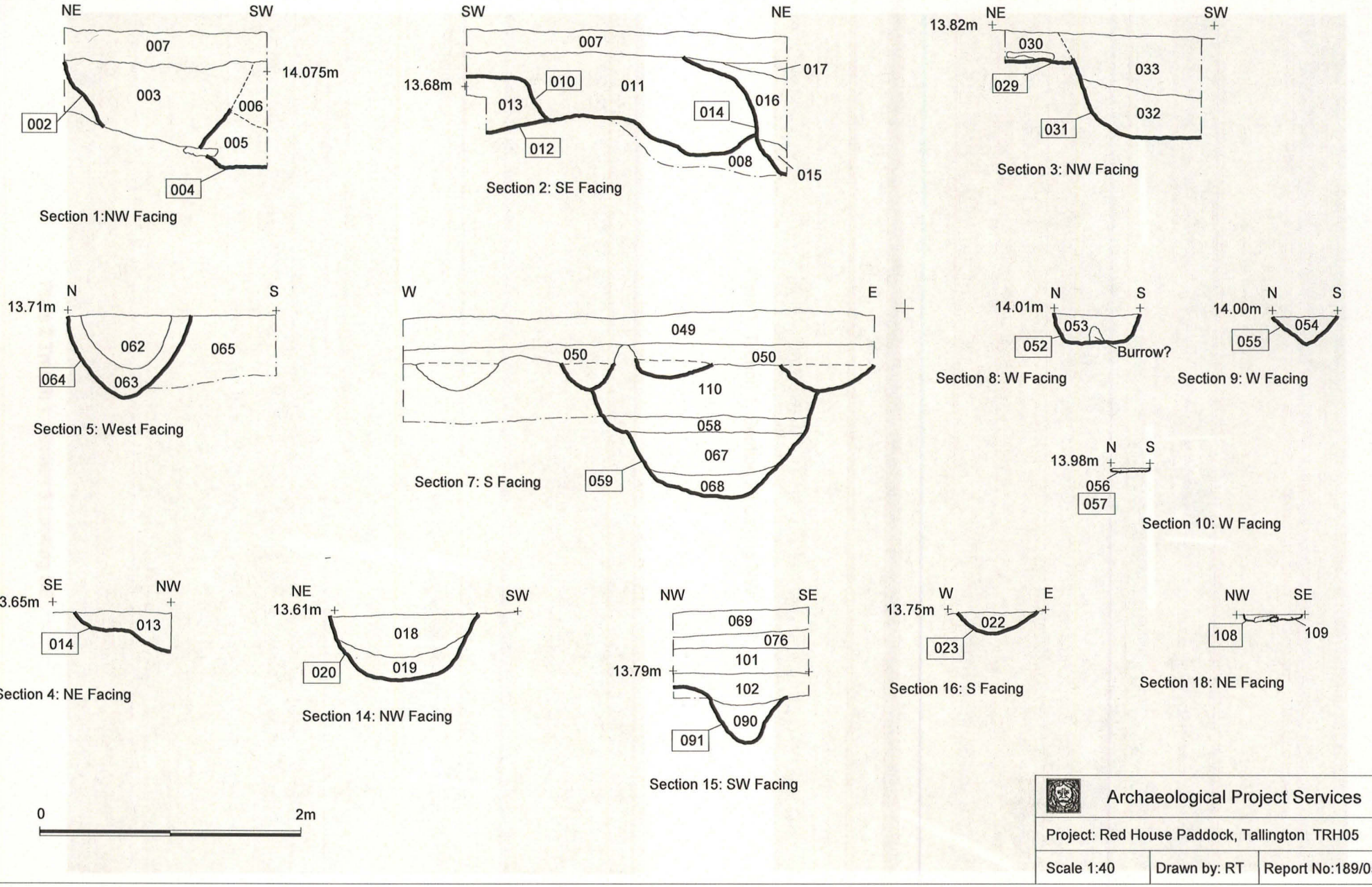


Figure 11: Section Drawings

Plate 1. Trench 1, Section 2 Looking NW

Plate 2 Trench 1, Section 3 Looking SE

Plate 3. Trench 2, Section 6 Looking E - Probable Ridge and Furrow & F and Pit [044]

Plate 4. Trench 3,General view - Looking NW

Plate 5. Trench 3, Section 14 through Pit [020]Looking SE

Plate 6. Trench 4, General view with [055] in the foreground - Looking WSW

Plate 7. Deposits at SE end Trench 5, Section 17 - looking SW

Plate 8. NW side of Dovecote

Plate 9. NE side of Dovecote

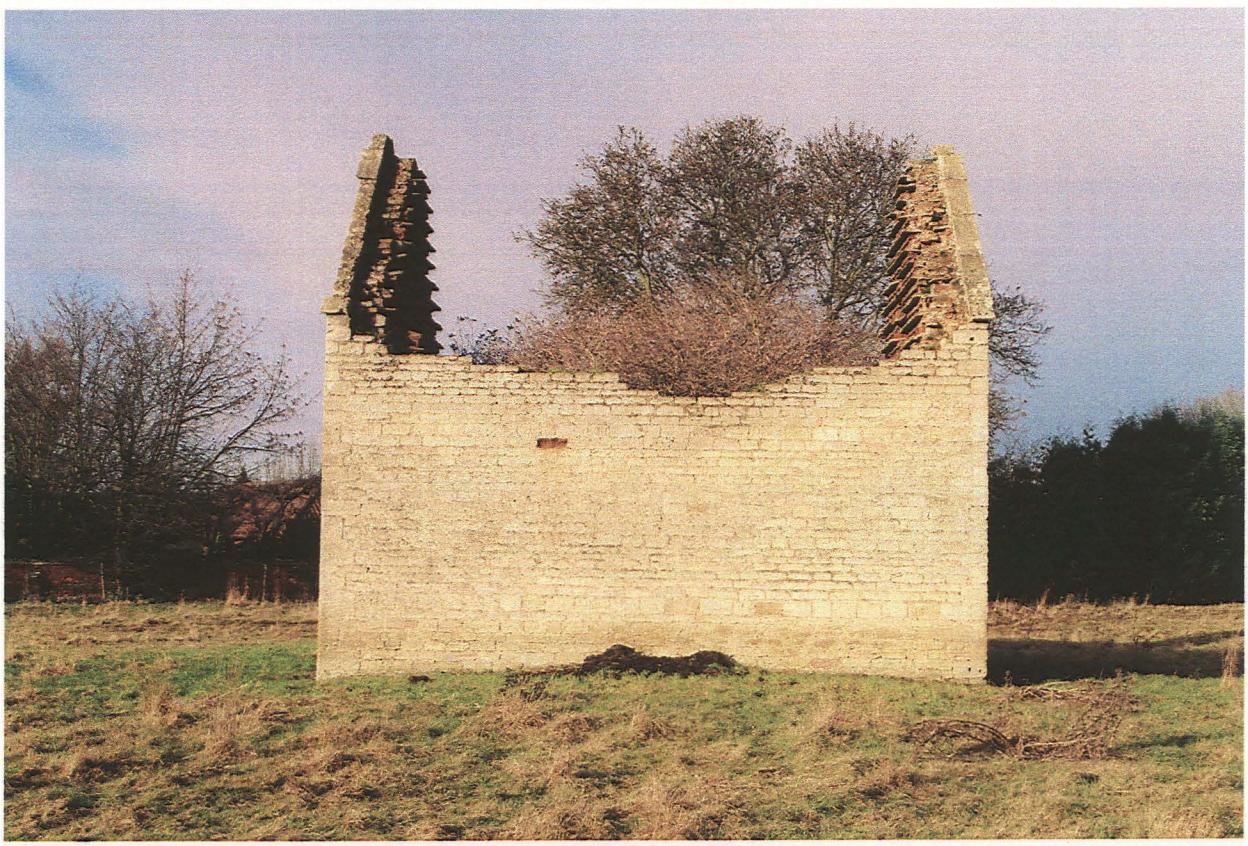


Plate 10. SE side of Dovecote

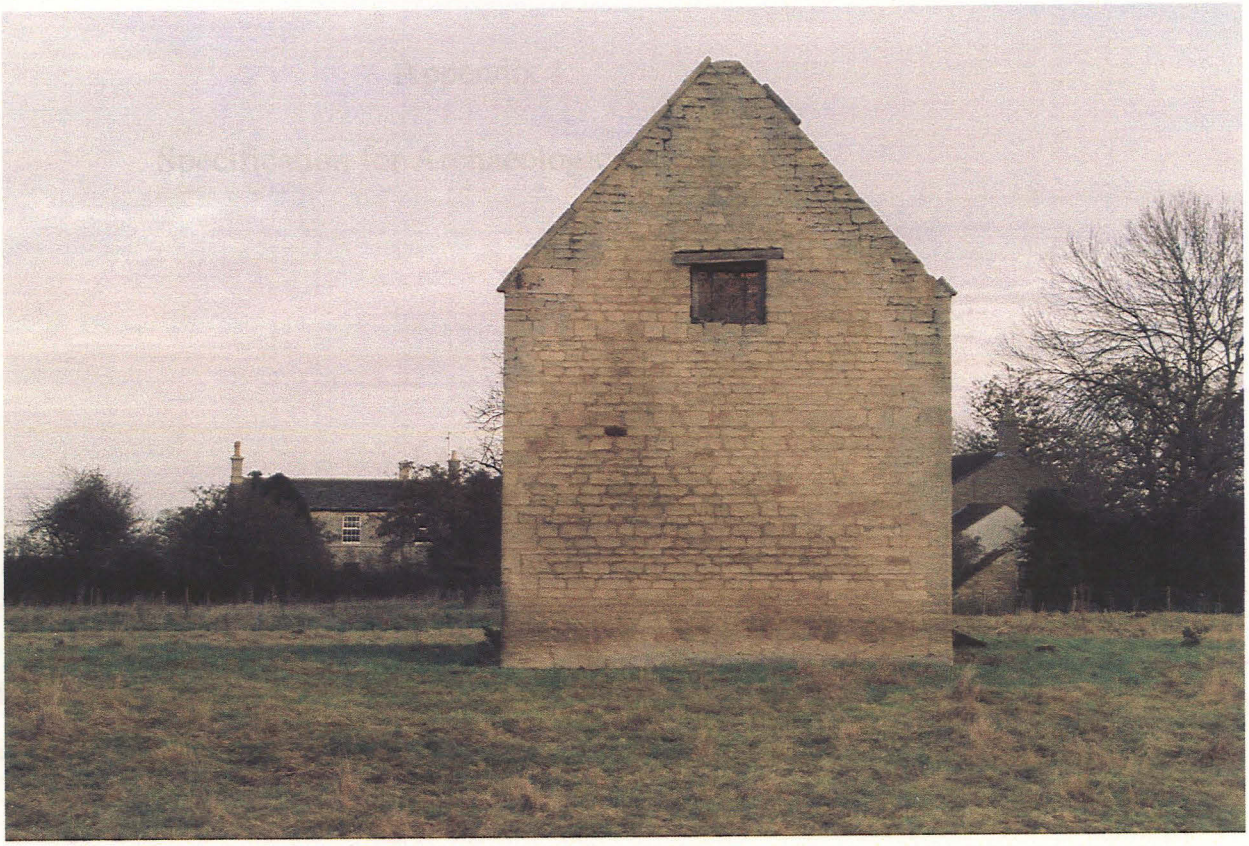


Plate 11. SW side of Dovecote

Appendix 1

Specification for Archaeological Evaluation

LAND AT
RED HOUSE PADDOCK
TALLINGTON
LINCOLNSHIRE

SPECIFICATION FOR
MAGNETOMETER SURVEY, EARTHWORK SURVEY,
PHOTOGRAPHIC RECORDING & EVALUATION

PREPARED FOR
MR JON GIBBISON
OF HEREWARD HOMES LIMITED

BY
ARCHAEOLOGICAL PROJECT SERVICES
Institute of Field Archaeologists'
Registered Archaeological Organisation No. 21

NOVEMBER 2005

TABLE OF CONTENTS

1 SUMMARY

1.1 This document comprises a specification for the first stage geophysical survey, earthwork survey and historic building photographic recording and the second stage field evaluation of land at Red House Paddock, Main Road, Tallington, Lincolnshire.

1.2 The proposed development site is situated within an archaeologically sensitive area, and is surrounded by cropmark sites and earthworks denoting archaeological activity from the prehistoric to the medieval periods. Within the site are earthworks probably related to water management and the adjacent 17th century Stamford Canal. A Grade II listed dovecote is also located within the site.

1.3 A staged programme of archaeological investigations comprising geophysical survey; earthwork survey; historic building photographic recording and field evaluation by trial trenching are required at the site.

1.4 On the completion of the fieldwork a report combining the results of this staged programme will be prepared detailing the findings of the investigations. The report will consist of a text describing the nature and results of each stage of the archaeological programme, which will be supported by illustrations and photographs.

2 INTRODUCTION

2.1 This document comprises a specification for a staged programme of geophysical and earthwork survey, historic building photographic recording and trial trenching on land at Red House Paddock, Main Road, Tallington, Lincolnshire.

2.2 The document contains the following parts:

2.2.1 Overview

2.2.2 The archaeological and natural setting

2.2.3 Stages of work and methodologies to be used

2.2.4 List of specialists

2.2.5 Programme of works and staffing structure of the project

3 SITE LOCATION

3.1 The village of Tallington is situated 6km to the east of Stamford and 5km to the west of Market Deeping in the administrative district of South Kesteven, County of Lincolnshire. The application site is located within the south eastern portion of the village, and to the south east of Main Road at National Grid Reference TF 09376 08035.

4 PLANNING BACKGROUND

4.1 A planning application has been submitted to and granted consent by South Kesteven District Council (Planning reference S04/0124/75) for the proposed construction of seven new residential dwellings with provision for public open space on land at Red House Paddock, Main Road, Tallington, Lincolnshire. However as the application site is situated within an area of archaeological significance and sensitivity, an archaeological condition (Condition No. 4) has been attached to this consent requiring that a staged programme of archaeological investigations

(detailed above) be undertaken prior to the granting of full consent.

5 SOILS AND TOPOGRAPHY

5.1 The site and surrounding area is situated on a very gentle south east facing slope towards the nearby River Welland at a height of approximately 14mOD. The local soils are of the Badsey 2 Association comprising brown calcareous earths. These soils occur at the boundary of the underlying Jurassic limestones and post glacial fan gravels.

6 ARCHAEOLOGICAL OVERVIEW

6.1 The application site is situated within and surrounded by a large number of cropmark sites denoting archaeological activity from the prehistoric to the medieval periods. These cropmarks may indicate the existence of prehistoric enclosures and ring ditches and of medieval ridge and furrow. The monitoring of the excavations for a gas pipe to either side of the A16 trunk road located a number of Saxo-Norman pits and Mid Anglo-Saxon inhumation burials. A prehistoric hengi-form monument lies to the immediate north and a possible prehistoric barrow is situated to the immediate west.

6.2 The southern boundary of the application site is marked by the line of the 17th century Stamford Canal and slightly upstanding earthworks within the site may relate to this feature as well as to other water management activity. An earthwork bank also along the southern boundary of the site may either relate to the Canal or may mark the line of a medieval boundary. Further cropmarks to the south west may denote the site of medieval settlement remains, whilst further such contemporary settlement activity may also be encountered within the detached north eastern area of the site. A Grade II listed dovecote is also located within the site.

7 AIMS AND OBJECTIVES

7.1 The aims and objectives of the geophysical survey will be to establish the nature and extent of the likely archaeological potential of the application site, and to relate this to the overall archaeological context of the general area, and subsequently to inform the location of subsequent and later staged trial trenching such that this trenching may be specifically targeted on areas of such potential.

7.2 The aims and objectives of the earthwork survey will be to provide an accurate interpretation and record of the slightly upstanding earthworks within the area of the application site, and to relate this to the overall context of the archaeology of the vicinity of the site. The outline of the Grade II listed dovecote will be surveyed as part of this exercise.

7.3 The aims and objectives of the photographic recording will be to provide a photographic record of the interior and exterior of the Grade II listed dovecote, including architectural or decorative details, all in relation to the setting of the building. The photographic record will be related to the survey plan of the building. A search of relevant map and plan archives will also be made.

7.4 The aim of the trial trenching will be to gather sufficient information for the archaeological curator to be able to formulate a policy for the management of the archaeological resources present on the site.

7.5 The objectives of this work will be to:

7.5.1 Establish the type of archaeological activity that may be present within the site.

7.5.2 Determine the likely extent of archaeological activity present within the site.

7.5.3 Determine the date and function of the archaeological features present on the site.

7.5.4 Determine the state of preservation of the archaeological features present on the site.

7.5.5 Determine the spatial arrangement of the archaeological features present within the site.

7.5.6 Determine the extent to which the surrounding archaeological features extend into the application area.

7.5.7 Establish the way in which the archaeological features identified fit into the pattern of occupation and land-use in the surrounding landscape.

8 LIAISON WITH THE ARCHAEOLOGICAL CURATOR

8.1 Close contact will be maintained with the Planning Archaeologist for South Kesteven District throughout the staged archaeological programme in order to ensure that the scheme of works fulfils their requirements that are detailed in separate Briefs provided for geophysical survey, earthwork survey, historic building recording and trial trenching.

9 MAGNETOMETER SURVEY

9.1 Methodology

9.1.1 The magnetometer survey will be undertaken by Archaeological Surveys.

9.1.2 Detailed magnetic survey is carried out using a Bartington Grad601-2 gradiometer. This

instrument effectively measures a magnetic gradient between two fluxgate sensors mounted vertically 1m apart. Two sets of sensors are mounted on a single frame 1m apart horizontally. The instrument is extremely sensitive and is able to measure magnetic variation to 0.1 nanoTesla (nT). All readings are saved to an integral data logger for analysis and presentation.

9.1.3 Data is collected at 0.25m centres along traverses 1m apart. Survey areas are separated into 30m by 30m grids giving 3600 recorded measurements per grid. This sampling interval is very effective at locating archaeological features and is the recommended methodology for archaeological prospection (English Heritage, 1995 *Geophysical survey in archaeological field evaluation. Research and Professional Service Guideline No 1*).

9.1.4 Data logged by the gradiometer is downloaded and processed within ArcheoSurveyor software. Raw data is analysed and displayed within a report along with processed data. The following schedule is typical of the type of processing carried out on the data:

- Clipping of the raw data at ±10nT to improve greyscale resolution
- Clipping of processed data at either ±3nT or ±1nT to enhance low magnitude anomalies
- Clipping of trace plots at ±100nT in order to minimise strong readings obscuring low magnitude responses
- Destagger may also be used to enhance linear anomalies
- Zero mean traverse is applied in order to balance readings along each traverse

9.1.5 Raw and processed data are displayed as greyscale plots within the report and a corresponding abstraction and interpretation plot is included using colour linear and area symbols or point objects. The format of the reporting generally follows the English Heritage *Geophysical survey in archaeological field evaluation. Research and Professional Service Guideline No 1.*

10 EARTHWORK SURVEY

10.1 Methodology

10.1.1 A Total Station EDM connected to a Psion datalogger will be used to record any earthworks present on the site. The highest and lowest elevation of the earthworks will be recorded as will sufficient intervening point data and any significant breaks of slope. Subsequent to downloading and processing of the data using NSS survey software the data will be imported into a CAD software package from which a hachured plan of the earthworks will be compiled.

11 HISTORIC BUILDING PHOTOGRAPHIC RECORDING

11.1 Methodology

11.1.1 The photographic recording will comprise a brief written account of the dovecote including information concerning its previous usage, date and phase of the building. This will be incorporated within the overall written report for the whole project.

11.1.2 A photographic record of the interior and exterior of the building, as well as its setting will be compiled using a 35mm camera in both monochrome prints and colour slide formats. An accompanying plan will show the direction and location of these records, which will in turn be reproduced in the final report.

11.1.3 Any previous maps or plans of the building will be consulted and reproduced in the final report in order to provide an indication of the date of the structure.

12 TRIAL TRENCHING

12. 1 Reasoning for this technique

12.1.1 Trial trenching enables the *in situ* determination of the sequence, date, nature, depth, environmental potential and density of archaeological features present on the site.

12.1.2 The trial trenching will comprise five, (5) 1.6 x 20 metre trenches. The position of the trial trenches will be informed and determined by the results of the initial stage of geophysical survey.

12.2 General Considerations

12.2.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the investigation.

12.2.2 The work will be undertaken according to the relevant codes of practice issued by the Institute of Field Archaeologists (IFA). *Archaeological Project Services* is an IFA Registered Archaeological Organisation (No. 21).

12.2.3 Any and all artefacts found during the investigation and thought to be 'treasure', as defined by the Treasure Act 1996, will be removed from site to a secure store and promptly reported to the appropriate coroner's office.

12.2.4 Excavation of the archaeological features exposed will only be undertaken as far as is required to determine their date, sequence, density and nature. Not all archaeological features exposed will necessarily be excavated. However, the investigation will, as far as is reasonably practicable, determine the level of the natural deposits to ensure that the depth of the archaeological sequence present on the site is established.

12.2.5 Open trenches will be marked by orange mesh fencing attached to road irons or similar poles. Subject to the consent of the archaeological curator, and following the appropriate recording, the trenches, particularly those of excessive depth, will be backfilled as soon as possible to minimise any health and safety risks.

12.3 Methodology

12.3.1 Removal of the topsoil and any other overburden will be undertaken by mechanical excavator using a toothless ditching bucket. To ensure that the correct amount of material is removed and that no archaeological deposits are damaged, this work will be supervised by Archaeological Project Services. On completion of the removal of the overburden, the nature of the underlying deposits will be assessed by hand excavation before any further mechanical excavation that may be required. Thereafter, the trenches will be cleaned by hand to enable the identification and analysis of the archaeological features exposed.

12.3.2 Investigation of the features will be undertaken only as far as required to determine their date, form and function. The work will consist of half- or quarter-sectioning of features as required and, where appropriate, the removal of layers. Should features be located which may be worthy of preservation *in situ*, excavation will be limited to the absolute minimum, (*i.e.* the minimum disturbance) necessary to interpret the form, function and date of the features.

12.3.3 The archaeological features encountered will be recorded on Archaeological Project Services pro-forma context record sheets. The system used is the single context method by which individual archaeological units of stratigraphy are assigned a unique record number and are individually described and drawn.

12.3.4 Plans of features will be drawn at a scale of 1:20 and sections at a scale of 1:10. Should individual features merit it, they will be drawn at a larger scale.

12.3.5 Throughout the duration of the trial trenching a photographic record consisting of black and white prints (reproduced as contact sheets) and colour slides will be compiled. The photographic record will consist of:

12.3.5.1 the site before the commencement of field operations.

12.3.5.2 the site during work to show specific stages of work, and the layout of the archaeology within individual trenches.

12.3.5.3 individual features and, where appropriate, their sections.

12.3.5.4 groups of features where their relationship is important.

12.3.5.5 the site on completion of field work

12.3.6 Should human remains be encountered, they will be left *in situ* with excavation being limited to the identification and recording of such remains. If removal of the remains is necessary the appropriate Home Office licences will be obtained and the local environmental health department informed. If relevant, the coroner and the police will be notified.

12.3.7 Finds collected during the fieldwork will be bagged and labelled according to the individual deposit from which they were recovered ready for later washing and analysis.

12.3.8 The spoil generated during the investigation will be mounded along the edges of the trial trenches with the topsoil being kept separate from the other material excavated for subsequent backfilling.

12.3.9 The precise location of the trenches within the site and the location of site recording grid will be established by a GPS and/or EDM survey.

13 ENVIRONMENTAL ASSESSMENT

13.1 If appropriate, during the investigation specialist advice will be obtained from an environmental archaeologist. The specialist will visit the site and will prepare a report detailing the nature of the environmental material present on the site and its potential for additional analysis should further stages of archaeological work be required. The results of the specialist's assessment will be incorporated into the final report.

14 POST-EXCAVATION AND REPORT

14.1 On the completion of the magnetometer survey, a separate report will be compiled by Archaeological Surveys. The results of this survey will be summarised from this report for inclusion within the final overall project report. Survey plans and plots from this report will also be reproduced for inclusion in this final project report.

14.2 The results of the earthwork survey will also be included within the final project report. This will include detailed results of the survey and interpretation of earthwork features including detailed survey plans within the overall context of the archaeology of the area of the application site.

14.3 The results of the historic building photographic recording will similarly be incorporated into the final project report. This will comprise a written account including information on any previous usage of the building and a consideration of its date/phasing, the reproduction of the photographic record and of any relevant maps or plans of the building.

14.4 Trial Trenching

14.4.1 Stage 1

14.4.1.1 On completion of site operations, the records and schedules produced during the trial trenching will be checked and ordered to ensure that they form a uniform sequence

constituting a level II archive. A stratigraphic matrix of the archaeological deposits and features present on the site will be prepared. All photographic material will be catalogued: the colour slides will be labelled and mounted on appropriate hangers and the black and white contact prints will be labelled, in both cases the labelling will refer to schedules identifying the subject/s photographed.

14.4.1.2 All finds recovered during the trial trenching will be washed, marked, bagged and labelled according to the individual deposit from which they were recovered. Any finds requiring specialist treatment and conservation will be sent to the Conservation Laboratory at the City and County Museum, Lincoln.

14.4.2 Stage 2

14.4.2.1 Detailed examination of the stratigraphic matrix to enable the determination of the various phases of activity on the site.

14.4.2.2 Finds will be sent to specialists for identification and dating.

9 Stage 3

9.1 On the completion of stage 2, a report detailing the findings of the investigation will be prepared. This will consist of:

14.4.3.1.1 A non-technical summary of the results of the investigation.

14.4.3.1.2 A description of the archaeological setting of the site.

14.4.3.1.3 A description of the topography and geology of the investigation area.

14.4.3.1.4 A description of the various methodologies used during the staged programme, and a discussion of their effectiveness in the light of the results.

14.4.3.1.5 A text describing the findings of the magnetometer and earthwork surveys, of the historic building photographic recording and the trial trenching.

14.4.3.1.6 Site location plans. Reproduction of the magnetometer survey plots and interpretative plans; reproduction of the photographic record and interpretative maps and plans; reproduction of the earthwork survey plans. Plans of the trial trenches showing the archaeological features exposed. If a sequence of archaeological deposits is encountered, separate plans for each phase will be produced.

14.4.3.1.7 Sections of the trenches and archaeological features.

14.4.3.1.8 Interpretation of the archaeological features exposed and their context within the surrounding landscape.

14.4.3.1.9 Specialist reports on the finds from the site.

14.4.3.1.6 Appropriate photographs of the site and specific archaeological features or groups of features.

14.4.3.1.11 A consideration of the significance of the remains found, in local, regional, national and international terms, using recognised

assessment criteria.

15 ARCHIVE

9.1 The documentation, finds, photographs, plans and other records and materials generated during the staged investigations will be sorted and ordered into the format acceptable to the City and County Museum, Lincoln. This sorting will be undertaken according to the guidelines and conditions stipulated by the Museum, and appropriate national guidelines, for long-term storage and curation.

16 REPORT DEPOSITION

16.1 Copies of the final report will be sent to the clients, to the South Kesteven Planning Archaeologist; to the Planning Department of South Kesteven District Council and to the Lincolnshire County Sites and Monuments Record.

17 PUBLICATION

17.1 A report of the findings of the investigation will be submitted for inclusion in the journal *Lincolnshire History and Archaeology*. Notes or articles describing the results of the investigation will also be submitted for publication in the appropriate national journals: *Medieval Archaeology* and *Journal of the Medieval Settlement Research Group* for medieval and later remains and *Britannia* for discoveries of Roman date.

18 CURATORIAL MONITORING

18.1 The South Kesteven Planning Archaeologist will be responsible for the monitoring of standards and progress throughout all the stages of this programme. A maximum of fourteen and a minimum of five days notice from either the developer or APS will be given to the curator prior to the commencement of each stage of the project. The Curator will be kept regularly informed of the progress of each stage of the project. Arrangements will also be made for reasonable access for the South Kesteven Planning Archaeologist to make site monitoring visits at various stages of the programme.

19 VARIATIONS TO THE PROPOSED SCHEME OF WORKS

19.1 Variations to the scheme of works will only be made following written confirmation from the archaeological curator, the client and their consultant.

19.2 Should the archaeological curator require any additional investigation beyond the scope of the brief for works, or this specification, then the cost and duration of those supplementary examinations will be negotiated between the client and the contractor.

20 STAFF TO BE USED DURING THE PROJECT

20.1 The magnetometer survey will be carried out by Archaeological Surveys. This will comprise two days in the field with two people with their report being completed within six working days.

20.2 The earthwork survey will be undertaken by Archaeological Project Services (APS) and will involve two APS staff in the field for one day.

20.3 The historic building photographic survey of the Grade II listed dovecote will also be carried out by APS. This will involve the use of one APS staff member on site for one half day with a further half day being utilised for background archive map research.

20.4 The trial trenching will be directed by Tom Lane MIFA, Senior Archaeologist, Archaeological

Project Services. The on-site works will be supervised by an Archaeological Supervisor with knowledge of archaeological evaluations of this type. Archaeological excavation will be carried out by Archaeological Technicians, experienced in projects of this type.

20.5 The following organisations/persons will, in principle and if necessary, be used as subcontractors to provide the relevant specialist work and reports in respect of any objects or material recovered during the investigation that require their expert knowledge and input. Engagement of any particular specialist subcontractor is also dependent on their availability and ability to meet programming requirements.

Task	Body to be undertaking the work
Conservation	Conservation Laboratory, City and County Museum, Lincoln.
Pottery Analysis	Prehistoric: Dr D Knight, Trent and Peak Archaeological Trust
	Roman: B Precious, independent specialist
	Anglo-Saxon-medieval: J Young, independent specialist, or local specialist
	Post-Medieval and later: H Healey, independent specialist; or G Taylor, APS
Other Artefacts	J Cowgill, independent specialist; or G Taylor, APS
Human Remains Analysis	Dr R Gowland, independent specialist
Animal Remains Analysis	Environmental Archaeology Consultancy
Environmental Analysis	Environmental Archaeology Consultancy, or Val Fryer, independent specialist
Radiocarbon dating	Beta Analytic Inc., Florida, USA
Dendrochronology dating	University of Sheffield Dendrochronology Laboratory

21 PROGRAMME OF WORKS AND STAFFING LEVELS

21.1 The initial stage of work will comprise the magnetometer survey. This will be followed by the earthwork survey and historic building photographic recording. Once the results of the survey work are available, this will inform the trial trenching stage of assessment. This fieldwork is expected to be undertaken by appropriate staff, including supervisors and assistants, and be completed within the specified timescale.

21.2 Post-excavation analysis and report production will be completed within the specified timescale. A project officer or supervisor will undertake most of the analysis, with assistance from the finds supervisor, CAD illustrator and external specialists.

22 INSURANCES

9.1 Archaeological Project Services, as part of the Heritage Trust of Lincolnshire, maintains Employers Liability insurance to £10,000,000. Additionally, the company maintains Public and Products Liability insurances, each with indemnity of £5,000,000. Copies of insurance documentation are enclosed.

23 COPYRIGHT

23.1 Archaeological Project Services shall retain full copyright of any commissioned reports under the *Copyright, Designs and Patents Act* 1988 with all rights reserved; excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.

23.2 Licence will also be given to the archaeological curators to use the documentary archive for educational, public and research purposes.

23.3 In the case of non-satisfactory settlement of account then copyright will remain fully and exclusively with Archaeological Project Services. In these circumstances it will be an infringement under the *Copyright, Designs and Patents Act* 1988 for the client to pass any report, partial report, or copy of same, to any third party. Reports submitted in good faith by Archaeological Project Services to any Planning Authority or archaeological curator will be removed from said Planning Authority and/or archaeological curator. The Planning Authority and/or archaeological curator will be notified by Archaeological Project Services that the use of any such information previously supplied constitutes an infringement under the *Copyright, Designs and Patents Act* 1988 and may result in legal action.

23.4 The author of any report or specialist contribution to a report shall retain intellectual copyright of their work and may make use of their work for educational or research purposes or for further publication.

DRAFT Specification Version 1 02-11-05

Appendix 2

Geophyiscal Survey Report

By

Archaeological Surveys

ARCHAEOLOGICAL SURVEYS

GEOPHYSICAL SURVEY REPORT

Red House Paddock, Tallington, Lincolnshire

Magnetometer survey

for

Archaeological Project Services

David Sabin and Kerry Donaldson

November 2005

Ref no. 118

ARCHAEOLOGICAL SURVEYS

Red House Paddock, Tallington, Lincolnshire

Magnetometer survey

for

Archaeological Project Services

Report and fieldwork by David Sabin and Kerry Donaldson

Survey date – **2nd and 3rd November 2005**
Ordnance Survey Grid Reference – **TF 094 080**

Archaeological Surveys
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SUMMARY

A geophysical survey was conducted over 2ha of pasture within Tallington, Lincolnshire. The detailed magnetic survey revealed a complex series of both positive and negative anomalies. Many of these anomalies are of potential archaeological origin and include discrete positive responses that may indicate the presence of pits, linear anomalies that may form a rectilinear enclosure, curvilinear anomalies that may form ring ditches and evidence of former ridge and furrow.

1 INTRODUCTION

1.1 Survey background

1.1.1 Archaeological Surveys was commissioned by Archaeological Project Services (APS) to undertake a geophysical survey of an area of land at Talllington, Lincolnshire that has been outlined for a housing development. This survey formed part of an assessment of any potential archaeology that may be affected by the development.

1.2 Survey objectives

1.2.1 The objective of the survey was to use magnetometry to locate geophysical anomalies that may be archaeological in origin so that they may be assessed prior to development of the site.

1.3 Site location

1.3.1 The site is located at Red House Paddock, Tallington, Lincolnshire at OS grid reference TF 094 080.

1.4 Site description

The geophysical survey covers approximately 2ha of a paddock and orchard. The paddock contains a dilapidated dovecote and the visible remains of earthworks and ditches including a probable former water channel adjacent to the south-eastern boundary.

Plate 1 Course of former water channel looking south-west

1.5 Site history and archaeological potential

1.5.1 No specific information was made available to Archaeological Surveys.

1.6 Geology and soils

1.6.1 The underlying geology is Oxford Clay and Kellaways beds (BGS 2001) and likely to contain overlying river terrace gravels and/or alluvium (BGS 1977).

1.6.2 The overlying soils across much of the site are from the Badsey 2 association which are typical brown calcareous earths. These consist of well drained calcareous fine loamy soils over limestone gravels. (Soil Survey of England and Wales 1983).

2 METHODOLOGY

2.1 Technical synopsis

2.1.1 Detailed magnetometry records localised magnetic fields that can relate to former human activity. Alteration of iron minerals present within topsoil is related to activities such as burning and the break down of biological material. These minerals become weakly magnetic within the Earth's magnetic field and can accumulate in features such as ditches and pits that are cut into the underlying subsoil. Mapping this magnetic variation can provide evidence of former settlement and land use. Additional technical details can be found in Appendix A.

2.2 Equipment details and configuration

2.2.1 The detailed magnetic survey was carried out using a Bartington Grad601-2 gradiometer. This instrument effectively measures a magnetic gradient between two fluxgate sensors mounted vertically 1m apart. Two sets of sensors are mounted on a single frame 1m apart horizontally. The instrument is extremely sensitive and is able to measure magnetic variation to 0.1 nanoTesla (nT). All readings are saved to an integral data logger for analysis and presentation.

2.2.4 Data was collected at 0.25m centres along traverses 1m apart. The survey area was separated into 30m by 30m grids giving 3600 recorded measurements per grid. This sampling interval is very effective at locating archaeological features and is the recommended methodology for archaeological prospection (English Heritage, 1995). The survey grids were set out using a Topcon GTS212 total station and orientated in order to give coverage of target areas whilst minimising partial grids. This was achieved by setting out either parallel to or perpendicular to topographic features such as land boundaries.

2.3 Data processing and presentation

2.3.1 Magnetometry data downloaded from the Grad 601-2 data logger is analysed and processed in specialist software known as ArcheoSurveyor. The software allows greyscale and trace plots to be produced for presentation and display.

2.3.2 Only minimal processing is carried out in order to enhance the results of the survey for display. Raw data is always analysed and displayed in the report as processing can modify anomalies. The following schedule sets out the data and image processing used in this survey. It should be noted that image processing does not change the values of the data and is used for visual enhancement; data processing will alter values through mathematical functions.

Image processing

- Clipping of the raw data at ±10nT to improve greyscale resolution
- Clipping of processed data at ±3nT to enhance low magnitude anomalies
- Clipping of trace plots at ±100nT in order to minimise strong readings obscuring low magnitude responses
- Destagger may also be used to enhance linear anomalies

Data processing

- Zero mean traverse is applied in order to balance readings along each traverse

3 RESULTS

3.1.1 Geophysical anomalies located can be generally classified as positive linear anomalies (red) and discrete positive responses of possible archaeological origin (brown), negative linear anomalies of a possible archaeological origin (blue) positive and negative linear anomalies of an uncertain origin (orange), positive and negative linear anomalies visible as earthworks and ditches (brown and yellow) linear anomalies of an agricultural origin (green), areas of magnetic debris, magnetic disturbance and strong dipolar anomalies relating to ferrous objects and material in the topsoil (magenta). Anomalies located within each survey area have been numbered (see figure 7) and will be outlined below with subsequent discussion in section 4.

3.1.2 It is important to note that magnetic enhancement of anomalies is generally caused by accumulations of enhanced material usually within cut features. However within this survey several of the visible earthworks are enhanced giving a positive result and several ditches were less enhanced than the general soil giving a negative response. It may therefore be that many of positive anomalies within the survey are also responses to magnetically

enhanced material within earthworks, such as gravels, rather than accumulations of material within cut features.

3.1.3 Anomalies with a possible archaeological origin

(1) – Two positive curvilinear anomalies appear to form a possible "double ditched" circular feature. Spaced approximately 4m apart they are separated by anomaly (2).

(2) – A negative curvilinear anomaly separates positive curvilinear anomalies (1).

(3) – Extending from anomalies (1 and 2) approximately north-north-west towards and beyond the dovecote are 3 parallel positive linear anomalies. It is possible that some extend to the south-south-east and may be associated with anomalies (1 and 2). These anomalies have a magnitude of generally between 3 and 10nT which shows levels of moderate enhancement. It is not clear from the results if they relate to cut features or earthworks.

(4) – In the west of the survey area are a pair of positive curvilinear anomalies that may also form a "double ditched " feature. The curvilinear anomalies are situated approximately 10m apart and the outer curvilinear anomaly has a diameter of at least 30m. These positive anomalies have a magnitude of between 2 and 3nT and a form which may suggest that they are a response to cut features such a ring ditch.

(5) – Situated within the centre and towards the western part of the survey area are several discrete positive anomalies. Their magnitude is generally between 2 and 8nT suggesting fairly moderate enhancement. Their form suggests that these anomalies may relate to cut features such as pits.

(6) – Towards the north-west of the site are two parallel positive linear anomalies. Although these anomalies are magnetically enhanced, they are a response to material within visible earthworks. Their form may suggest embankments, however it is worth considering that these are relict ridges within a ridge and furrow agricultural system.

(7) –Situated adjacent to anomalies (6) are a pair of negative linear anomalies. These correspond to visible ditches within the field and may relate to furrows within a former ridge and furrow system.

3.1.4 Anomalies with an uncertain origin,

(8) – Situated in the west of the site and extending from the north-north-west to the south-south-east are a positive linear and a negative linear anomaly.

(9) – Located close to anomalies (8) but on a slightly different orientation is a positive linear anomaly.

(10) – In the far west of the site are two pairs of parallel linear anomalies. It is difficult to accurately determine their origin and they appear as two sets of possible cut features, however it is possible that they have been formed by previous agricultural activity.

(11) – Parallel to the south-eastern land boundary and anomalies (6, 7 and 8) are two positive linear anomalies. Although it is difficult to characterise these anomalies, and it is possible that they are also part of the ridge and furrow system, their appearance and location suggests a form of land boundary or division.

(12) – Parallel and adjacent to the south-eastern land boundary are several positive linear anomalies. They are situated within a substantial cut feature that seems likely to relate to the course of a former water channel (or canal). It is likely that these anomalies are associated with this feature.

3.1.5 Anomalies with an agricultural origin

(13) – A series of low magnitude positive linear responses extend across the centre of the site. They are parallel with anomalies (6 and 7) and the land boundary to the south-east. It is likely that these relate to former ridge and furrow within the site.

3.1.6 Anomalies with a modern origin

(14) – In the north and east of the site are several widespread areas of magnetic debris. It is possible that these are responses to spreads of magnetically enhanced materials such as thermoremnant debris or possibly enhanced gravels.

(15) –In the north of the site magnetic disturbance is a response to ferrous material used in fencing.

(16) – The presence of ferrous objects within the topsoil are indicated by strong discrete dipolar anomalies.

4 DISCUSSION

4.1.1 The survey area contains several positive and negative linear and curvilinear anomalies that may be archaeological in origin. The site contains many visible earthworks and ditches and there is some correlation between enhanced results and visible earthworks. It is not possible to determine whether all earthworks are enhanced, whether all visible ditches are not enhanced (negative) or whether all positive anomalies relate to banks or if they are cut

features. It seems likely that this site contains features with a variety of morphologies.

4.1.2 Two sets of curvilinear anomalies are present within the south of the site and have the form of archaeological features. In the south-west a pair of curvilinear anomalies appear to form a ring ditch feature. In the south-east the positive and negative curvilinear anomalies may be associated with positive linear anomalies that extend towards and beyond the dovecote. There is evidence for visible earthworks surrounding the dovecote.

4.1.3 Several linear anomalies located during the survey (3, 6, 7, 8, 9 and 11) appear to form a rectilinear feature. However it is not possible to determine if the anomalies are definitely associated.

5 CONCLUSION

5.1.1 The detailed magnetic survey successfully located a number of geophysical anomalies within the site. Several of the anomalies appear to correspond to visible earthworks and ditches and there is evidence to suggest that several of the enhanced linear anomalies relate to earthworks rather than ditches and may be a response to enhanced gravels used in their construction.

5.1.2 Although some embankments appear enhanced it is possible that some linear, curvilinear and discrete anomalies relate to cut features with an archaeological origin. This includes possible ring ditches and discrete pit like features.

5.1.3 It is not possible to accurately determine if banks and ditches relate to boundaries or enclosures or if they relate to former agricultural use of the land such as ridge and furrow.

6 REFERENCES

British Geological Society, 1977, *Geological Survey Ten Mile Map, South Sheet, First Edition (Quaternary),* Scale 1:625 000.

British Geological Society, 2001, *Solid Geology Map, UK South Sheet, 1:625 000 scale, 4th edition.*

English Heritage, 1995, *Geophysical survey in archaeological field evaluation. Research and Professional Service Guideline No 1.*

Soil Survey of England and Wales, 1983, *Soils of England and Wales, Sheet 4 Eastern England.*

Appendix A – basic principles of magnetic survey

Iron minerals are always present to some degree within the topsoil and enhancement associated with human activity is related to increases in the level of magnetic susceptibility and thermoremnant material.

Magnetic susceptibility is an induced magnetism within a material when it is in the presence of a magnetic field. This can be thought of as effectively permanent due to the presence of the Earth's magnetic field.

Thermoremnant magnetism occurs when ferrous material is heated beyond a specific temperature known as the Curie Point. Demagnetisation occurs at this temperature with re-magnetisation by the Earth's magnetic field on cooling.

Enhancement of magnetic susceptibility can occur in areas subject to burning and complex fermentation processes on biological material; these are frequently associated with human settlement. Thermoremnant features include ovens, hearths and kilns. In addition thermoremnant material such as tile and brick may also be associated with human activity and settlement.

Silting and deliberate infilling of ditches and pits with magnetically enhanced soil can create an area of enhancement compared with the surrounding soils and subsoils into which the feature is cut. Mapping enhanced areas will produce linear and discrete anomalies allowing an assessment and characterisation of hidden subsurface features.

It should be noted that areas of negative enhancement can be produced from material having lower magnetic properties compared to topsoil. This is common for many sedimentary bedrocks and subsoils which were often used in the construction of banks and walls etc. Mapping these 'negative' anomalies may also reveal archaeological features.

Magnetic survey or magnetometry can be carried out using a fluxgate gradiometer and may be referred to as gradiometry. The gradiometer is a passive instrument consisting of two fluxgate sensors mounted vertically 1m apart. The instrument is carried about 30cm above the ground surface and the upper sensor measures the Earth's magnetic field as does the lower sensor but this is influenced to a greater degree by any localised buried field. The difference between the two sensors will relate to the strength of magnetic field created by the buried feature. If no enhanced feature is present the field measured by both sensors will be similar and the difference close to zero.

There are a number of factors that may affect the magnetic survey and these include soil type, local geology and previous human activity. Situations arise where magnetic disturbance associated with modern services, metal fencing, dumped waste material etc., obscures low magnitude fields associated with archaeological features.

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Geophysical Survey
Red House Paddock,
Tallington, Lincolnshire

Map of survey area

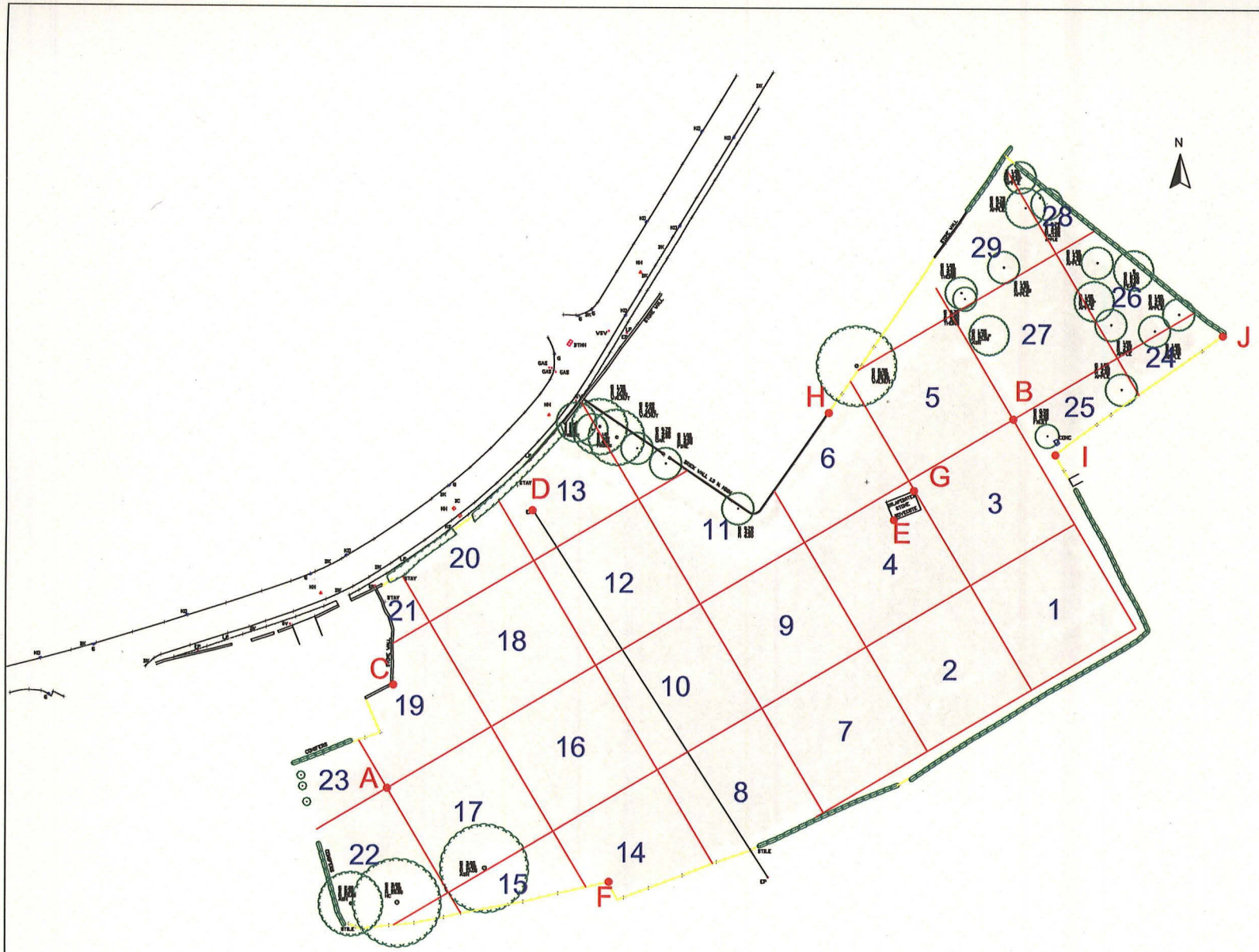
Survey location

Site centred on OS NGR
TF 094 080

SCALE 1:50 000

0km 1 2km

FIG 01



Archaeological Surveys

Geophysical Survey
Red House Paddock,
Tallington, Lincolnshire

Referencing information

A - B 180m A - C 25.70m A - D 77.67m

A - E 141.96m A - F 59.58m B - G 30.33m

B - H 45.77m B - I 12.69m B - J 53.81m

A - B Baseline

C & H Referencing points on wall

E & G Referencing points on dovecote

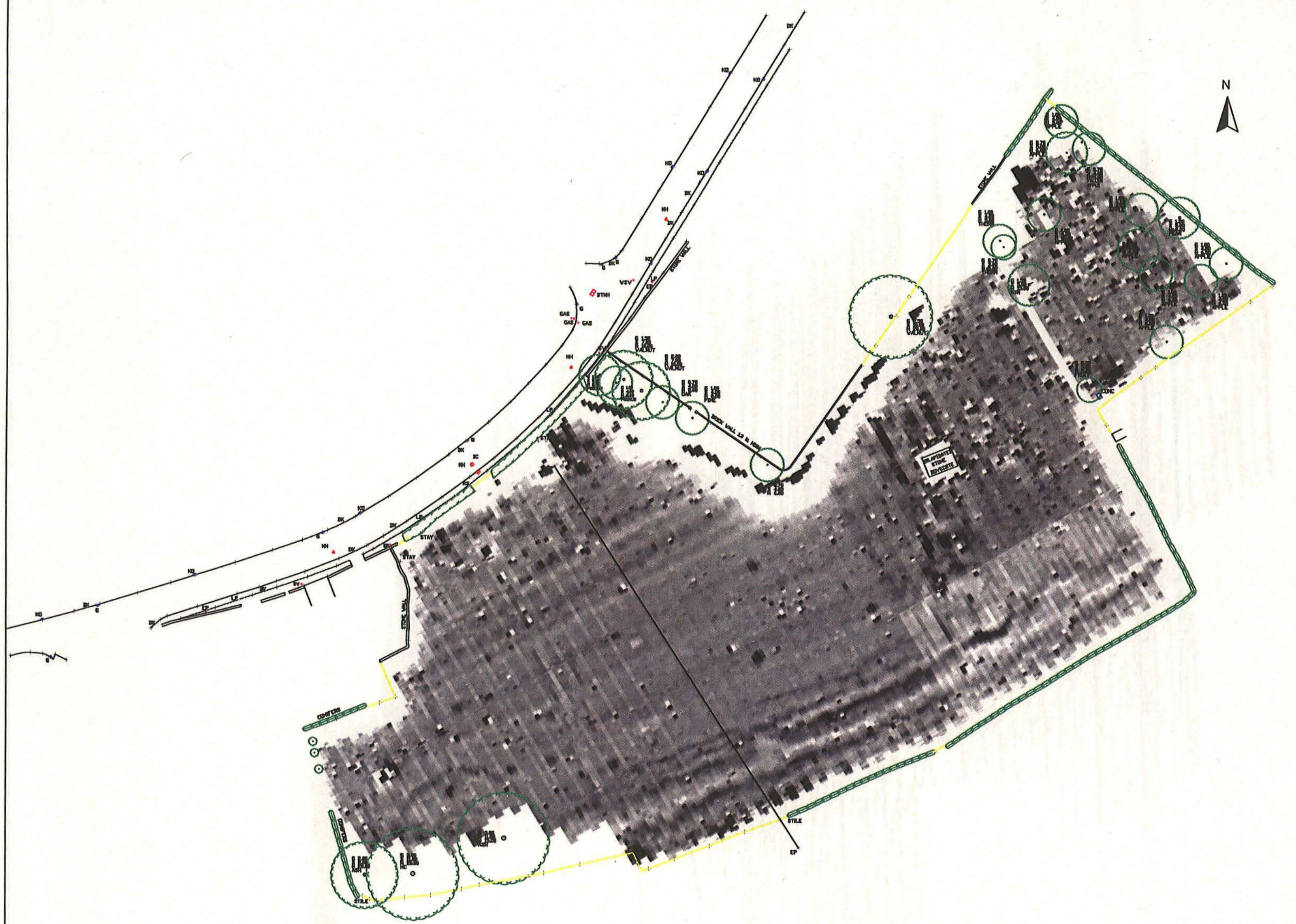
F I J Referencing points on fenceline

D Referencing points on electric pole

SCALE 1:1000

0m 10 20 30 40 50m

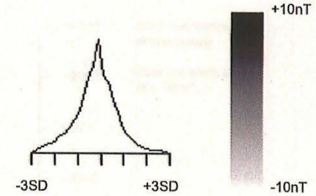
FIG 02



Archaeological Surveys

Geophysical Survey
Red House Paddock,
Tallington, Lincolnshire

Greyscale plot of raw magnetometer data



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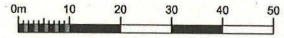
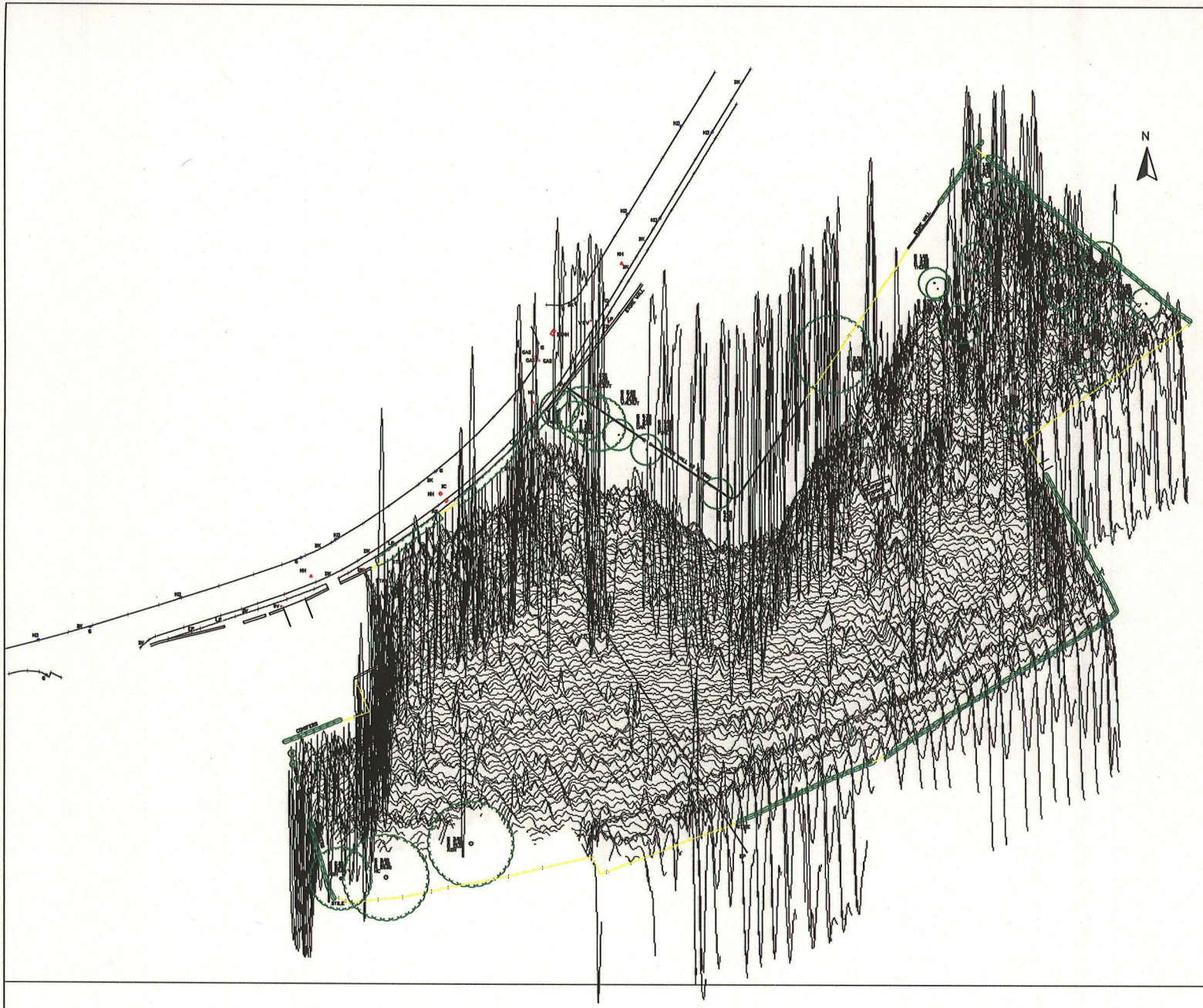


FIG 03



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Tallington, Lincolnshire

Traceplot of raw magnetometer data

+40nT
+20nT
0nT
-20nT
-40nT

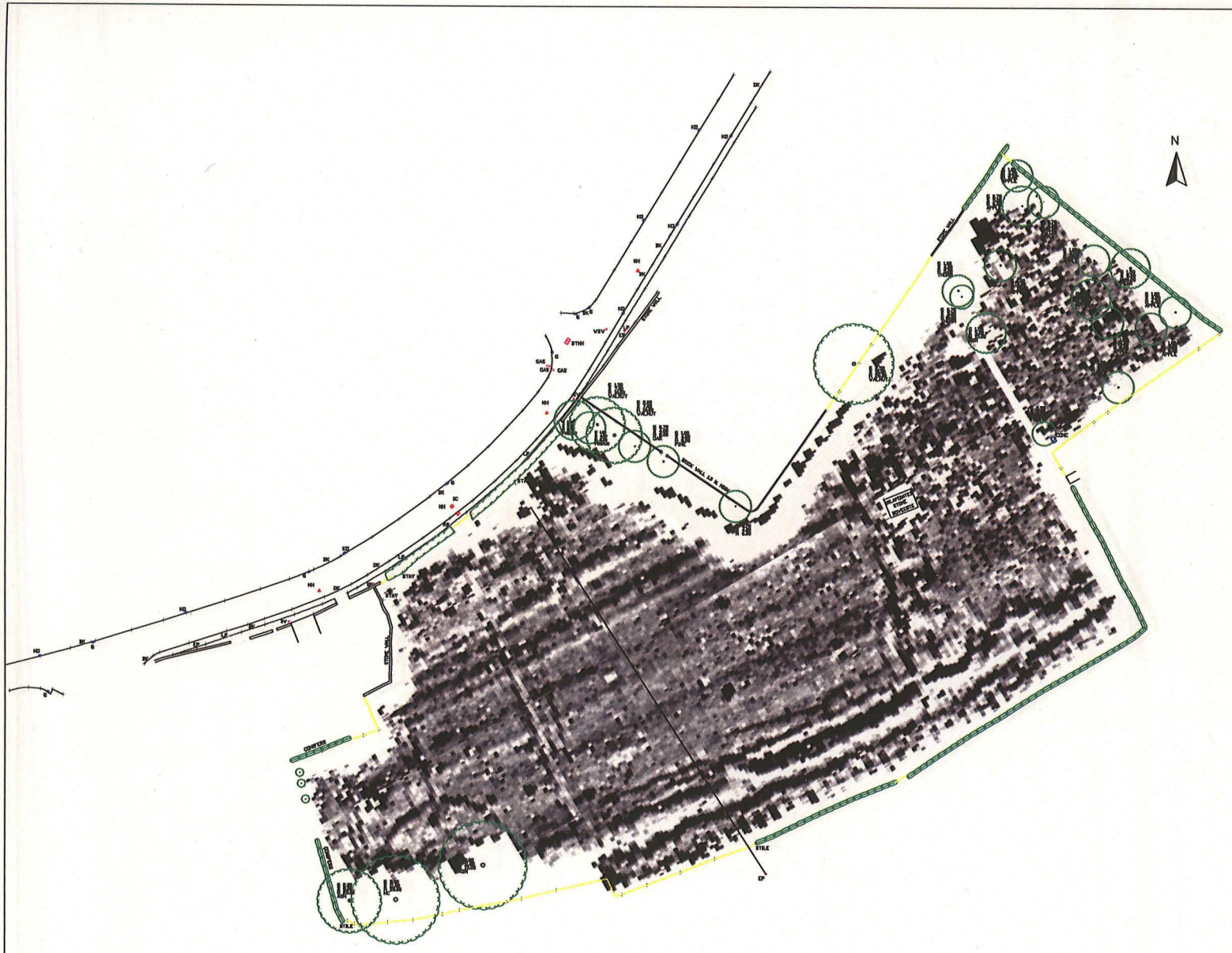
20nT/ cm vertical displacement.

Data has been clipped at ± 100nT.

SCALE 1:1000

0m 10 20 30 40 50

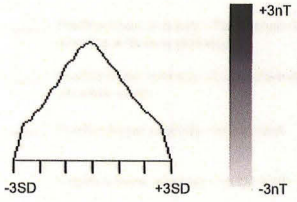
FIG 04



Archaeological Surveys

Geophysical Survey
Red House Paddock,
Tallington, Lincolnshire

Greyscale plot of processed magnetometer data



SCALE 1:1000

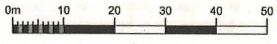
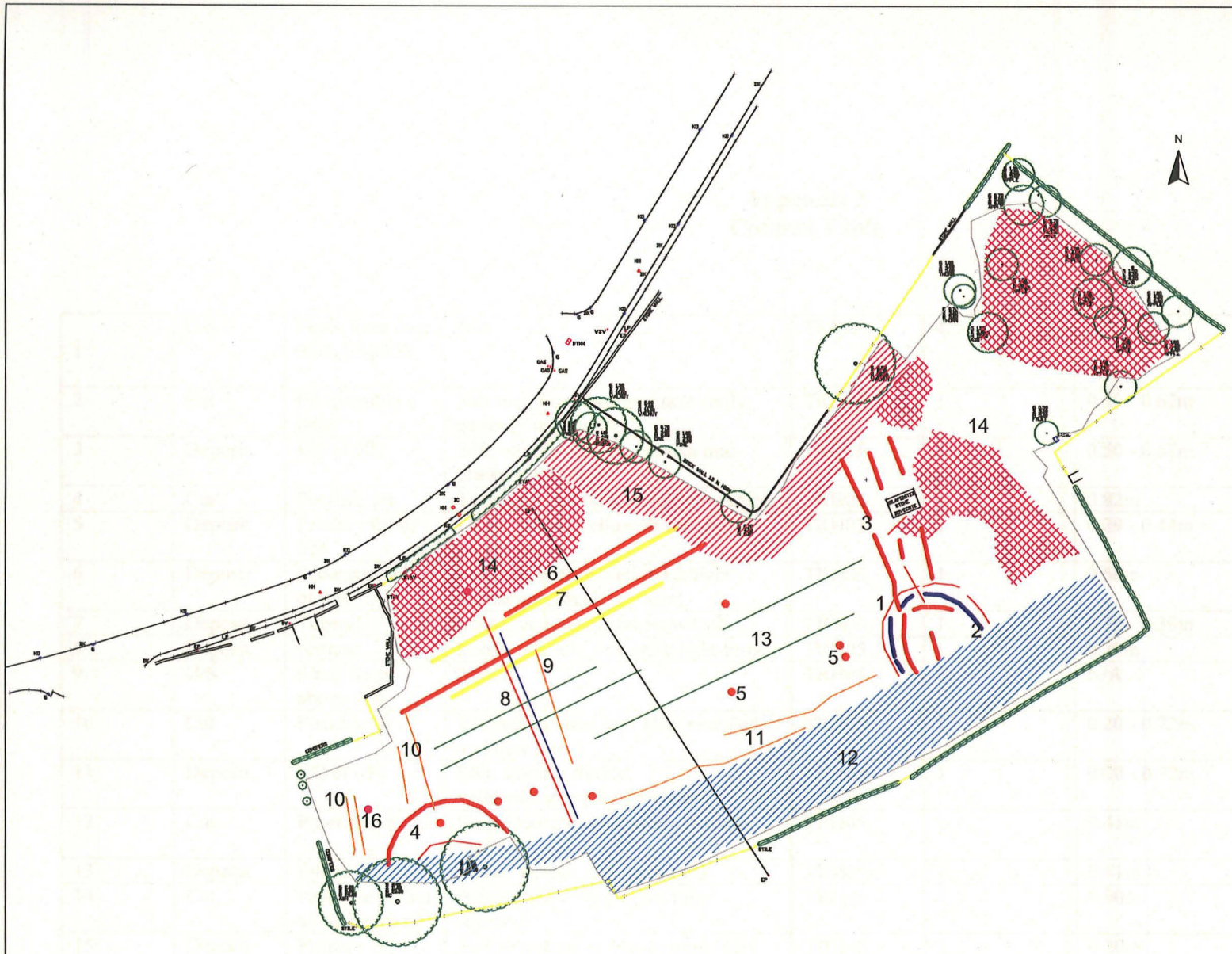


FIG 05



Archaeological Surveys

Geophysical Survey
Red House Paddock,
Tallington, Lincolnshire

Abstraction and interpretation of magnetometer anomalies

- Positive linear anomaly - ?cut feature of possible archaeological origin
- Positive linear anomaly - ?cut feature of uncertain origin
- Positive linear anomaly - visible bank
- Negative linear anomaly - visible ditch
- Negative linear anomaly - possible former earthwork?
- Linear trend - possibly associated with former agricultural activity
- Discrete positive response - cut feature of possible archaeological origin
- Magnetic debris - spread of thermoremnant material
- Magnetic disturbance from ferrous material
- Linear anomalies associated with former water course/canal cut
- Strong dipolar anomaly - ferrous object in topsoil

SCALE 1:1000

0m 10 20 30 40 50

FIG 06

Appendix 3
Context Table

1	U/S	Finds from over ditch 054/055	N/A	TRH05	4	-	N/A
2	Cut	Pit (possibly a ditch	Sub-round or possibly linear (only partially revealed)	TRH05	1	0.50 - 0.62m	
3	Deposit	Fill of 002	Soft, slightly friable, greyish mid-brown sandy clay	TRH05	1	0.50 - 0.62m	002
4	Cut	Possible pit	Truncated and only partially revealed	TRH05	1	0.82m	N/A
5	Deposit	Primary fill of 004	Loose, friable yellowish mid-brown sandy clay	TRH05	1	0.29 - 0.44m	004
6	Deposit	Secondary fill of 004	Moderately firm, yellowish/light brown/greyish clayey sand	TRH05	1	0.50m	004
7	Deposit	Topsoil	Loose, yellowish mid brown silt	TRH05	1	0.20 - 0.30m	N/A
8	Deposit	Natural	Loose, whitish, yellowish light-brown	TRH05	1	0.20m	N/A
9	U/S	Finds from above 020	N/A	TRH05	3	N/A	N/A
10	Cut	Possible pit	Possibly circular (not fully revealed and truncated)	TRH05	1	0.20 - 0.72m	N/A
11	Deposit	Fill of 010	Soft, slightly friable, yellowish/greyish mid-brown	TRH05	1	0.20 - 0.72m	010
12	Cut	Pit or linear	Shape indeterminate (only partially visible)	TRH05	1	0.41m	N/A
13	Deposit	Fill of 012	Loose/ friable, dark brown silt	TRH05	1	0.41m	012
14	Cut	Probable pit but could be linear	Indeterminate shape (not fully revealed)	TRH05	1	0.90m	N/A
15	Deposit	Primary fill of 014	Soft/smooth grey-brown sandy clay	TRH05	1	0.20m	014
16	Deposit	Fill of 014	Loose/smooth/friable, yellowish light-	TRH05	1	0.60m	014

			brown sandy silt				
17	Deposit	Upper fill of 014	Soft/smooth/slightly friable, yellowish mid-brown sandy silt	TRH05	1	20mm - 0.12m	014
18	Deposit	Fill of 020	Moderately compact, mid greyish brown silty sand silty sand	TRH05	3	0.36m (max)	020
19	Deposit	Primary fill of 020	Moderately compact, brownish grey with greenish mottles, silty sand	TRH05	3	0.16m	020
20	Cut	Pit	Visible part indicates sub-circular in plan	TRH05	3	0.55	N/A
21	U/S	Finds from Trench 3	N/A	TRH05	3	N/A	N/A
22	Deposit	Fill of 023	Loose to moderately compact mid greyish brown silty sand	TRH05	3	0.17m	N/A
23	Cut	Ditch - possible enclosure	Linear, orientated N-S	TRH05	3	0.47m (max)	N/A
24	Deposit	Fill of 025	Moderately compact, mid greyish brown silty sand	TRH05	3	0.30m	N/A
25	Cut	Probable pit	Visible part is approximately semi-circular in plan	TRH05	3	0.30m	N/A
26	U/S	Finds from above 025	N/A	TRH05	3	N/A	N/A
27	Deposit	Fill of 028	Loose/soft, mid greyish brown silty sand	TRH05	3	0.35m+	028
28	Cut	Pit	Only part visible; remainder beyond limit of excavation to SW	TRH05	3	0.35m+	N/A
29	Cut	Ditch	Orientated SW-NE; possibly deepening to NE (as 066?) and turning to SW	TRH05	1	0.24m	N/A
30	Deposit	Fill of 029	Loose/friable, yellowish light-mid brown	TRH05	1	0.24m	029
31	Cut	Ditch	Orientated E-W; only partially excavated; appears to cut ditch 030	TRH05	1	0.65 - 0.83m	N/A
32	Deposit	Primary fill of 031	Firm/slightly friable, greyish dark-brown sandy clay	TRH05	1	0.31 - 0.36m	031
33	Deposit	Secondary fill	Loose/friable, yellowish mid brown	TRH05	1	0.34 - 0.47m	031

		of 031	silty sand				
34	Deposit	Subsoil	As 085 in Trench 3	TRH05	1		N/A
35	Deposit	Topsoil	Loose, dark brown sandy silt	TRH05	2	0.19 - 0.28m	N/A
36	Deposit	Layer or fill (filling pits?)	Soft, mid brown slight sandy silt	TRH05	2	Uncertain	N/A
37	Deposit	Layer (relict ploughsoil?)	As 085	TRH05	2	0.45m+	N/A
38	Deposit	Layer	As 095/096 in Trench 3	TRH05	2	Uncertain	N/A
39	Deposit	Natural	Fairly reddish brown silt and gravel	TRH05	2	0.30m+	N/A
42	Deposit	Upper fill of 044	Firm, light grey/brown sandy silt	TRH05	2	Uncertain	044
43	Deposit	Primary fill of 043	Near identical to 042	TRH05	2	Uncertain	044
44	Cut	Pit	Semi-circular (visible extent) in plan	TRH05	2	0.40m (max)	N/A
45	Void						
46	Void						
47	Void						
48	Void						
49	Deposit	Topsoil	As 035	TRH05	4	0.25m	N/A
50	Deposit	Layer or fill (filling pits?)	Mid brown/grey slightly sandy silt	TRH05	4	0.35m (max)	N/A
51	Deposit	Layer (relict ploughsoil?)	As 085	TRH05	4	Uncertain	N/A
52	Cut	Pit	Sub-oval, orientated SW-NE	TRH05	4	0.22m	N/A
53	Deposit	Fill of 052	Brown sandy silt	TRH05	4	0.22m	052
54	Deposit	Fill of 055	Reddish mid brown sandy silt	TRH05	4	0.20m	055
55	Cut	Ditch	Slightly curving, orientated SW-NE; terminating within trench to the SW	TRH05	4	0.20m	N/A
56	Deposit	Fill of 057	No description	TRH05	4	20mm	057
57	Cut	Pit or Posthole	Sub-circular in plan with diameter of 0.30m	TRH05	4	20mm	N/A
58	Deposit	Fill of 059	Mid brown sandy silt	TRH05	4	0.12m	059
59	Cut	Pit	Semi-circular (visible part); 1.90m wide SW-NE	TRH05	4	1.0m+	N/A

60	Deposit	Natural	Mid brown silt and gravel	TRH05	4	0.25m	N/A
61	Deposit	Natural	Red sand	TRH05	4	80mm+	N/A
62	Deposit	Fill of 064	Firm mid brown sandy silt	TRH05	1	0.40m	064
63	Deposit	Primary fill of 064	Very hard, small gravel and brown-grey silt (80/20)	TRH05	1	0.22m	064
64	Cut	Ditch	SW-NE orientated; observed over distance of at least 4.10m	TRH05	1	0.65m	N/A
65	Deposit	Fill of 066	Firm, mid brown sandy silt	TRH05	1	0.55m+	066
66	Cut	Ditch	Indeterminate form; only partially investigated	TRH05	1	0.55m+	N/A
67	Deposit	Fill of 059	Mid to dark brown sandy silt	TRH05	4	0.33m (max)	059
68	Deposit	Primary fill of 059	Dark brown/grey sandy silt	TRH05	4	0.17m+	059
69	Deposit	Topsoil	Loose, yellowish mid brown silt	TRH05	3	0.20m - 0.25m	N/A
70	Deposit	Fill of 071	Loose to moderately compact mid greyish brown silty sand	TRH05	3	0.38m (max)	071
71	Cut	Multiple pits?	Recorded in section only; extend over 4.4m and displays undulating base	TRH05	3	0.38m (max)	N/A
72	Deposit	Fill of 073	Loose to moderately compact mid greyish brown silty sand	TRH05	3	0.35m	073
73	Cut	Pit	In section only; 1.10m across	TRH05	3	0.35m	N/A
74	Deposit	Fill of 075/ layer	Loose to moderately compact mid greyish brown silty sand	TRH05	3	0.32m (max)	075
75	Cut	Pit	In section only; 0.75m across	TRH05	3	0.32m	N/A
76	Deposit	Layer	Loose, mid greyish brown sand and gravel (70/30)	TRH05	3	80mm - 0.18m	N/A
77	Deposit	Fill of 078	Loose to moderately compact mid greyish brown silty sand	TRH05	3	0.20m (max)	078
78	Cut	Pit	In section only; 0.90m across	TRH05	3	0.20m (max)	N/A
79	Deposit	Fill of 080	Loose to moderately compact, mid greyish brown silty sand	TRH05	3	0.20m (max)	080
80	Cut	Pit	In section only; 0.75m across	TRH05	3	0.20m (max)	N/A
81	Deposit	Fill of 082	Loose, mid greyish brown silty sand	TRH05	3	0.30m (max)	082
82	Cut	Multiple pits?	In section only: 3.85m across with irregular base	TRH05	3	0.30m (max)	N/A

83	Deposit	Fill of 084	Moderately compact mid yellowish brown sand	TRH05	3	0.40m	084
84	Cut	Ditch	Orientated SW-NE, coinciding with earthwork hollow	TRH05	3	0.40m	N/A
85	Deposit	Layer (relict ploughsoil?)	Moderately compact, mid greyish brown sand	TRH05	3	0.40m (max)	N/A
86	Deposit	Layer (redeposited gravel?)	Loose, light yellowish brown sand and gravel (50/50)	TRH05	3	0.12m	N/A
87	Deposit	Secondary fill of 089	Moderately compact, mid yellowish brown sand	TRH05	3	0.30m (max)	089
88	Deposit	Primary fill of 089	Moderately compact, mid reddish brown sand	TRH05	3	0.30m	089
89	Cut	Ditch	Orientated E-W; possibly forming part of enclosure with 023	TRH05	3	0.60m	N/A
90	Deposit	Fill of 091	Moderately compact, mid reddish brown clayey sand	TRH05	3	0.35m	091
91	Cut	Ditch or natural feature (root?)	Orientated E-W; slightly irregular profile	TRH05	3	0.53m?	N/A
92	Deposit	Probable fill of 093	Moderately compact, orange-brown and greyish-brown silty sand	TRH05	3	0.15m	093
93	Cut	Probably natural origin	Irregular plan shape	TRH05	3	0.15m	N/A
94	Deposit	Layer	Moderately compact to compact mid yellowish brown slightly clayey sand	TRH05	3	0.12m	N/A
95	Deposit	Layer	Moderately compact light yellowish brown slightly clayey sand	TRH05	3	0.12m	N/A
96	Deposit	Layer	Moderately compact light yellowish-brown slightly clayey sand	TRH05	3	80mm	N/A
97	Deposit	Natural	Moderately compact orange-brown sand and small gravel (70/30)	TRH05	3	0.30m (max)	N/A
98	Deposit	Natural	Moderately compact mid red-brown sand	TRH05	3	0.12m (max)	N/A
99	Deposit	Natural	Compact, whitish gravel	TRH05	3	0.12m+	N/A
100	Deposit	Natural	Loose, orange and greyish-brown	TRH05	3	0.12m+	N/A

			sand and gravel				
101	Deposit	Layer (possibly fill similar to 080)	Loose to moderately compact mid greyish brown silty sand	TRH05	3	0.40m	N/A
102	Deposit	Layer (ploughsoil?)	Moderately compact, mid yellowish brown sand	TRH05	3	0.50m	N/A
103	Deposit	Fill of 023	Moderately compact, might to mid-brown sand	TRH05	3	0.30m+	023
104	Deposit	Topsoil	Loose/friable dark greyish brown silty sand	TRH05	5	0.30m	N/A
105	Deposit	Layer or fills multiple pits	Moderately compact/friable, mid greyish brown silty sand	TRH05	5	0.40m (max)	N/A
106	Deposit	Layer (relict ploughsoil?)	Moderately compact/friable, mid brown sand	TRH05	5	0.65m	N/A
107	Deposit	Natural?	Moderately compact to compact mid reddish brown clayey sand	TRH05	5	0.30m+	N/A
108	Cut	Posthole?	Sub-rectangular in plan	TRH05	5	40mm	N/A
109	Deposit	Fill of 108	Loose/friable mid greyish brown slightly silty sand	TRH05	5	40mm	108
110	Deposit	Upper fill of 059	Firm, light to mid brown sandy silt	TRH05	4	0.40m	059
111	Deposit	Natural	Hard, off white/grey small gravel	TRH05	2	50mm+	N/A
112	Deposit	Natural	Red brown silty sand	TRH05	2	150mm+	N/A

Appendix 4

Catalogue of the Pottery, Red House Paddock, Tallington

By

Jane Young

Pottery Archive TRH05

Jane Young

A small group of twenty-six post-Roman vessels represented by thirty-one sherds was recovered from the site. The pottery ranges in date fom the Saxo-Norman (11th to 12th) to medieval (13th to 14th) periods and is domestic in nature. None of the sherds are in a fresh condition and with the exception of three sherds all weigh below 20 grams. The two Thetford-type ware vessels are in a very abraded condition and this may be due to the larger size of these sherds as it makes them more prone to plough damage. The material is probably all post-conquest in date, although the lack of diagnostic forms make this difficult to prove. The presence of a number of Stamford Fabric A vessels and the lack of Stamford Fabric C and splashed-glazed wares does however suggest that the earliest wares are of mid/late 11th to mid 12th century date and that there may be a hiatus in occupation between the mid 12th and 13th centuries. Only one of the medieval sherds (STANLY) is typologically of 13th century date, however the lack of Toynton ware even in such a small medieval assemblage suggests that the other medieval sherds are also of this date. The assemblage should be kept for further study as part of any county type-series.

context	cname	full name	sub fabric	form	sherds	vessels	weight	decoration	part	description	date
001	SNEOT	St Neots-type ware		?	1	1	3		BS		11th to 12th
001	SNEOT	St Neots-type ware		?	1	1	2		base	internal soot	11th to 12th
009	ST	Stamford Ware	B	bowl	2	1	22		rim	internal flanged rim bowl;int glaze;soot	mid/late 11th to mid 12th
009	ST	Stamford Ware	A	jar/pitcher	1	1	5		BS	burnt glaze	11th to mid 12th
018	ST	Stamford Ware	G	jar/pitcher	1	1	2		BS	glaze	mid/late 11th to mid

018	ST	Stamford Ware	A	jar/pitcher	1	1	2		BS	no glaze	12th 11th to mid 12th

context	cname	full name	sub fabric	form	sherds	vessels	weight	decoration	part	description	date
018	ST	Stamford Ware	A	jar/pitcher	1	1	2		BS	glaze	11th to mid 12th
018	ST	Stamford Ware	B	jar/pitcher	1	1	5		BS	spots of glaze	mid/late 11th to mid 12th
018	ST	Stamford Ware	B	jar/pitcher	1	1	2		BS	soot;no glaze	mid/late 11th to mid 12th
018	ST	Stamford Ware	G	jar/pitcher	1	1	7		BS	soot;spots of glaze	mid 11th to mid 12th
018	ST	Stamford Ware	G	small jar	1	1	6		base	unglazed;soot	mid 11th to mid 12th
018	SNEOT	St Neots-type ware		jar	1	1	7		BS	soot;? ID	11th to 12th
018	THETT	Thetford-type fabrics	G	pitcher	1	1	30		rim with	very abraded	11th to 12th
018	THETT	Thetford-type fabrics	T/G	large	1	1	313	thumbed rim	rim with	very abraded;wide strap handle;LHJ has 3 deep thumbings;light firing fabric	11th to 12th
019	ST	Stamford Ware	A	small jar	1	1	2		BS	soot;unglazed	11th to mid 12th
021	PSHW	Peterborough Shelly ware (Rockingham Forrest ?)		jar/bowl	1	1	6		BS	soot	late 12th to 14th
021	BOUA	Bourne-type Fabrics A, B and C	A + carbonised veg	jar	1	1	6		base	abraded;soot	13th to 14th
022	BOUA	Bourne-type Fabrics A, B and C	A + shell & carbonised veg	jar ?	2	1	6		BS	soot;possibly not a Bourne source	13th to 14th
024	LEMS	Lincolnshire Early Medieval Shelly		jar ?	1	1	1		BS	? ID;soot	12th
024	SLSTCW	South Lincolnshire Sand-tempered Coarseware		jar ?	1	1	1		BS	soot;internal deposit	12th to 13th
026	ST	Stamford Ware	A/G	jar/bowl	1	1	2		BS	soot;unglaze	mid 11th to mid 12th

context	cname	full name	sub fabric	form	sherds	vessels	weight	decoration	part	description	date
027	SLSNOL	South Lincolnshire Saxo-Norman Oolitic		jar/bowl	1	1	39		base		11th to 12th
030	LEMS	Lincolnshire Early Medieval Shelly		?	2	1	1		BS	flake;? ID;soot	12th
032	SLST	South Lincolnshire Shell Tempered ware		jar/bowl	3	1	6		BS	soot	late 12th to 14th
033	ST	Stamford Ware	A	jar	1	1	2		neck	no glaze	11th to mid 12th
033	STANLY	Stanion/Lyveden ware	oolitic	jug	1	1	16	applied fe vertical strips	BS		13th

Appendix 5

Tallington, Red House Paddock (TRH 05)
Animal Bone Evaluation Report

Introduction

A total of 25 (364g) fragments of animal bone were recovered during archaeological trial trenching at Red house paddock, Tallington.

Methodology

Identification of the bone was undertaken with access to a reference collection and published guides. All animal remains were counted and weighed, and where possible identified to species, element, side and zone (Serjeantson 1996). Also fusion data, butchery marks (Binford 1981), gnawing, burning and pathological changes were noted when present. Ribs and vertebrae were only recorded to species when they were substantially complete and could accurately be identified. Undiagnostic bones were recorded as micro (rodent size), small (rabbit size), medium (sheep size) or large (cattle size). The separation of sheep and goat bones was done using the criteria of Boessneck (1969) and Prummel and Frisch (1986), in addition to the use of the reference material. Where distinctions could not be made, the bone was recorded as sheep/goat (S/G).

The condition of the bone was graded using the criteria stipulated by Lyman (1996), Grade 0 being the best preserved bone and Grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable.

The quantification of species was carried out using the total fragment count, in which the total number of fragments of bone and teeth was calculated for each taxon. Where fresh breaks were noted, fragments were refitted and counted as one.

Tooth eruption and wear stages were measured using a combination of Halstead (1985), Grant (1982) and Levine (1982), and fusion data was analysed according to Silver (1969). Measurements of adult (fully fused) bones were taken according to the methods of von den Driesch (1976), with asterisked (*) measurements indicating bones that were reconstructed or had slight abrasion of the surface.

Results

The overall condition of the bone was relatively good, averaging as grade 2 on the Lyman criteria (1996).

A total of 4 fragments of bone from undated pits [010], [044] and [059] displayed evidence of butchery marks consistent with jointing.

Two fragments of bone display evidence of gnawing. A cattle metatarsal from undated pit [044] displayed evidence of carnivore gnawing. A domestic fowl femur recovered from

undated pit [059] displayed tooth puncture marks from a small carnivore, possibly from a cat.

No evidence of burning or pathology was noted amongst the assemblage.

Table 1, Summary of identified taxa, by phase.

Taxon	11th-12th Century	12th-13th Century	13th-14th Century	Early13th-mid 13th Century	Un-dated	Total
Equid *(Horse/Donkey Family)*	1					1
Cattle			1		6	7
Sheep/Goat					3	3
Domestic Fowl					1	1
Bird					1	1
Large Mammal		1			3	4
Medium Mammal		1		1	4	6
Unidentified					2	2
Grand Total	1	2	1	1	20	25

Cattle are the most predominant species within the assemblage followed by sheep/goat with single fragments representing equid and domestic fowl.

An un-stratified equid mandible from a male animal aged 8-11years old was recovered from context (001). The mandible displayed possible bit wear on the first and second molars.

Discussion

The assemblage recovered during the evaluation is too small to suggest husbandry strategies, save the utilisation of the identified species. The majority of the remains appear to represent skeletal elements often associated with food waste. The butchery evidence also suggests the jointing of carcasses for consumption. The equid mandible suggests the utilisation of horse/donkey predominantly for traction and riding, suggested by the bit wear evidence.

The overall condition of the assemblage is good, any further excavation is liable to yield much more bone of a good condition, suggesting very good potential for establishing information on animal husbandry and utilisation on this site.

Recommendations

In the event of further excavation it is recommended that environmental sampling should be considered. The recovery of smaller bones such as small mammal, bird and fish should contribute to our understanding of the local environment and the diversity of the diet of the inhabitants of the site.

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Appendix 6

THE OTHER FINDS
by Gary Taylor

A small quantity of other artefacts, brick/tile, metal and industrial residue, comprising 6 items weighing a total of 391g, was retrieved.

Provenance
The material was recovered from ditch fill (033) and pit fills (042), (067).

Range
The range of material is detailed in the table.

Table 1: Other Artefacts

Context	Material	Description	No.	Wt (g)	Context Date
033	Iron	Nail	1	5	
	Iron	Rectangular strip	1	6	
042	CBM	Brick/tile	1	6	
067	CBM	Tegula, Roman	2(link)	348	Roman
	Slag	Iron smithing slag	1	26	

A large piece of flanged Roman tile, known as tegula, was recovered from (067). This would have been used as roofing on a Roman building.

Condition
All the material is in good condition and present no long-term storage problems. Archive storage of the collection is by material class.

Documentation
There have been previous archaeological investigations at Tallington that are the subjects of reports. Details of archaeological sites and discoveries in the area are maintained in the files of the South Kesteven Planning Archaeologist and the Lincolnshire County Council Sites and Monuments Record.

Potential
In general, the small collection of artefacts is of limited local potential and significance. However, the piece of Roman tile is large and unworn and is unlikely to have moved far from the original point of use and deposition.

The lack of any material earlier than the Roman period is informative and suggests that archaeological deposits dating from prior to this period are absent from the area, or were not revealed by the investigation, or were of a nature that did not involve artefact deposition.

Appendix 7

Glossary

Anglo-Saxon	Pertaining to the period when Britain was occupied by peoples from northern Germany, Denmark and adjacent areas. The period dates from approximately AD 450-1066.
Bronze Age	A period characterised by the introduction of bronze into the country for tools, between 2250 and 800 BC.
Context	An archaeological context represents a distinct archaeological event or process. For example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretation of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, *e.g.* [004].
Crop mark	A mark that is produced by the effect of underlying archaeological or geological features influencing the growth of a particular crop.
Cut	A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, *etc*. Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded.
Domesday Survey	A survey of property ownership in England compiled on the instruction of William I for taxation purposes in 1086 AD.
Fill	Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be back-filled manually. The soil(s) that become contained by the 'cut' are referred to as its fill(s).
Geophysical Survey	Essentially non-invasive methods of examining below the ground surface by measuring deviations in the physical properties and characteristics of the earth. Techniques include magnetometry and resistivity survey.
Iron Age	A period characterised by the introduction of Iron into the country for tools, between 800 BC and AD 50.
Layer	A layer is a term used to describe an accumulation of soil or other material that is not contained within a cut.
Medieval	The Middle Ages, dating from approximately AD 1066-1500.
Mesolithic	The "Middle Stone Age" period, part of the prehistoric era, dating from approximately 11000 - 4500 BC.
Natural	Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity
Neolithic	The "New Stone Age" period, part of the prehistoric era, dating from approximately 4500-2250 BC.
Palaeolithic	The "Old Stone Age" period, part of the prehistoric era, dating from approximately 500000 - 11000 BC in Britain.
Post hole	The hole cut to take a timber post, usually in an upright position. The hole may have been dug larger than the post and contain soil or stones to support the post.

	Alternatively, the posthole may have been formed through the process of driving the post into the ground.
Post-medieval	The period following the Middle Ages, dating from approximately AD 1500-1800.
Prehistoric	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about 500,000 BC, until the Roman invasion in the middle of the 1st century AD.
Ridge and Furrow	The remains of arable cultivation consisting of raised rounded strips separated by furrows. It is characteristic of open field agriculture.
Romano-British	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.
Transformed	Soil deposits that have been changed. The agencies of such changes include natural processes, such as fluctuating water tables, worm or root action, and human activities such as gardening or agriculture. This transformation process serves to homogenise soil, erasing evidence of layering or features.

Appendix 8

THE ARCHIVE

The archive consists of:

Context Sheets 112
Context Record Sheets 5
Photo Record Sheets 2
Section Sheets 11
Section Record Sheet 1
Plan Sheets 10
Plan Record Sheet 1
One small box of finds

All primary records and finds are currently kept at:

Archaeological Project Services
The Old School
Cameron Street
Heckington
Sleaford
Lincolnshire
NG34 9RW

The ultimate destination of the project archive is:

Lincolnshire City and County Museum
12 Friars Lane
Lincoln
LN2 1HQ

The archive will be deposited in accordance with the document titled *Conditions for the Acceptance of Project Archives*, produced by the Lincolnshire City and County Museum.

Lincolnshire City and County Council Museum Accession Number: LCNCC : 2005..241

Archaeological Project Services Site Code: TRH05

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.