

**ARCHAEOLOGICAL  
WATCHING BRIEF.  
WARDENTREE LANE  
SPALDING, LINCOLNSHIRE**

NGR: TF 2575 2560      525900 325400  
SITE CODE: WTLS04  
LCNCC ACC. NO: 2004.16



Report prepared for  
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April 2004

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EVENT L15640

INTERVENTION L19810

EXCAVATION L19811

CON: L18762

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23935 undated

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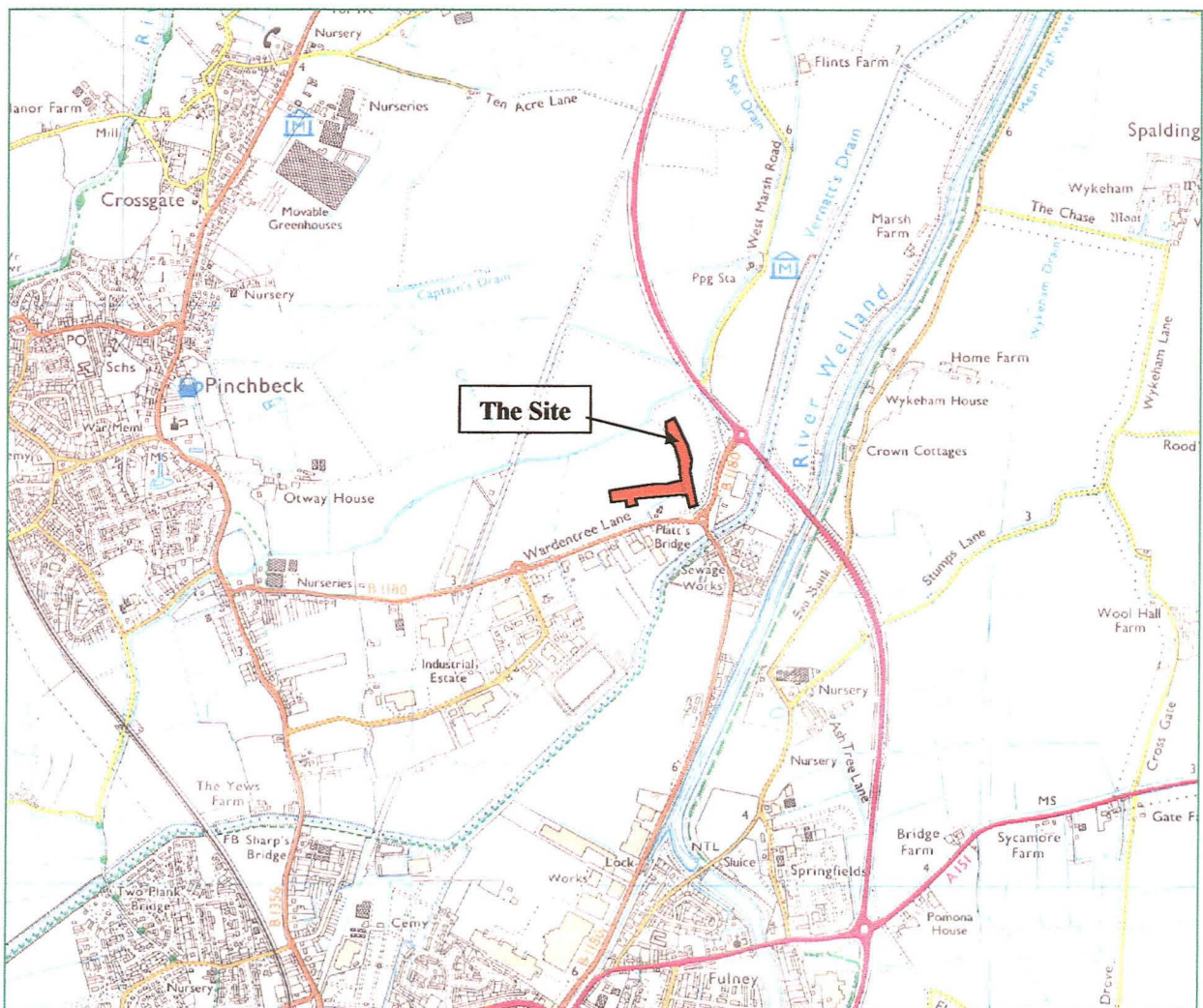
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### Summary

- An archaeological watching brief was conducted during the construction of an access road on land off Warden Tree Lane, Spalding, Lincolnshire.
- There is considerable evidence of medieval salt working in the vicinity of the development area, and the west side of Pinchbeck parish has produced archaeological findings dating between the prehistoric and modern periods.
- A previous fieldwalking survey of the area, including land monitored during the current watching brief, identified a low-density scatter of pottery of Saxo-Norman – early modern date, and geophysical survey identified a series of former water courses and buried ditches.
- The watching brief identified eight cut features of archaeological interest. These yielded sherds of medieval pottery, as well as cow bone fragments.
- It is concluded that the area currently being developed contains ditches forming part of a field system of probable medieval date.



**Fig.1: General site location**  
 showing the area covered by previous surveys in 2002 and 2003 (scale 1:25,000)  
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## 1.0 Introduction

Pre-Construct Archaeology (Lincoln) was commissioned by Waterman Burrow Crocker to undertake an archaeological watching brief on land north off Wardentree Lane, Spalding, Lincolnshire. These works were required to fulfil the recommendations of the Senior Built Environment Officer of Lincolnshire County Council as a condition for achieving planning permission for a permanent road and temporary site access. This investigation complements preceding non-intrusive phases of fieldwork, involving fieldwalking and geophysical survey.

The fieldwork and reporting methodologies that are described in this report are consistent with current archaeological/planning guidelines: *Archaeology & Planning: Planning Policy Guidance Note 16* (Department of the Environment, 1990), *Management of Archaeological Projects* (English Heritage, 1991), *Standards and guidance for archaeological watching briefs* (IFA, 1999), and the Lincolnshire County Council document *Lincolnshire Archaeological Handbook: a manual of archaeological practice* (LCC, 1998).

Copies of this report have been deposited with the commissioning body, the County Sites and Monuments Record for Lincolnshire and South Holland District Council. Reports will also be deposited at the City and County Museum, Lincoln, along with an ordered project archive for long-term storage and curation.

## 2.0 Topography and Geology

The development area is situated in the civil parish of Pinchbeck, which lies within the administrative district of South Holland. It is approximately 1.2km to the east of Pinchbeck Parish Church and c. 2km to the north of Spalding (Fig. 1).

The area of investigation consists of two strips of land joining to form a T shape. The north-south aligned arm was 330m long and 40m wide, whilst the east-west aligned arm was 340m long and ranged from 40m to 20m wide at its eastern end. Adjoining the east west arm on its southern side was a rectangular area approximately 40m wide and 50m long.

Wardentree Lane borders the fields within which the development area is situated to the south, with the A16 to the east (Fig 2). Industrial buildings and other development areas lie immediately to the west, whilst the substantial Blue Gowt Drain forms the northernmost border.

The soils of the area comprise permeable silty loams and silty clays of the Wisbech and Wallasea/Pepperthorne Associations (Hodge *et. al.*, 1984). These overlie a series of Quaternary drift deposits, which can be up to 20m in depth. The uppermost of these are the Terrington Beds, a series of sandy silts, sands and clays, which were deposited in a range of wetland environments, including tidal creeks, salt marshes, rivers and by marine inundation (BGS, 1992). Beneath the Terrington Beds are further drift deposits, possibly including Devensian Abbey Sand and Gravel, and beds of Glacial Sand and Gravel of Anglian age. These cover the uppermost formations of the solid geology, which consist of the mudstones of the Oxford Clay Series, deposited during the Upper Jurassic period.

The site is flat and low lying (below the 5m contour). It centres on NGR TF 2575 2560.

### 3.0 Planning background

Planning permission was granted for the construction of a permanent road, intended to link Wardentree Lane with forthcoming industrial developments, along with a temporary site access and compound. This permission was granted subject to the undertaking of an archaeological watching brief on the initial programme of ground works.

This report details the results of the archaeological watching brief on the first phase of construction. The development area will be extended in future phases.

### 4.0 Archaeological and historical background

The prehistoric and Roman Fenland witnessed sustained phases of water inundation that were linked to changes in contemporary sea levels, and at times it is likely that much of the region was unsuited to continued human occupation.

Borehole evidence suggests that the northern edge of the current site was only 250m inland of the probable Saxon coastline (BGS, 1992). The settlement of Pinchbeck, c. 1.2km to the east of the site, appears to have emerged by the 9<sup>th</sup> century AD, as documents record that Aelfgar, in AD810, and King Berhtwulf of Mercia, in AD851, granted lands in the parish to Siward, Abbott of Crowland (Sawyer, 1998). Following the Norman Conquest, land at Pinchbeck was in the possession of Guy de Craon and Ivo Tallboys, the latter's holding including four fisheries (Morgan & Thorne, 1986).

The Lincolnshire County Sites and Monuments Record records the presence of medieval saltern mounds extending across the area immediately to the north of the suggested Saxon coastline (SMR No. 23633). A medieval sea bank, known locally as '*Roman Bank*', runs along the east edge of the site. This feature defined the eastern edge of the land that had been reclaimed from the sea by c. AD1300. The geological map indicates that there were further medieval saltern mounds running along the eastern edge of this sea bank, adjacent to the area of investigation (BGS, 1992). Surviving documentary sources indicate that salt making was taking place around Pinchbeck by the early 13<sup>th</sup> century, continuing until at least 1477 (Hallam, 1960).

A parcel of land immediately to the south-west of the current site was the subject of previous archaeological investigations. An evaluation of the area identified linear and curvilinear features (Butler 1999, Albone 1999), some of these being ditches of 12<sup>th</sup> to 14<sup>th</sup> century date, others being 15<sup>th</sup> to 19<sup>th</sup> century. A small quantity of Romano-British pottery was recovered from secondary contexts.

In 2002, a fieldwalking survey was carried out on the site. A concentration of Saxo-Norman to medieval pottery was observed towards the north of the site, with a further, lower density scatter to the west. Subsequent geophysical survey of the area revealed a series of linear/curvilinear anomalies representing possible buried creeks and

channels (Clay et.al., 2003) The results of this survey and its extent are illustrated in figure 2.

In August 2003, Pre-Construct Archaeology (Lincoln) conducted an archaeological evaluation close to the area monitored in this watching brief to advise a planning application for industrial development. Five evaluation trenches, positioned to investigate anomalies highlighted by the previous gradiometer survey, were excavated. Three of these were located a short distance to the west of the north south arm of the development area and the remnants of one trench, Trench 4, were observed within it. None of these trenches were deemed to contain archaeological deposits. Their locations are illustrated in figure 2.

## **5.0 Methodology**

The construction process for the permanent road and temporary access and compound required the removal of topsoil. This was conducted using a 360° machine fitted with a 2m wide smooth bucket. An experienced field archaeologist monitored throughout this process.

Where exposed, archaeological features were sample excavated to establish depths and profiles and, where possible, date and function. Features were recorded in plan and in section at appropriate scales, and written accounts were prepared on pro-forma context record sheets. A colour photographic record was maintained throughout the project, and selected prints have been reproduced in this report.

The compound and access lanes connecting to the east-west aligned arm of the development area were monitored shortly after they had been stripped. The site contractors kindly reserved small areas within the compound so that ditches [105] and [106] could be excavated. During the stripping of the northern most access lane to the compound a linear feature was revealed but obscured again before a proper record of it could be made. However the site contractors agreed to strip an additional small square area immediately adjacent to the access lane so that this feature could be reexamined and investigated at a later date. The extent of this box can be seen in figure 3.

Will Munford carried out the fieldwork over a period of seven days; Monday 5th to Tuesday 13<sup>th</sup> Jan 2004.

## 6.0 Results

The matrix across the development area consisted of a layer of dark brown clayey silty loam topsoil, (101), overlying a reddish brown compact clayey silt subsoil, (102). Beneath this, the natural substrata comprised light orange brown clayey sand and areas of mid brown compact clay. A possible palaeochannel and a number of archaeological features were identified and recorded.

A possible palaeochannel, [100], was observed within the east-west arm of the development: a band of dark red grey clay containing frequent rounded stones and shells approximately 1m wide. A number of similar bands and variations of the natural substrata were noted

A ditch, [105], was observed running for 50m close to, and roughly parallel with, the southern most edge of the compound area. Excavation revealed a steep sided profile with a shallow step on its northern side. It measured 1.7m wide by 0.70m deep and had a flat base. It was filled with four layers of compact clay in various hues of grey and brown. A sherd of pottery from a jar of Bourne type fabric dating from the 13<sup>th</sup> to 14<sup>th</sup> centuries was recovered from its basal fill, along with a fragment of brick dating from the 15<sup>th</sup> or 16<sup>th</sup> centuries. At the western end of the compound this ditch began to return towards the south.

Ditch [106] was situated approximately 12m to the north within the compound area, and was also aligned east west. Its section was wider, measuring 2.5m across, and was 0.90m deep. Its sides were more gradually sloped than that of ditch [105] and it had an uneven base. It was seen extending for approximately 15m from the eastern edge of the compound area. It was filled with three layers of compact silty clay of varying colours. The basal fill, a mid grey clay, incorporated a cow horn core.

A north-east to south-west aligned ditch, [115], was observed immediately to the north of the compound area. It was approximately 1.5m wide and had an upper fill of compact mid-grey silty clay. As aforementioned, as on-going works immediately obscured this feature, an additional box was stripped so that it could be reexamined. It did not appear to continue through this box. However another east-west linear feature, ditch [123], was observed within it, running parallel with [106] and [105]. Excavation revealed this to be 1.3m wide, 0.55m deep and filled with two layers of grey compact clay.

A north-south aligned ditch, [121], was observed to the west of [115] during a separate episode of topsoil stripping. This was approximately 1.5m wide and its top fill consisted of dark reddish brown friable clayey silt. A sherd of modern pottery was recovered.

Another ditch, [111], was observed approximately 39m to the north of [115]. It was aligned north-south and its upper fill consisted of dark brown clayey silt containing seams of very dark brown peat and fragments of iron wire and plastic. It is likely that this feature is of modern date.



A further north-south aligned ditch, [117] was observed 23m to the north of [111]. It was 1.5m wide and 0.54m deep and had a moderately sloped, rounded profile. It contained three fills of compact silty clay of varying hues of grey. The top fill contained a sherd of a Nottingham glazed ware Light Bodied ceramic jug that can be dated to the 13<sup>th</sup> century. A cow tibia and cervical vertebrae were also recovered from this feature.

Approximately 24m to the north lay ditch [119], which was also aligned north-south. Its upper section was gradually sloped, before abruptly steepening, with a flat base. Its fills, which were clearly defined against the natural substrata, ranged from a capping deposit of dark red-brown and grey compact silty clay to dark grey and orange compact clay at its base. A sherd of a 13<sup>th</sup> or 14<sup>th</sup> century Bourne type fabric jar, similar to that recovered from ditch [105], was recovered.

## 7.0 Discussion and conclusion

Eight archaeological features were exposed during the course of the watching brief; all other deposits such as the possible palaeochannel, [100], observed within the substrata, appeared to be of an entirely natural character, representing buried watercourses of varying dimension. The deposits within these palaeochannels were archaeologically sterile alluvial silts and clays, representing natural accumulations formed by slow-moving or possibly stagnant water.

The proximity of the site to the former coastline suggests that the development area was unsuitable for human occupation until the construction of sea defences and the reclamation of land in the middle ages, because of seasonal flooding of the region by marine inundation. The presence of eight linear features, the medieval pottery recovered from some of them, and the pottery scatters that were identified during previous fieldwalking indicates that the site was utilised only when conditions had been improved.

The series of linear features appear to represent elements of medieval field systems, set out in narrow strips of Midland type which were common on the western fen edge and islands from the early middle ages until the early 19<sup>th</sup> enclosure movements (Coles and Hall, 1998). These strips were often grouped into blocks called furlongs, (*ibid*).

It is interesting that ditches containing medieval finds, including pottery dating from the 13<sup>th</sup> or 14<sup>th</sup> centuries, were observed running parallel to and at regular distances from ditches which had only recently been obscured by ploughing. This may indicate the long-standing status of general land divisions in the area, despite the eradication of individual strip field plots. This idea is supported by the longevity of ditches, some in use from the 15<sup>th</sup> to 19<sup>th</sup> centuries, recorded during the evaluation of the adjacent plot in 1999, (Butler 1999, Albone 1999). Although very few in number, the cattle bone finds could suggest that pastoral grazing was the predominant land use during the medieval period.

The observation that the north south-aligned arm of the development area was devoid of archaeological deposits appears to agree with the results of the geophysical survey. Features exposed in Trench 4 of the 2003 evaluation by PCA Lincoln can be seen to

relate to the anomalies interpreted as possible palaeochannels detected by gradiometry, and to confirm that interpretation, (Clay 2003).

### 8.0 Effectiveness of methodology

The methodology applied at Wardentree Lane has been an appropriate form of archaeological monitoring. The previous archaeological surveys using non-intrusive methods allowed a rapid assessment to be made of the whole development area, which was then followed by a programme of targeted observation and sample excavation. The reservation of some areas of the compound for further investigation allowed full recording of all significant features.

### 9.0 Acknowledgements

Pre-Construct Archaeology (Lincoln) would like to thank Waterman Burrow Crocker for this commission. Thanks also go to the site foreman 'Dick' and Site Manager Dan Ingall of Universal Construction Services Ltd for their assistance on site.

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Sawyer P., 1998, *Anglo-Saxon Lincolnshire*, History of Lincolnshire III, History of Lincolnshire Committee, Lincoln

### **11.0 Site archive**

The documentary archive for the site is currently in the possession of Pre-Construct Archaeology. This will be deposited at Lincoln City and County Museum within six months. Access to the archive may be gained by quoting the global accession number 2004.16

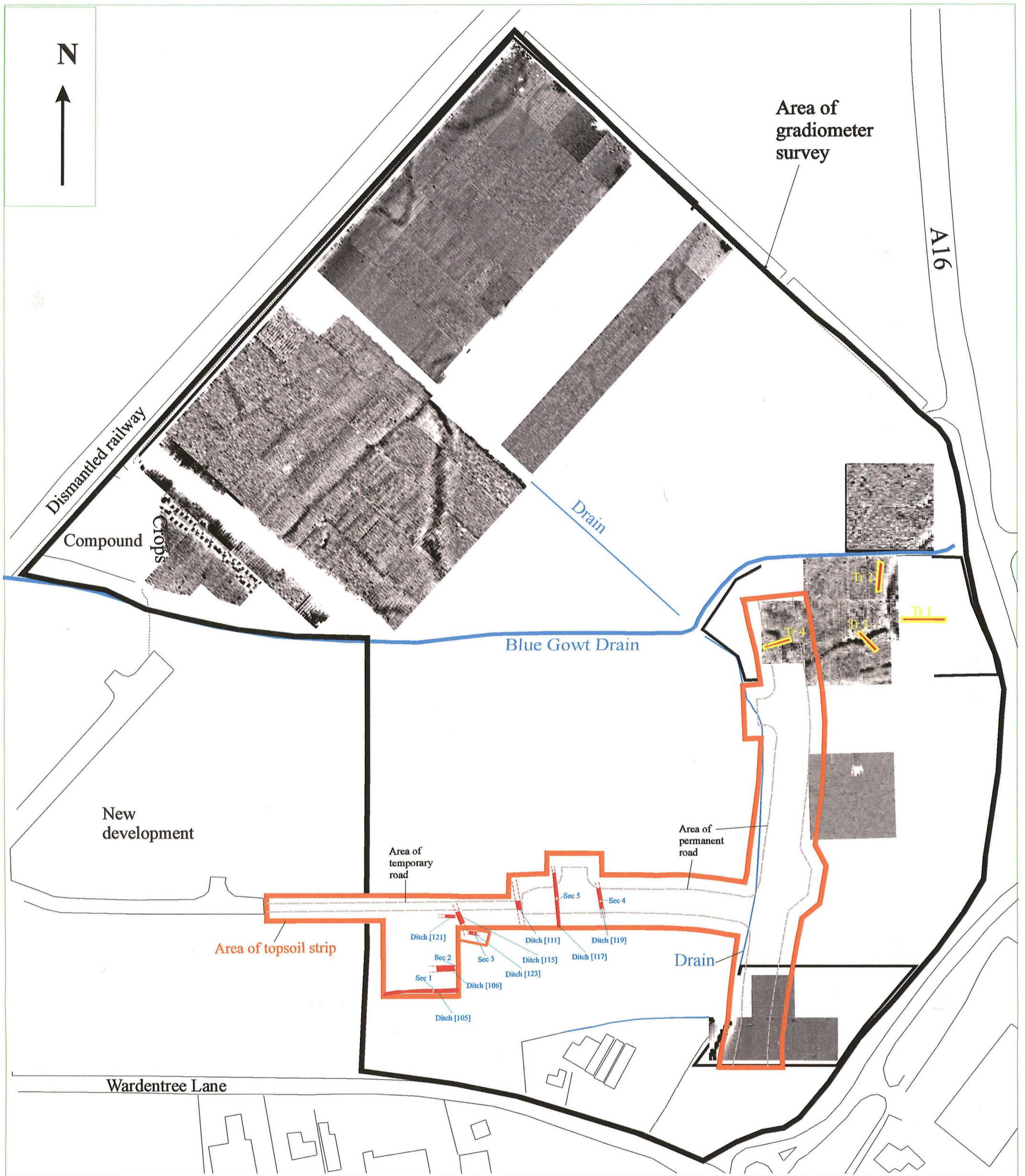


Fig 2: Site plan showing area monitored (highlighted in orange), in relation to the area covered by the 2002 gradiometer survey. The trenches investigated in the 2003 evaluation are highlighted in red and yellow and the archaeological features observed in the current watching brief are highlighted in red. (Scale 1:2500)

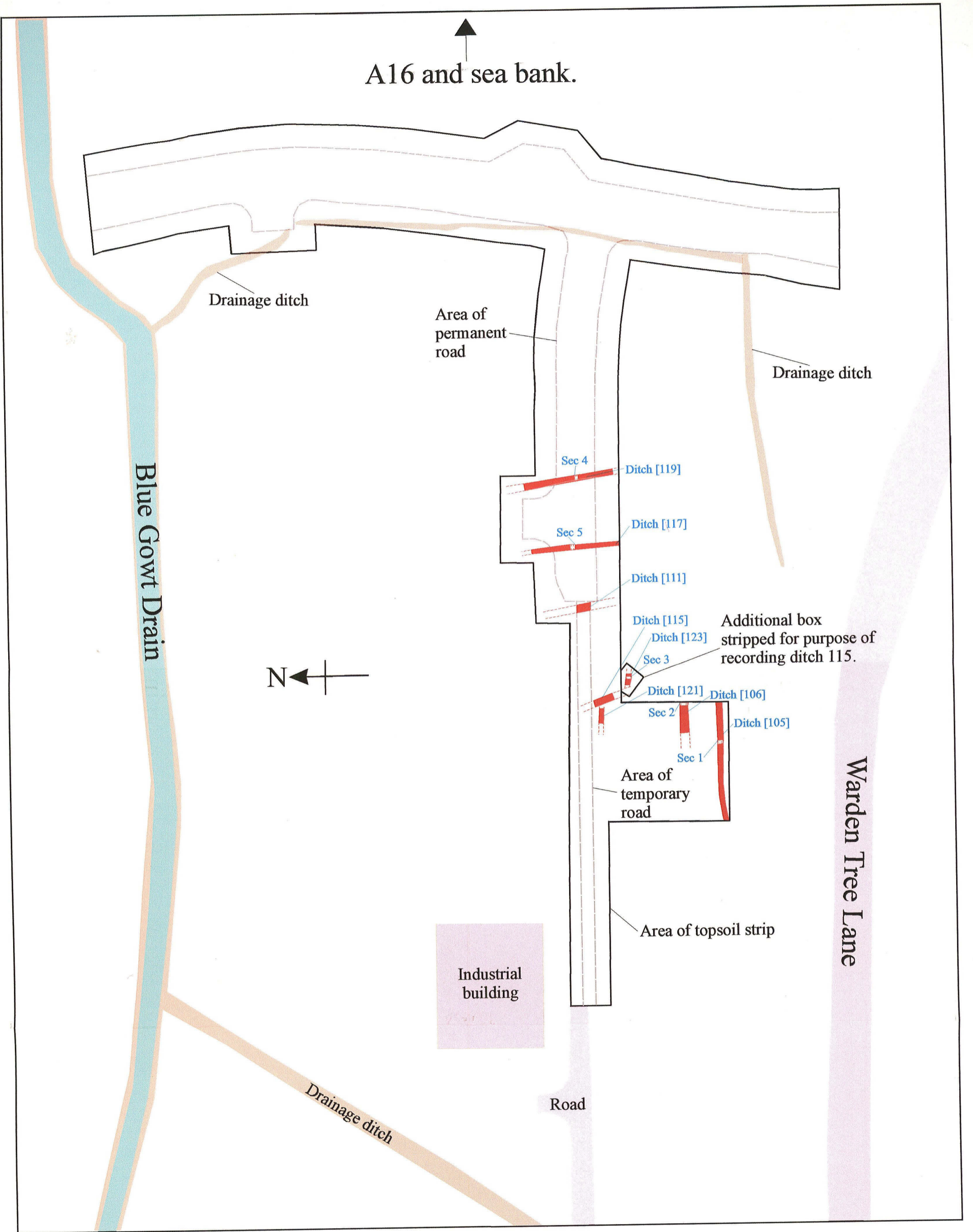


Fig 3: Site plan showing area monitored with extent of temporary and permanent road developments. The archaeological features found are highlighted in red. (Scale 1:1500)

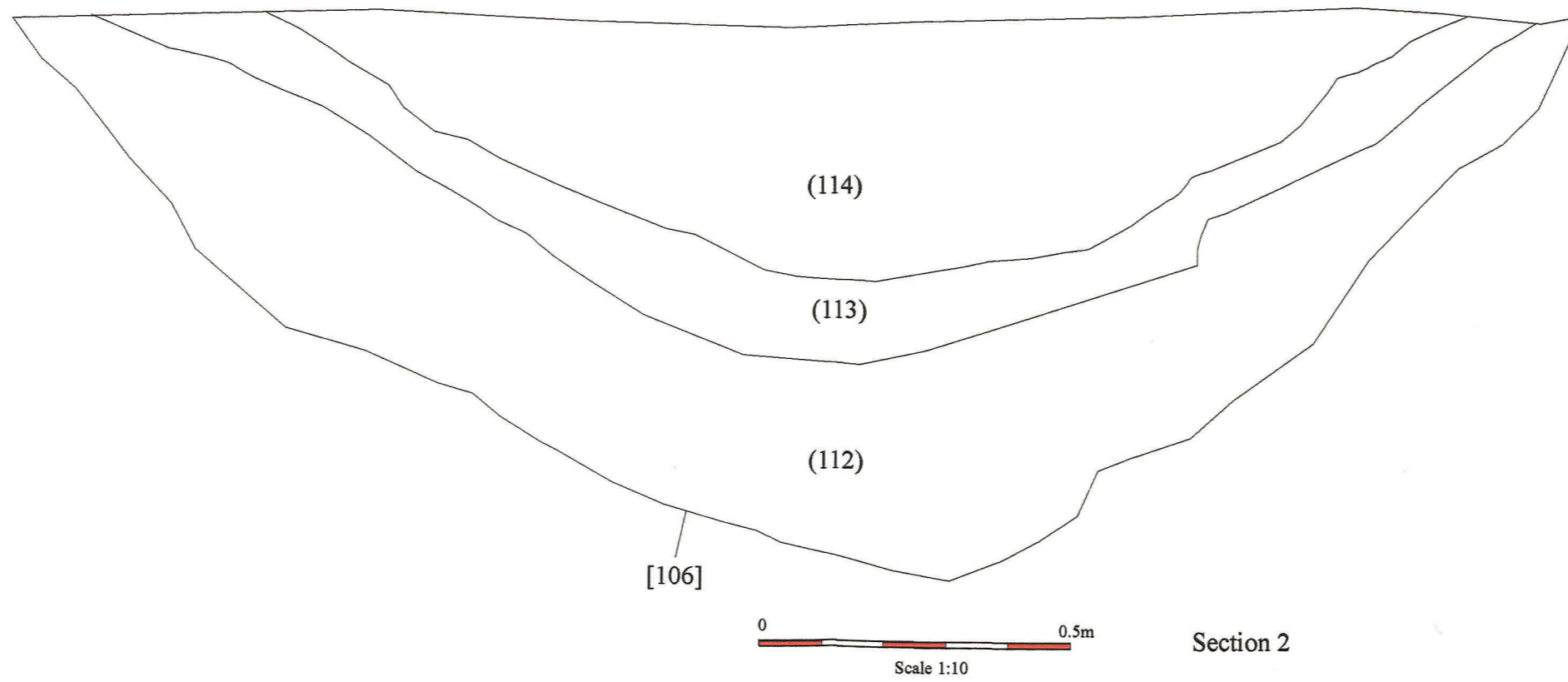
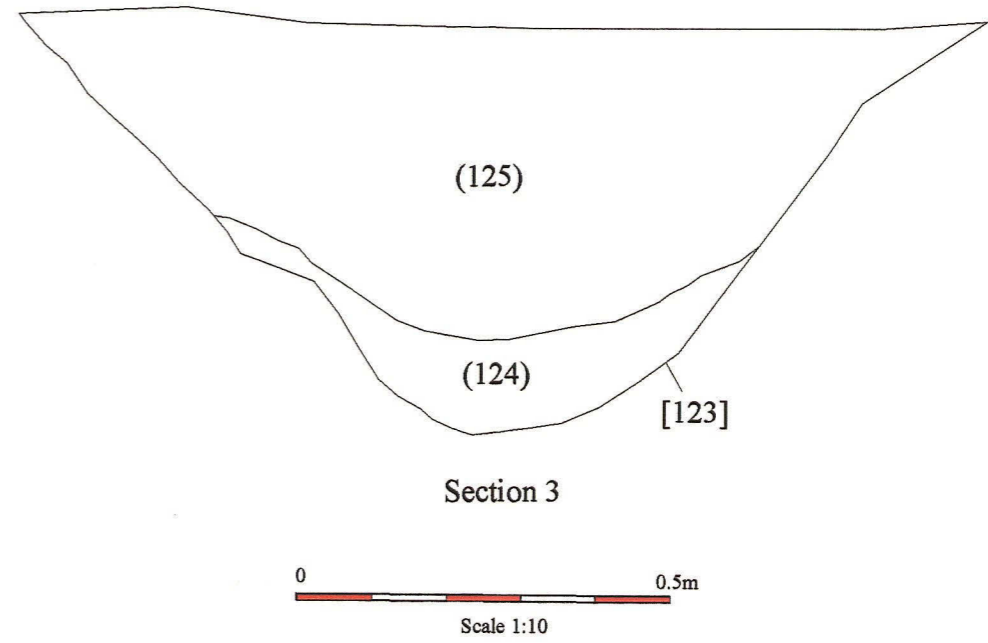
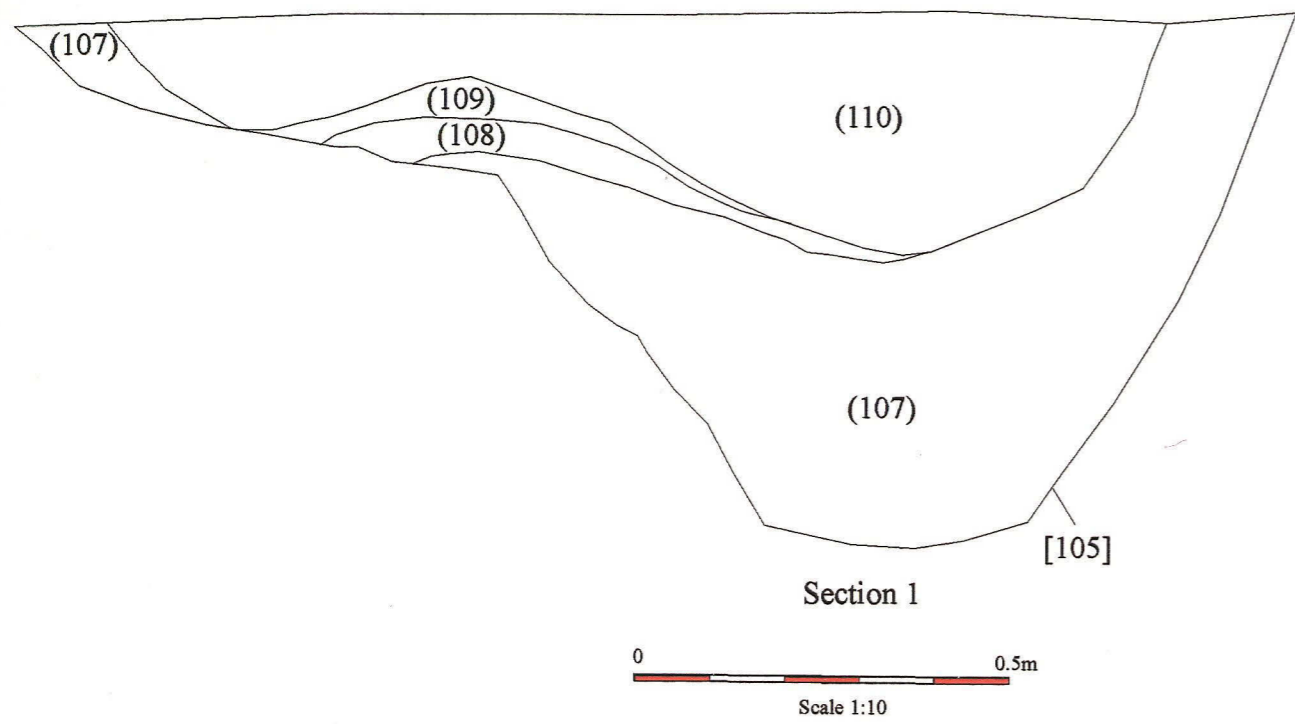
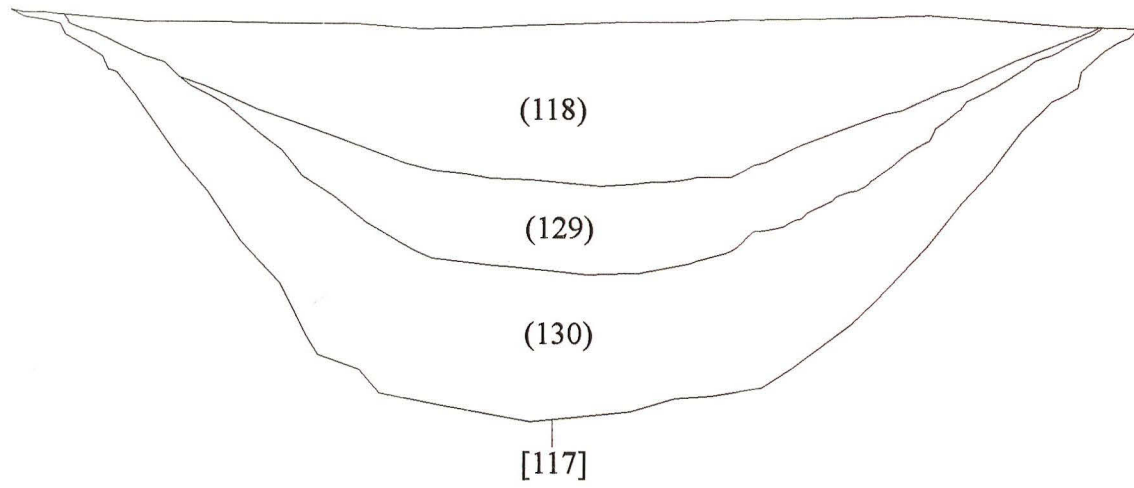
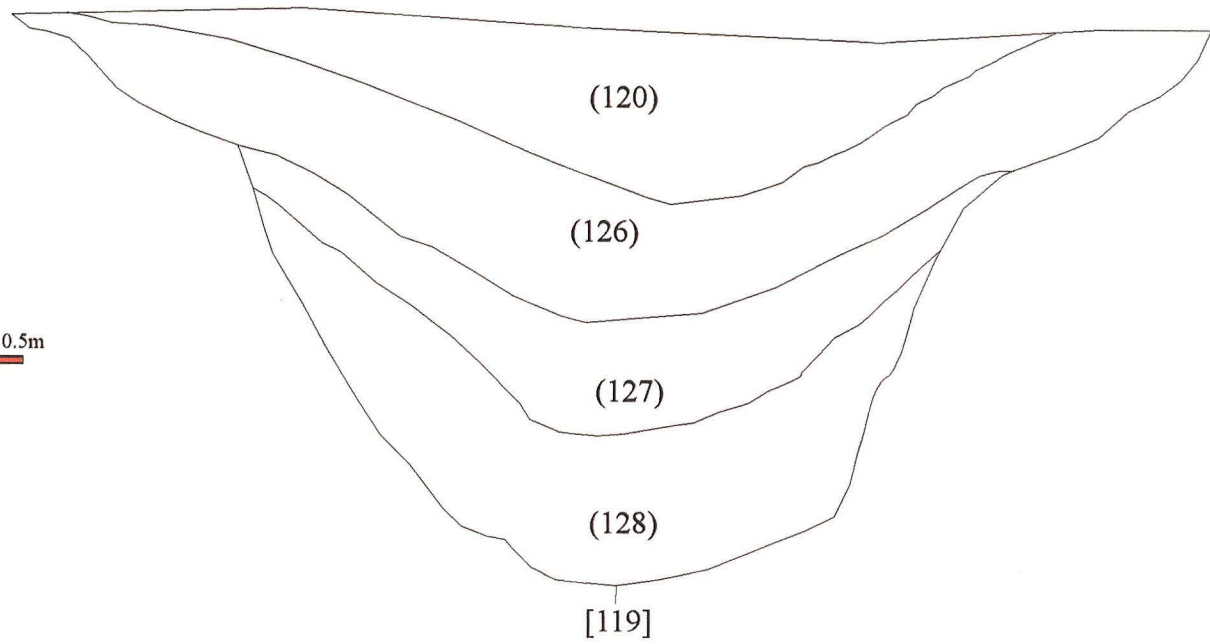
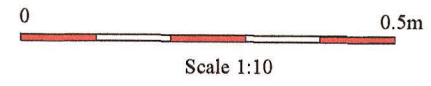
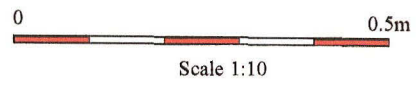


Fig 4: Ditch sections 1-3. (Scales 1:10)



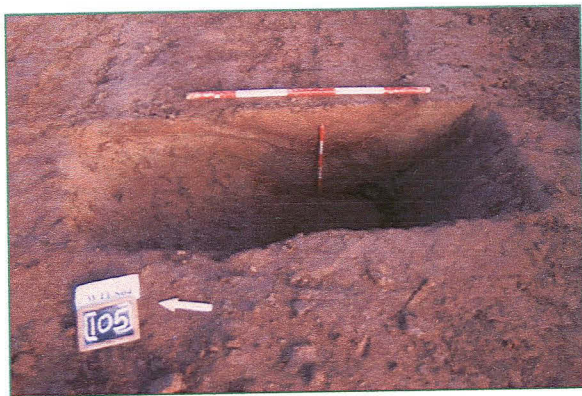
Section 5



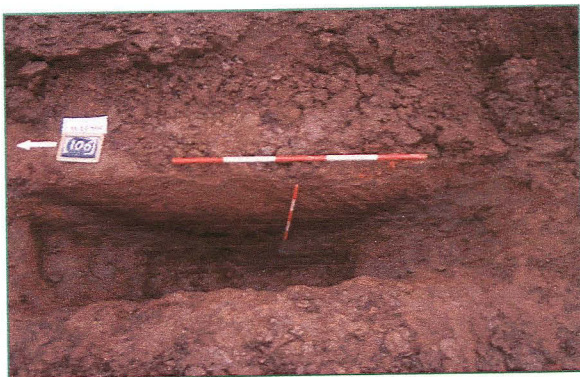
Section 4

Fig 5: Ditch sections 4 and 5. (Scales 1:10)

## Appendix 1: Colour Plates.



**Pl. 1.** Ditch [105] section looking east.



**Pl. 2.** Ditch [106] section looking east.



**Pl.3.** Ditch [111] in plan, looking east.

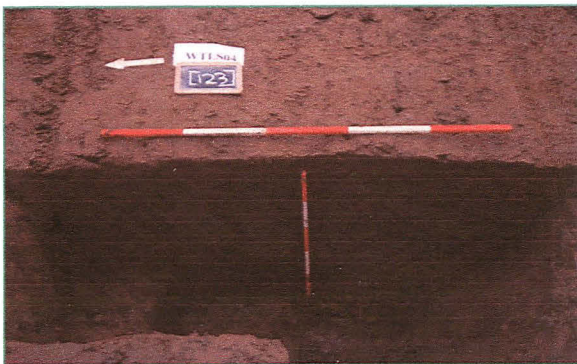


**Pl.4.** Ditch [117] section, looking north.





**Pl. 5.** Ditch [119] section looking south.



**Pl. 6.** Ditch [123] section looking east.



**Pl.7.** 360o Machine stripping the temporary access road, looking east.



**PL.8.** The east west aligned arm of the development area stripped and being covered, looking west.

## Appendix 2. Context summary.

<i>Context</i>	<i>Type</i>	<i>Interpretation.</i>
100	Cut	Possible Palaeochannel
101	Layer	Topsoil
102	Layer	Subsoil
103	Fill	Fill of [100]
104	Fill	Fill of [111]
105	Cut	Field ditch
106	Cut	Field ditch
107	Fill	Fill of [105]
108	Fill	Fill of [105]
109	Fill	Fill of [105]
110	Fill	Fill of [105]
111	Cut	Fill of [106]
112	Fill	Fill of [106]
113	Fill	Fill of [106]
114	Fill	Fill of [106]
115	Cut	Field ditch
116	Fill	Fill of [115]
117	Cut	Field ditch
118	Fill	Fill of [117]
119	Fill	Fill of [119]
121	Cut	Field ditch
122	Fill	Fill of [121]
123	Cut	Field ditch
124	Fill	Fill of [123]
125	Fill	Fill of [123]
126	Fill	Fill of [119]
127	Fill	Fill of [119]
128	Fill	Fill of [119]
129	Fill	Fill of [117]
130	Fill	Fill of [117]

## Appendix 3

### Faunal Remains Report from an Archaeological Watching Brief at Wardentree Lane, Spalding (WTLS04)

Mark Ward

#### INTRODUCTION

Faunal remains were recovered by hand during the course of an archaeological watching brief at Wardentree Lane, Spalding. The bones were from a total of two contexts; context 112 being from the basal fill of an undated ditch, and 129 was the fill of a medieval ditch / former field boundary.

#### METHODOLOGY

##### *Species Identification*

No comparative collection was required for the identification of the bone.

##### *Recording*

The material was recorded by noting the species, element, and preservation. In light of the small assemblage, the mammal bones were recorded following the every identifiable element method.

##### *Ageing*

Insufficient characteristics and material was present to facilitate any ageing criteria, though most ageable elements are likely to be from adult individuals.

##### *Measurements*

Due to the fragmented condition and the paucity of suitable elements, no measurements were taken, as recommended by von den Driesch (1976).

##### *Sexing*

No required elements to enable distinguishing sex were present.

##### *Preservation*

The condition of the bone was considered moderate to poor: abrasion appeared minimal but degradation due to a low pH value of the burial environment is likely.

##### *Fragmentation*

This obviously summarizes both pre- and post-depositional taphonomic processes, such as butchery, gnawing and mechanical destruction within the burial environment respectively.

Fragmentation is often gauged by determining the proportion of material that consisted of isolated maxillary and mandibular teeth. In this case, no teeth were present but the bone itself was relatively fragmented and appeared fragile.

No butchery was noted on any of the bone.

##### *Archive*

Pre-Construct Archaeology is currently housing the studied material.

## RESULTS

Context	Species	Element
112	Cow	Horncore
129	Cow	Tibia
129	?Cow	Cervical vertebrae

**Table 1: Total faunal elements recovered.**

The retrieved identifiable material from both contexts were few, and preservation and fragmentation due to the acidic burial environs, was moderately poor.

Context 112 as well as containing a cow horn core also contained a number of fragmented cranial elements. This suggests the horn core was either attached to a complete or partial skull, and has become disarticulated within the burial environment.

The horn core has a broken tip and has a minimum length of 100mm; this lies between the range of short and medium horned cattle (Armitage & Clutton-Brock, p.331). No sexing information was derived from this element. A suggestion of breed is also difficult to discern as not enough of the horn core was available to classify the age. This could cause confusion between undeveloped horns and those from adults of a similar length. Represented in context 129 was a left cow tibia and a cervical vertebrae possibly from a cow. Nine pieces of unidentified fragments was also noted; these were from a long bone and may have derived from the tibia.

## CONCLUSIONS AND RECOMMENDATIONS

The faunal material is in suffice to suggest animal economy other than the presence of the animals represented. The assemblage is moderately to poorly preserved and similarly fragmented.

The material should be retained as part of the overall archive in the event that more archaeological investigation occurs.

## REFERENCES

Armitage, P. & Clutton-Brock, J. (1976) A System for Classification and Description of the Horn Cores of Cattle from Archaeological Sites. *JAS* 3: 329 - 348.

Von den Driesch, A. (1976) A guide to the measurements of animal bones from archaeological sites. *Peabody Museum Bulletin* 1, Cambridge Mass., Harvard University.

## Appendix 4

### Pottery Archive

context	cname	full name	sub	form	type	sherds	weight	part	description	date
107	BOUA	Bourne-type Fabrics A, B and C	A	jar/bowl		1	6	BS	? ID as very abraded	13th to 14th
118	NOTGL	Nottingham glazed ware		Light bodied	small jug	1	37	base	abraded;stacking scar from separator sherd	13 <sup>th</sup>
126	BOUA	Bourne-type Fabrics A, B and C	A	small jar		1	4	base	? ID as very abraded;fe adhesion	13th to 14th

### Brick archive

context	cname	full name	fabric	frags	weight	description	date
107	BRK	Brick	soft red fabric almost inclusionless	1	165	edge;one surface has soot blackening	15th to 16th