Northamptonshire County Council

Northamptonshire Archaeology

An Iron Age Pit Alignment
Near Upton, Northampton

Cross Valley Link Road (CVLR)
Watching Brief and Strip, Map and Sample

April to July 2007

Simon Carlyle

April 2008

Report 08/62

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QUALITY CONTROL

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(Front page illustration: Iron Age pit alignment, facing north-east)

OASIS REPORT FORM

PROJECT DETAILS		
Project title	An Iron Age Pit Alignment Near Upton, Northampton; Cross Valley Link Road (CVLR)	
Short description (250 words maximum)	An archaeological excavation was carried out by Northamptonshire Archaeology during the construction of the Cross Valley Link Road (CVLR) on the western outskirts of Northampton. The investigation confirmed the presence of an Iron Age pit alignment, which had been identified by earlier archaeological evaluation. A Roman or early medieval ditch and medieval furrows were also identified. In addition, between April and July 2007, an archaeological watching brief was maintained during construction work on the new road and river crossing. There were no significant archaeological remains within the road corridor, although a sharpened wooden stake/peg, radiocarbon dated to the middle Saxon period, was recovered from the base of a possible palaeochannel.	
Project type	Watching brief and strip, map and sample excavation	
Previous work	Desk-based assessment, Northamptonshire Archaeology 2005 Trial trench evaluation, Northamptonshire Archaeology 2006 Geophysical survey, Northamptonshire Archaeology 2006	
Future work (yes, no, unknown)	None	
Monument type and period	N/A	
Significant finds (artefact type and period)	Wooden stake, middle Saxon	
PROJECT LOCATION		
County	Northamptonshire	
Site address (including postcode)	Upton, Northampton	
National Grid Reference	4708 2602 to 4710 2587	
Height OD	72m to 60m OD	
Area (SMS only)	0.16ha	
Land use	Arable and pasture	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	Northamptonshire County Council	
Project Design originator	Birse Civils Ltd	
Director/Supervisor	Simon Carlyle, Northamptonshire Archaeology	
Project Manager	Anthony Maull, Northamptonshire Archaeology	
Sponsor or funding body	Halcrow Group Ltd	
PROJECT DATE		
Start date		
End date		
ARCHIVES	**Location**	**Content (eg pottery, animal bone etc)**
Physical		
Digital		
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title	An Iron Age Pit Alignment Near Upton, Northampton; Cross Valley Link Road (CVLR)	
Serial title and volume	08/62	
Author(s)	Simon Carlyle	
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Cross Valley Link Road (CVLR) Watching Brief and Strip, Map and Sample

Abstract

In April 2007, an archaeological strip, map and sample excavation was carried out by Northamptonshire Archaeology during the construction of the Cross Valley Link Road (CVLR) at Upton, on the western outskirts of Northampton. The investigation confirmed the presence of an Iron Age pit alignment, which had been identified by earlier archaeological evaluation. A gully, possibly part of a Roman or early medieval field system, and medieval furrows were also identified. In addition, between April and July 2007, an archaeological watching brief was maintained during construction work on the new road and river crossing over the River Nene. No significant archaeological remains were identified within the road corridor, although a sharpened wooden stake/peg, radiocarbon dated to the middle Saxon period, was recovered from the base of a possible palaeochannel.

1 INTRODUCTION

Between April and July 2007, an archaeological watching brief was maintained by Northamptonshire Archaeology during the initial stages of construction of the Cross Valley Link Road (CVLR), which on completion will link the A45 Weedon Road at Upton with a stretch of link road to the south of the River Nene (NGR SP 708 602 to SP 710 587; Fig 1). In addition, a strip, map and sample excavation was carried out at the northern end of the CVLR to investigate a pit alignment and other features, which had been identified by earlier archaeological evaluation (Butler 2006; Foard-Colby 2006b).

The work was undertaken in order to meet the archaeological conditions attached to the planning consent for the CVLR (planning application no. WNDC/NO/07/1134) and was requested by Northamptonshire County Council's Archaeological Advisor. The purpose of the work was to mitigate against the impact of the road scheme on buried archaeological remains within the area of the road corridor and in areas of infrastructure associated with the construction (i.e. the haul road and compound). Northamptonshire Archaeology was commissioned by Birse Civils Ltd, acting on behalf of their clients, English Partnerships and Northamptonshire County Council. The construction project was designed by Halcrow Group Ltd.

The work was carried out in accordance with the specification of works prepared by Halcrow (2007) and the method statement issued by NA (2007). The specification of works complied with Appendix 2 of *Management of Archaeological Projects* (EH 1991). This report details the results of the strip, map and sample excavation and watching brief.

2 BACKGROUND

2.1 Topography and geology

The route of the Cross Valley Link Road extends across the valley of the River Nene from the A45 Weedon Road, *c* 1 km west of Upton, to a point on the south bank of the river (Fig 1). The route crosses several fields, formerly used for pasture and arable agriculture. The northern end of the route, at the A45 Weedon Road, lies at approximately 75m aOD, and descends to *c* 60m aOD on the floodplain.

To the north of the River Nene the underlying geology comprises Upper Lias mudstones on the upper slope and Middle Lias Silts and Clays on the lower slope, with a narrow bed of Marlstone Rock in between (BGS 1980). On the floodplain there are deposits of alluvium. On the south bank the underlying geology consists of glacial sand and gravel. The overlying soils belong to the Fladbury 2 soil association (SSEW 1983).

2.2 Archaeological and historical background

Previous archaeological desk-based assessment and evaluation of the route of the road corridor and areas of associated infrastructure have identified archaeological sites within the vicinity and in areas impacted by the road scheme (Fig 2). In 2005 a desk-based assessment was prepared by Northamptonshire Archaeology (Brown 2005), which identified a number of sites in the vicinity, dating to the prehistoric, Roman and medieval periods. They included:

- Possible prehistoric ditches, investigated between 1991 and 1992 by Northamptonshire Archaeology (NSMR 1475/0/1-2; Jackson 1993, 74-75)
- Pits and ditches of Iron Age date, excavated during the widening of the A45 in 1965 (NSMR 5134; Jackson 1969)
- A Saxon *Grubenhaus,* excavated during widening of the A45 in 1965 (SMR 5773/0/3; Jackson 1969, 213)
- Extensive open area excavation of a pit alignment, late Iron Age settlement and Roman settlement (Maull 2000).
- Possible Saxon or early medieval linear features, identified from aerial photographs (SMR 5177/0/9)

Prior to the commencement of the field evaluation there were no known sites within the road corridor; the only entry in the Sites and Monuments Record (SMR) related to the finding of a number of medieval pottery sherds (NSMR 5137/0/1).

Archaeological fieldwork commenced in 2005, with a geophysical survey of the area of the road corridor to the south of the River Nene (GSB 2005). This detected a number of linear anomalies which were investigated the following year by Northamptonshire Archaeology, through a programme of trial trenching, which determined that they were of no archaeological significance (Foard-Colby 2006b).

Geophysical survey of the area to the north of the river was undertaken in September 2006 by Northamptonshire Archaeology, which identified a probable prehistoric pit alignment, a number of ditches and remnant furrows of medieval ridge and furrow cultivation (Butler 2006). The findings of the geophysical survey were confirmed by subsequent trial trenching (Foard-Colby 2006b). The pit alignment is probably a continuation of the one investigated at Quinton House School, Upton (Foard-Colby 2006a; 2007), where an Iron Age sub-rectangular ditched enclosure, ditches, and numerous other pits were also revealed.

An archaeological assessment and mitigation proposals have been set out in an environmental statement produced by Halcrow (2006).

3 FIELDWORK METHODOLOGY

3.1 Strip, map and sample methodology

Under archaeological supervision, the topsoil and subsoil were removed using a 360^{o} tracked mechanical excavator fitted with a 1.8m wide toothless ditching blade. The topsoil and subsoil were stacked separately, along the edge of the road corridor. Mechanical excavation proceeded to the top of the archaeological horizon or to the natural substrate where no archaeology was encountered. Due to two lines of surveyors marking-out pegs running down the centre of the road corridor, it was not possible to remove the subsoil in the centre of the site.

Archaeological excavation and recording followed the guidelines outlined in the NA *Archaeological Fieldwork Manual* (2003). Archaeological remains were cleaned by hand, sufficient to define the features. Each feature or deposit was given a unique context number and the details of each context were recorded on *pro-forma* sheets. The site was planned and levels taken using GPS surveying equipment. The site plan was related to the Ordnance Survey National Grid and the levels were reduced to Ordnance Datum. Section drawings were made at an appropriate scale (1:10 or 1:20). A photographic record was made of the excavation, using both 35mm colour transparency and black and white negative film, supplemented with digital images. The spoil heaps and features were scanned with a metal detector to ensure maximum finds retrieval. Environmental samples were taken from suitable dated deposits.

All works were carried out accordance with the Institute of Field Archaeologists' (IFA) *Code of Conduct* (1995, revised 2006) and the *Standard and Guidance for Archaeological Excavation* (IFA 1995, revised 2001). All procedures complied with Northamptonshire County Council Health and Safety provisions and Northamptonshire Archaeology Health and Safety at Work Guidelines.

Arrangements will be made for the deposition of the site archive and finds. The guidelines of the Society of Museum Archaeologists (SMA 1993) will be followed in the preparation of the archive.

3.2 Watching brief methodology

The methodology for the watching brief generally followed that for the strip, map and sample, with the exception of the machining, which was carried out to the depths

required by the principal contractors. The work complied with the *Standard and Guidance for Archaeological Watching Briefs* (IFA 1994, revised 2001).

4 EXCAVATION AND WATCHING BRIEF RESULTS

4.1 Introduction

The strip, map and sample excavation and watching brief were undertaken during phases of groundwork associated with the laying out of site infrastructure and the construction of the road and the bridge over the diverted course of the River Nene (Fig 3). The results of the strip, map and sample excavation at the northern end of the road corridor are presented in section 4.2. The results of the watching brief are presented in sections 4.3 and 4.4 below.

4.2 The road corridor

Introduction

A strip map and sample excavation, which covered an area of approximately 1600m^2, was carried out at the northern end of the road corridor, in the area of the pit alignment identified during earlier evaluation. The remainder of the road corridor was subject to a watching brief, but groundworks only entailed the removal of the topsoil/ploughsoil so no archaeological remains, had they been present, were exposed.

General stratigraphy

The natural substrate (3) was mid brownish orange sandy clay, containing manganese flecks and frequent fine to coarse, angular pebbles, with irregular bands of greyish blue silty clay throughout. The subsoil (2) was up to *c* 0.3m thick and comprised mid brown, occasionally sandy, slightly clayey silt with brashy inclusions. The ploughsoil (1), which was of a similar thickness, was mid greyish brown organic slightly sandy silt with occasional to moderate pebbles.

The pit alignment

A line of five shallow pits, aligned east to west, was exposed at the southern end of the excavation area (Fig 4; Plate 1 and cover). They were contiguous with the pits identified in Trenches 9 and 11 of the evaluation (Foard-Colby 2006b, 6-7) and on the basis of the pottery recovered from one of the pits they probably date to the Iron Age. Several of the pits had been damaged by ploughing. The pits are described below in order, from east to west.

Pit [11]

This large, sub-angular pit measured 2.2m from east to west, 1.7m from north to south and it had a depth of 0.39m (Fig 5, Section 1; Plate 2). The concave sides sloped steeply down to a gently concave base. The primary fill (9), which was up to 0.07m thick, was mid bluish grey silty clay with frequent orangey brown mottles and occasional pebbles. The upper fill (8) was mid brown silty clay with moderate orangey brown mottles and occasional charcoal flecks. It was up to 0.32m thick and contained several sherds of Iron Age pottery.

Pit [20]

Pit [20] was roughly circular, with a diameter of approximately 1.8m, but had a flattened southern edge (Fig 5, Section 2). It was 0.24m deep and had short, steep concave sides and a roughly flat base. The northern edge of the pit had been cut away by a geo-technical test pit. It was filled with mid brown silty clay with moderate orangey brown mottles (19) and contained occasional pebbles and very occasional charcoal flecks.

Pit [16]

Its eastern edge truncated by a furrow, this roughly circular pit had a diameter of 1.5m and a depth of 0.21m (Fig 5, Section 3). The south-west side was slightly flattened. The fill was mid brown silty clay with moderate orangey brown mottles (15) containing occasional pebbles.

Pit [22]

Heavily scarred by modern ploughing, pit [22] had a diameter of approximately 1.8m and a depth of 0.15m (Fig 5, Section 4). It was filled with mid brown silty clay with moderate orangey brown mottles (21) and contained occasional pebbles.

Pit [5]

This pit, the smallest of the five excavated, was oval in plan, and measured 0.89m long, 0.62m wide and 0.22m deep (Fig 5, Section 5; Plate 3). It was filled with mid brownish grey clayey silt (4) with moderate orangey-brown mottles, occasional charcoal flecks and very occasional pebbles.

The ditch

Extending across the road corridor on an east-north-east to west-south-west alignment was a small, linear ditch, [7]. It had a V-shaped profile, with steep sides and a narrow concave base, and measured approximately 0.5m wide and 0.32m deep (Fig 5, Section 6; Plate 4). The fill comprised mid brownish grey clayey silt (6) with moderate pebbles and occasional charcoal flecks and orangey brown mottles. No artefactual dating evidence was recovered from the fill of the ditch, although it was cut by medieval furrows. Association with a regular pattern of other small ditches identified by the earlier evaluation (Butler 2006; Foard-Colby 2006b) suggests that it probably forms part of a Roman or early medieval field system.

Ridge and furrow

In the north-western half of the field plough furrows were aligned across the field from north-east to south-west, roughly parallel to existing field boundaries. The furrows are medieval in origin, but the open field system of ridge and furrow, prevalent in much of the Midland region, could have been maintained into the post-medieval period (Rackham 1986, 167-180). However, Acts of Enclosure in the 18th and 19th centuries, social change and the advent of mechanised ploughing brought about the general demise of ridge and furrow and the open field system as an agricultural practice and with it the attendant widespread destruction of the associated earthworks by way of land improvement for mechanised farming.

4.3 The bridge and river diversion

As part of the construction programme, a straight channel was cut across the neck of a meander in the course of the River Nene, where it was to pass beneath the new bridge. The channel was excavated through the alluvium to the top of the gravel deposits (Plate 5). The cut-off was subsequently backfilled.

The river gravel (34) was exposed at a depth of *c* 2.8m below ground level (Fig 6). As the base of the new channel was flooded by groundwater seeping through the gravel, it was not possible not identify bedding structures (e.g. channel bars, riffles etc.) in the gravel deposits. The main units of the overlying alluvial sequence were reasonably uniform across the full width of the cut; they were intercalated with thin lenses of organic silt and silty sand (Plate 6).

At the base of the main sequence was mid to dark grey slightly sandy clayey silt (33) with thin seams of black sandy silt. This deposit varied in thickness between 0.1m and 0.4m, the variations in thickness probably being the result of erosion of its upper surface. This deposit probably accumulated at the base of an active river channel. A sharpened wooden stake (hazel) recovered from the base of this deposit was radiocarbon dated to the early/middle Saxon period (Cal AD 650-780, 95% confidence, 1300 $\pm$40BP, Beta 238064), suggesting that the channel was active at this time (Plates 7 and 8). The overlying deposit (32), which was black organic slightly sandy silt up to 0.3m thick, contained leaf fragments and organic fibres from decayed plants. A soil sample was taken from this deposit, but the plant remains were too degraded for collection and identification. The presence of plant remains is indicative of a stagnant or near-still flow, suggesting that the river channel had probably been cut-off to form an oxbow lake.

Sealing the organic layer was a sterile, stone-free deposit of mid to dark grey slightly silty clay (31), approximately 0.4m thick, its upper boundary marked with black smears of organic clayey silt (30). Overlying this deposit was another sterile, stone-free layer, approximately 0.6m thick, comprising light to mid bluish grey silty clay (29) with frequent orangey brown mottles. The alluvial deposit at the top of the main sequence was light to mid yellowish brown silty clay (28) with very occasional orangey brown mottles. The subsoil (27) was mid brown clayey silt, approximately 0.4m thick, and the topsoil (26), which was *c* 0.25m thick, comprised mid to dark greyish brown organic slightly sandy clayey silt .

4.4 The compound, and access and haul roads

Infrastructure associated with the construction of the CVLR comprised a compound adjacent to the A45 Weedon Road, an access road to the compound, and a haul road running parallel and to the east of the road corridor (Fig 3). These areas were subject to a watching brief during construction.

The method of their construction required the removal of the topsoil (23) to a depth of no more than 0.30m and the laying of geo-textile over the stripped areas. The levels were then made-up with crushed building rubble and capped with stone chippings to provide a firm surface for vehicles. Due to the shallow depth of machining, the natural substrate and potential archaeological horizons were not exposed. All that was visible at the reduced level was the top of the subsoil (24) scarred with modern plough marks. The stripped surfaces were scanned for finds but nothing was found other than

fragments of modern brick and tile, and sherds of modern pottery and fragments of glass.

5 THE FINDS

5.1 **The worked flint** by Andy Chapman

Two flints were recovered from the strip, map and sample area. Both are grey and vitreous, and one of the flakes retains a small area of pale brown cortex. One of the flints, a small retouched flake, 16mm in diameter, is a small discoidal scraper (thumb-nail form), characteristic of early Bronze Age assemblages. The removal of a flake at one end has created a notch, either as a result of accidental damage or to create a hollow form. It was recovered from the subsoil. The other, a small flake with edge damage on one side, came from the upper fill, 8, of pit [11] in the pit alignment.

5.2 **The prehistoric pottery** by Andy Chapman

In the trial trench evaluation in 2006, a total of 6 sherds (18g) was recovered from two pits in the pit alignment (Chapman 2006). As small plain body sherds these offered little in the way of diagnostic features, but it was concluded that they "would not be out of place within the broad late Bronze Age/early Iron Age to middle Iron Age date range".

The further work on this pit alignment has produced an additional 40 sherds, weighing 185g. There is a single, small sherd from the fill, 19, of pit [20]. The greater part of the assemblage has come from the upper fill, 8, of pit [11]. It comprises numerous sherds and fragments, largely from the flat base and body of a single vessel. The fabric contains voids, probably from leached shell inclusions, and the core and interior are dark grey and the outer surface is brown.

This pottery offers no diagnostic features and, as with the material from the trial trench, it can only be assigned to a broad Iron Age date.

In addition, there is a small irregular fragment of fired clay from the fill, 4, of pit [5].

5.3 **The wooden stake** by Ian Meadows

A pointed stake tip or peg cut from a length of hazel (*Corylus avellana*) pole, about 35mm in diameter, was recovered during the excavation of the new river channel from the base of the alluvial deposits overlying the river gravel (Plates 7 and 8). The stake measured a total of 160mm long and preserved part of the bark on one side. The wood did not preserve the complete round, having been split diagonally from one side to form a wedge; this was further trimmed diagonally on one edge to create point. A sample of wood taken from the stake/peg has been radiocarbon dated to the middle Saxon period (Cal AD 650-780, 95% confidence, 1300 $\pm$40BP, Beta 238064).

Whilst rough tool marks were visible these surfaces had become eroded either through driving the stake or through surface attrition in the ground. The trimming/splitting of the stake was presumably the product of a blade such as a hook. The top end had been roughly trimmed with two cuts and a third facet indicated where the wood was broken

rather than cut; this presumably occurred once the stake/peg had been driven home, either to stop it protruding or to trim it to a required length.

The function of a piece such as this is uncertain although it could have been used to anchor something in position on or in the ground.

6 ENVIRONMENTAL REMAINS

6.1 **Ecofacts** by Karen Deighton

Introduction

Fifteen samples were hand-collected from the excavation. Samples were taken from each of the five Iron Age pits, and a complete sequence was taken from the alluvial deposits overlying the gravel deposits of the River Nene, at the point where the new channel was cut. Assessment was undertaken to establish the nature, preservation and presence of ecofacts and their potential contribution to the understanding of the function, economy and past environment of the site. Local, regional and national significance of the assemblage was also considered.

Methodology

Seven "dry" samples were processed using a siraf tank fitted with a 500-micron mesh and flot sieve. The resulting flots were dried and analysed using a microscope (10x magnification). Five waterlogged samples were washed though a range of stack sieves and the retents analysed with a microscope. Preliminary identifications were made with the aid of the author's reference collection, websites at ohio.edu and SCRI, and a seed atlas (Schoch *et al* 1988). Snail identifications were made with the aid of Gloer and Meier-Brook (2003). Beetle (Coleoptera) remains were noted but were not identified to species. Charcoal fragments were noted and quantified. Residues were dried, sieved and sorted for ecofacts and artefacts.

Results

Table 1: Ecofacts by context

Cut/fill	Feature type	Volume (l)	Snails (Mollusca)	Seeds /grains	Charcoal	Beetles (Coleoptera)
16/15	Pit	20		1		
20/19	Pit	40		4		
5/4	Pit	20		1		
11/8	Pit	40			1	
26	Alluvium	10			2	
27	Alluvium	10	Sterile			
28	Alluvium	10	Sterile			
29	Alluvium	10			1	
30	Alluvium	20	4	16		3
31	Alluvium	20	7	68		
32	Alluvium	10	86			
33	Alluvium	10		1	1	1

*Waterlogged
Key for charcoal 1=1-10 fragments, 2=10-20 fragments

For plant remains the process of preservation was both by charring and waterlogging. Preservation for all classes of ecofact recovered was reasonable with low levels of fragmentation and abrasion. A summary of the ecofacts by context is given in Table 1 above.

Discussion

Due to the small number of representatives present for each taxa of both plants and mollusca, any attempt to discuss or reconstruct the past environment of the area is extremely limited.

Mollusca are not seen in the top of the alluvial sequence (contexts 26-29) or in the basal layer (context 33). There are too few in layers 30 and 31 for discussion of temporal changes. The taxa present indicate freshwater.

As with mollusca, seeds were absent from the upper contexts of the alluvial sequence and very sparse in the basal layer. Again there is too little data to attempt any consideration of changes though time. Charred seeds, including cereal, were present as "background" in the pits.

The most abundant seeds present indicate open ground with water courses (redshank, bistort and knotgrass). Less well represented taxa such as wild carrot and sheep sorrel also indicate open ground. In fact, the presence of taxa such as redshank and curled dock could indicate arable ground. Sheep sorrel prefers drier conditions, so was possibly growing further away from the water source.

The beetle remains recovered are too few to allow further analysis, although processing was not the appropriate method for best results. Charcoal was too fragmentary for further identification.

6.2 **Wood identification** by Rowena Gale

Introduction

Three pieces of waterlogged wood, one of which had been sharpened to make a stake or peg, were submitted for species identification. They consisted of short sections of rather degraded roundwood. They were prepared using standard methods (Gale and Cutler 2000). Anatomical structures were examined using transmitted light on a Nikon Labophot-2 compound microscope at magnifications up to x400 and matched to prepared reference slides of modern wood. Where possible, the maturity of the wood was assessed (ie heartwood/sapwood) and stem diameters recorded.

Results

The three pieces of wood were recovered from the base of an alluvial deposit (33) directly overlying the gravel deposits of the River Nene at Upton. They have been identified as follows:

Item 1, hazel (*Corylus avellana*), fast grown roundwood, diameter 10mm, 2 growth rings

Item 2, hazel (*Corylus avellana*), fast grown roundwood, diameter 35mm, 6 growth rings, bark and worked surfaces present

Item 3, oak (*Quercus* sp.), roundwood, diameter 25mm, *c* 6 growth rings

7 RADIOCARBON DETERMINATION

A sample of wood was taken from a sharpened hazel stake/peg and sent for radiocarbon determination. The stake/peg was recovered from the base of the alluvial sequence overlying the gravel deposits of the River Nene at Upton. The radiocarbon determination is given in Table 2 below. The given date lies in the middle Saxon period.

Table 2: Radiocarbon determination of the sharpened wooden stake/peg

Lab no. and sample no.	Origin of sample	Sample details	13C/12C ratio	Conventional radiocarbon age BP	Cal AD 68% confidence 95% confidence
Beta-238064 CVLR07/33	Wooden stake/peg	Hazel roundwood	-26.2 0/00	1300 +/-40	660-770 650-780

Radiocarbon dating laboratory: Beta Analytic, University of Florida, Miami, USA
Method of analysis: AMS-standard delivery
Calibration: INTCAL98 (Stuiver, M, *et al* 1998 Radiocarbon 40 (3), 12-13)

8 DISCUSSION

The Iron Age pit alignment

Five pits, forming part of an Iron Age pit alignment, were encountered within the road corridor, at the northern end of the site close to the A45 Weedon Road. Geophysical survey (Butler 2006) has demonstrated that the alignment extends roughly east to west along the northern slope of the valley of the River Nene and probably continues into the grounds of Quinton House School (Foard-Colby 2006a; 2007) and the northern edge of the new housing development at Upton (Maull 2000), a distance of approximately 1.3km. The alignment probably continued further to the east, but has been destroyed by modern roads and development; to the west, with reference to the geophysical survey plot, it appears to terminate to the west of the road corridor.

With the exception of the westernmost pit, there was considerable regularity in the shape, size, depth and spacing of the pits. They were spaced approximately 1-2m apart and were typically shallow and sub-angular in plan, with short, concave sides and flat bases. The variation was largely due to medieval and modern ploughing, which had resulted in significant truncation, and natural erosion of the sides of the pits, resulting in a more rounded form. The regularity of the pits is typical of other pit alignments, a characteristic that has been noted at Gretton, Briar Hill, Aldwincle, Ringstead (Jackson 1974; 1977; and 1978), Pitsford (Hallam *et al* 2003), Harlestone Quarry (Field and Chapman 2006) and Raunds (McAree 2005) in Northamptonshire, and further afield at St Ives in Cambridgeshire (Pollard 1996), Tallington, Lincolnshire (Simpson 1966) and Gayhurst, Buckinghamshire (Chapman 2007). Other pit alignments identified from aerial photographs and excavation both in Northamptonshire and across the country show that regular spacing of the pits is a common feature (Hollowell 1971, Cunliffe 1991, Pollard 1996).

Due to the short length of the alignment revealed in the road corridor and the small number of pits investigated, it is not possible to comment on the method of construction of the monument. At Aldwincle, Briar Hill, Gretton and Pitsford slight displacements in the line of the pits have been noted; at Gretton (Jackson 1974) this occurred at intervals of every five or six pits and was taken to indicate gang work, as has been suggested for Tallington, Lincolnshire (Simpson 1966, Pollard 1996) and Harlestone Quarry, Northamptonshire (Field and Chapman 2006). The small, oval pit identified at the western edge of the CVLR road corridor, which differs markedly from the other four pits of this stretch of the alignment, may indicate a boundary between two pit groups, dug by separate workforces.

The pits generally contained single, homogeneous fills and appear to have silted up due to natural weathering; there was no evidence for deliberate in-filling or recutting. Pottery recovered from the upper part of the fill of one of the pits dated to the late Bronze Age to middle Iron Age (9th to 4th centuries BC); pottery of a similar date was recovered from several of the pits investigated by the earlier evaluation (Foard-Colby 2006b) and excavations at Upton (Maull 2000). Pit alignments generally date to the early/middle Iron Age, and there is evidence that some examples were constructed or maintained until as late as the late Iron Age, such as Tallington, Lincolnshire (Simpson 1966) and Langford Downs, Oxfordshire (Williams1946-7).

The regularity in the form and spacing of the pits that form pit alignments suggests that they were a deliberate monumental statement, not simply quarry pits to extract material to construct a bank or a series of mounds. Indeed, there is no clear evidence to suggest that the monuments had any other component features. However, excavations at the twin pit alignment at St Ives (Pollard 1996) produced evidence of hedgerow tree species and distinctive right-angled wood remains, as found in managed and laid hedgerows, so it is possible that pit alignments may have been associated with pre-existing land divisions, or were reinforced as a landscape boundary with hedgerows or brushwood fences. A bank constructed from soil excavated from the pits would have been negligible in size, which further reinforces the view that it was the pits that were the important component of the monument and not any other associated structure.

Pit alignments, by their very nature, probably functioned as symbolic landscape divisions, not as physical barriers to the movement of people or livestock. The uniformity in the form of pit alignments over a relatively wide geographical area suggests that the possible presence of a hedgerow or fence may have been a secondary consideration, and it was the pits that were the primary concern of the people who invested their time and labour in digging them. The purpose and meaning of the pits remains enigmatic, but they probably demarcate local territorial divisions or land-use boundaries. Indeed, they date to a period when there is evidence in the middle Nene Valley and elsewhere for the gradual expansion of settlement from the lighter, well-drained soils of the terrace gravels onto the heavier, higher ground overlying the boulder clay (Parry 2006), and the attendant social pressures that this engendered.

Other features

The only other feature identified within the road corridor was a small ditch. From the geophysical survey it can be seen to form part of a dispersed pattern of parallel, linear ditches which cross the pit alignment on an east-north-east to west-south-west alignment. The ditches are probably part of a Roman or early medieval field system that pre-dates the later medieval open-field system of ridge and furrow.

The sharpened wooden stake/peg recovered from the diverted river channel, which was radiocarbon dated to the 8th century AD, was an isolated find and was recovered from deposits on the bed of a palaeochannel that was probably active at this time.

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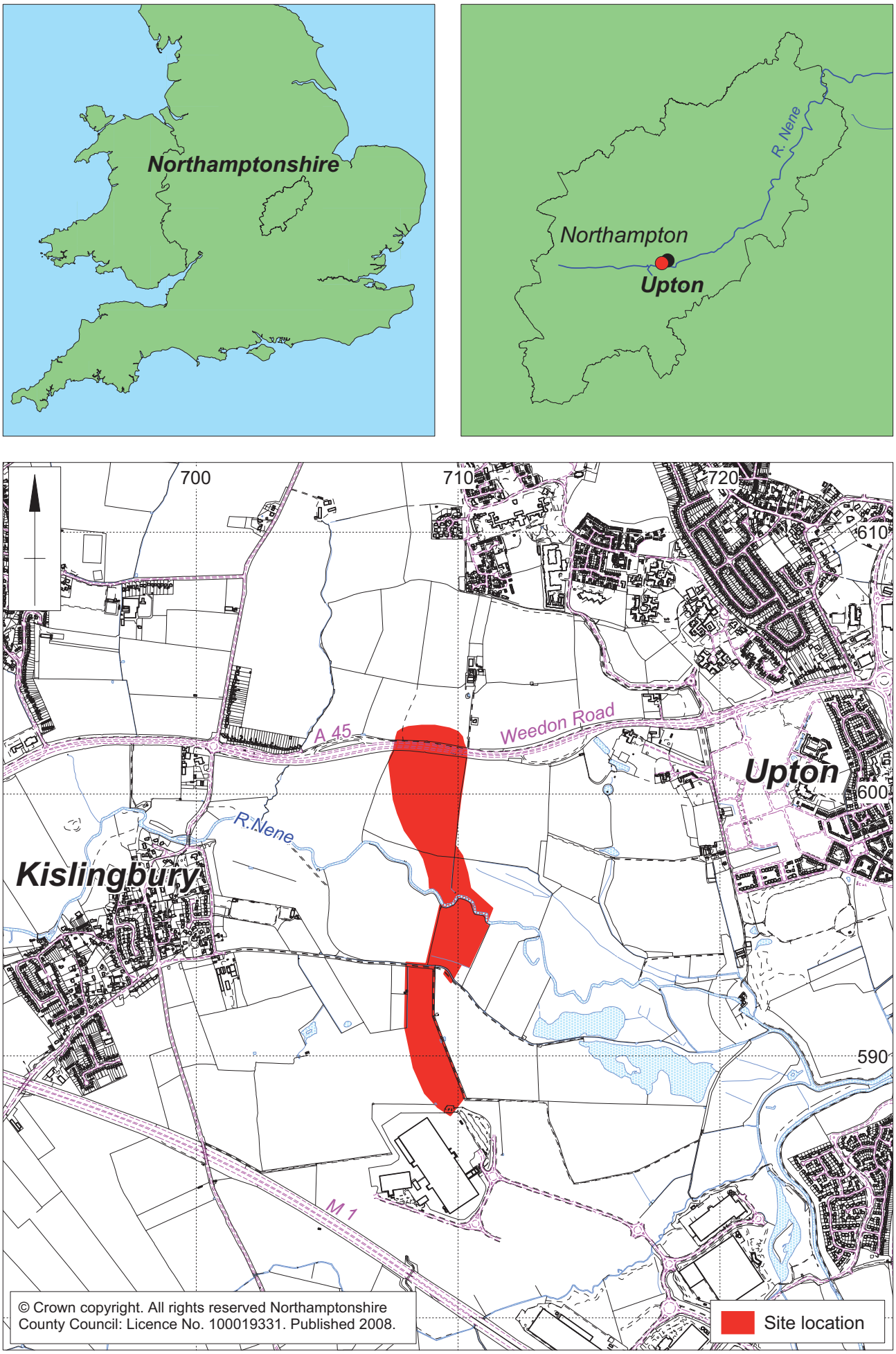
APPENDIX

Summary of features

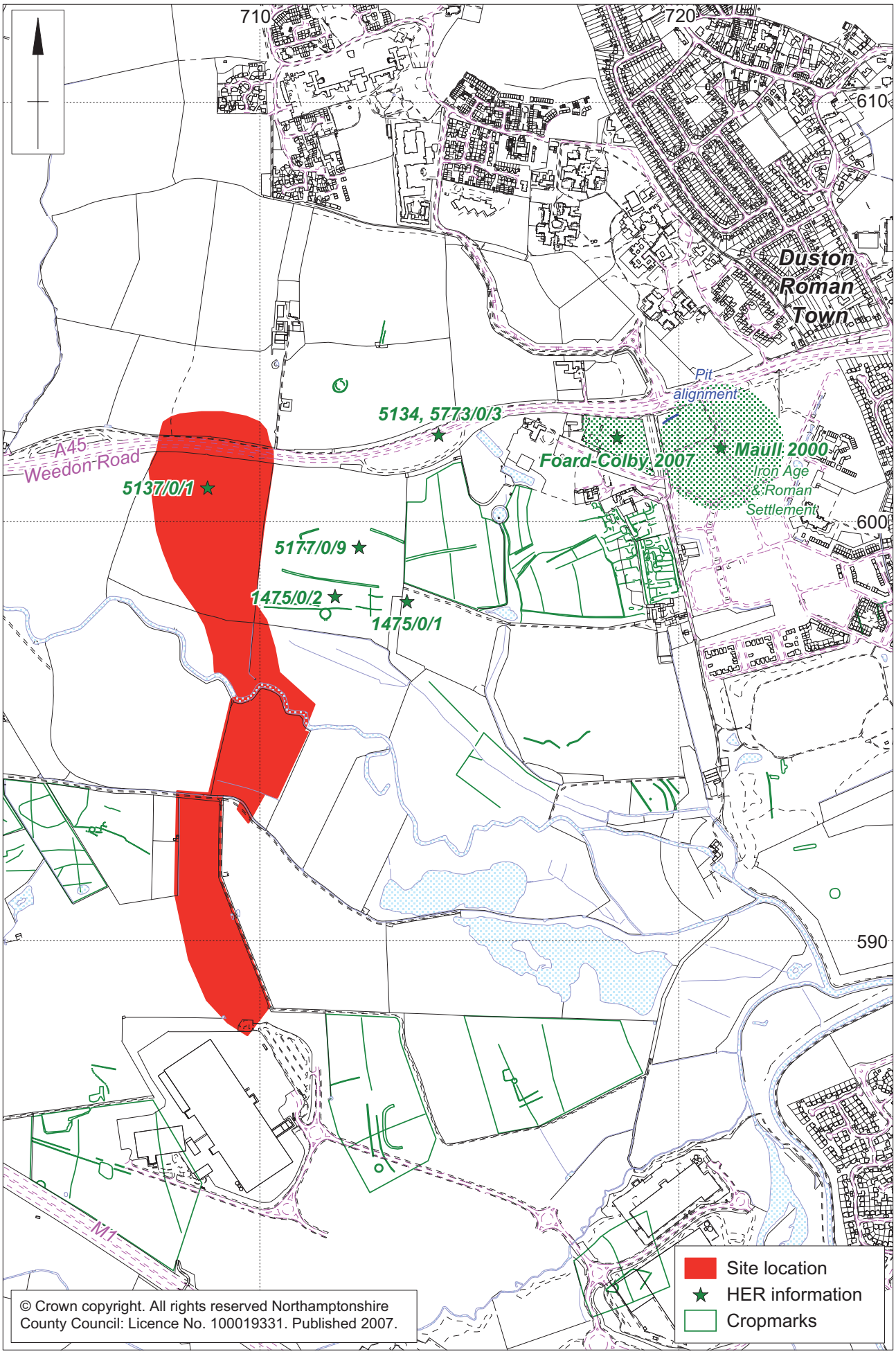
Areas: A, strip, map and sample excavation; B, compound, access and haul roads; C, bridge and river diversion

Area	Context no.	Context type	Comments	Finds	Date
A	1	Topsoil			
	2	Subsoil			
	3	Natural substrate			
	4 [5]	Pit	Iron Age pit, part of pit alignment		Iron Age
	6 [7]	Ditch	Part of field system		Roman/early medieval
	8 9 [11]	Pit	Iron Age pit, part of pit alignment	Pottery	Iron Age
	12 13 [14]	Natural feature			-
	15 [16]	Pit	Iron Age pit, part of pit alignment		Iron Age
	17 [18]	Furrow			Medieval
	19 [20]	Pit	Iron Age pit, part of pit alignment		Iron Age
	21 [22]	Pit	Iron Age pit, part of pit alignment		Iron Age
B	23	Topsoil			
	24	Subsoil			
	25	Natural substrate			
C	26	Topsoil			
	27	Subsoil			
	28	Alluvium			
	29	Alluvium			
	30	Alluvium			
	31	Alluvium			
	32	Alluvium			
	33	Alluvium	Wooden stake/peg found at base of this deposit. Channel probably active in 8th century AD.	Wooden stake	
	34	River gravel			



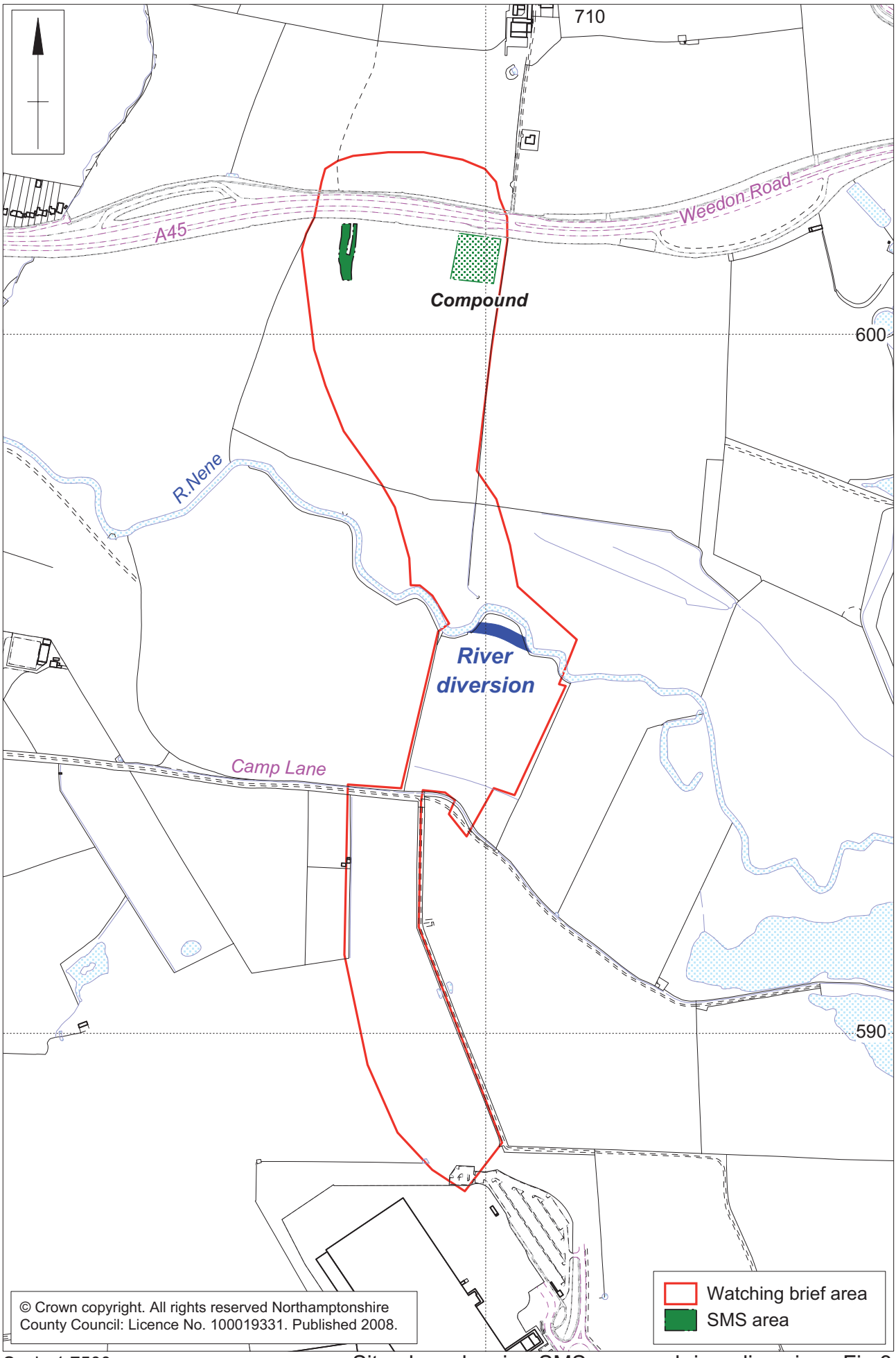
Scale 1:20,000

Site location Fig 1



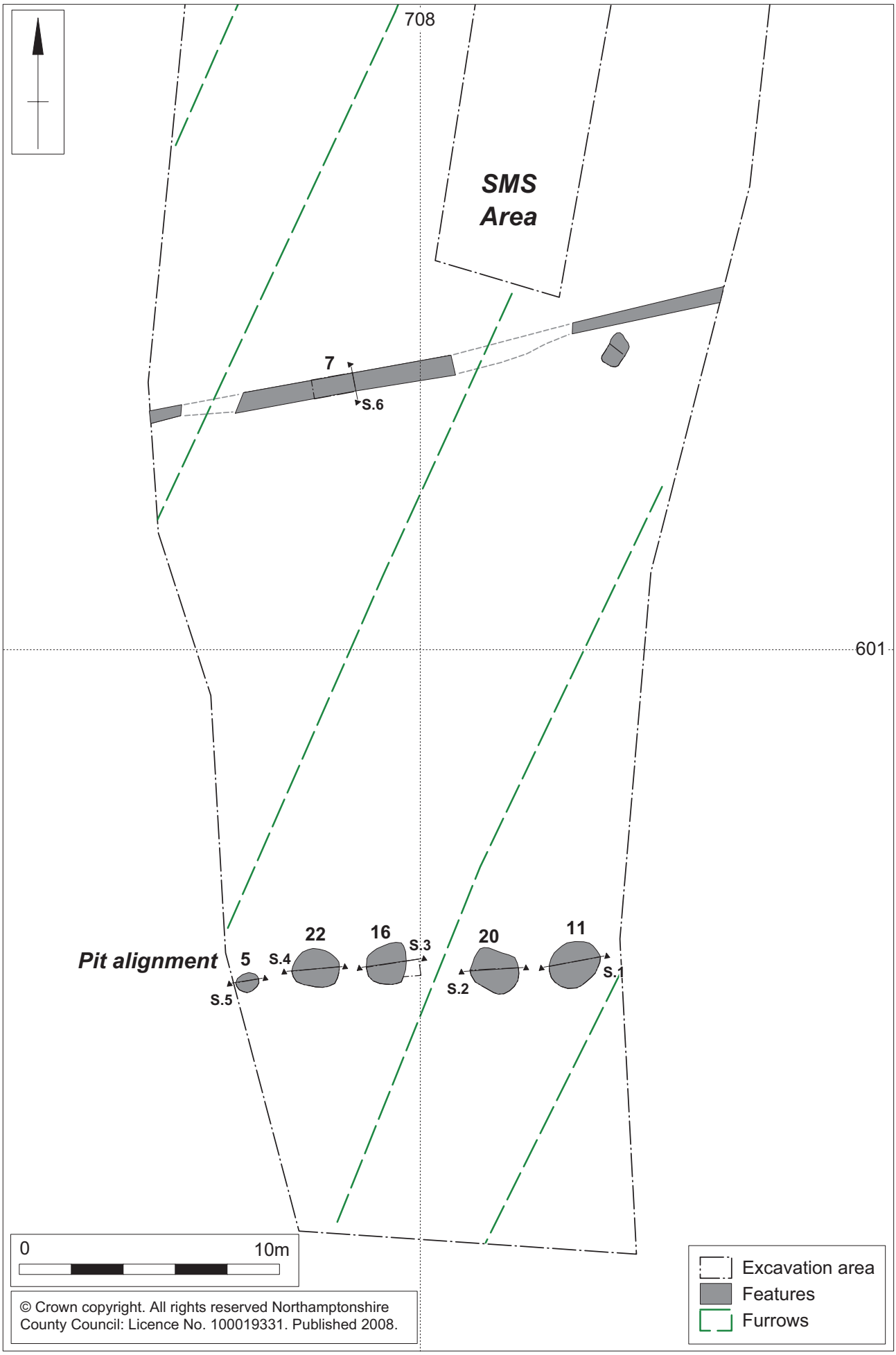
Scale 1:12,500

Historic Environment Record (HER) sites Fig 2



Scale 1:7500

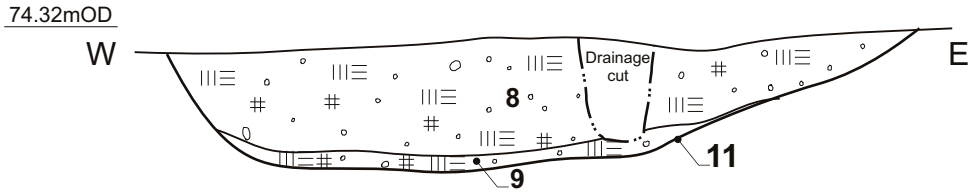
Site plan, showing SMS area and river diversion Fig 3



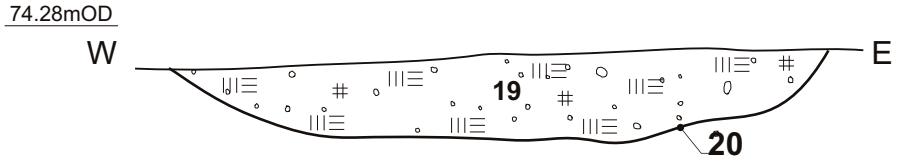
Scale 1:200

SMS area: plan of pit alignment and ditch Fig 4

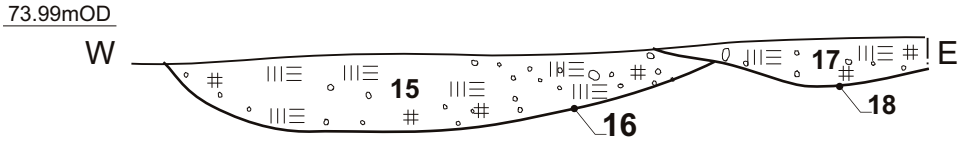
Section 1 - Pit [11]



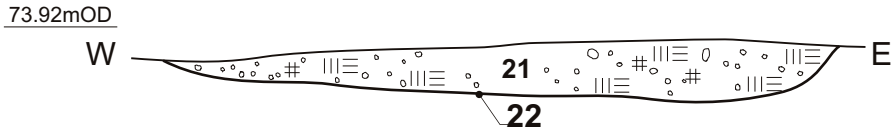
Section 2 - Pit [20]



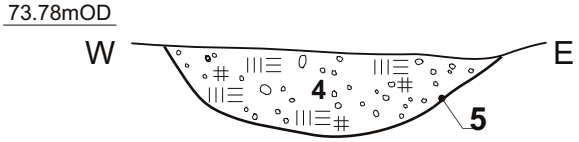
Section 3 - Pit [16]



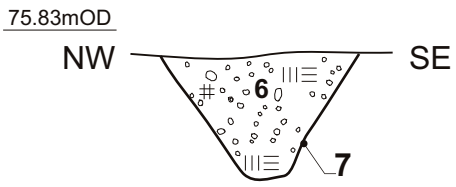
Section 4 - Pit [22]



Section 5 - Pit [5]

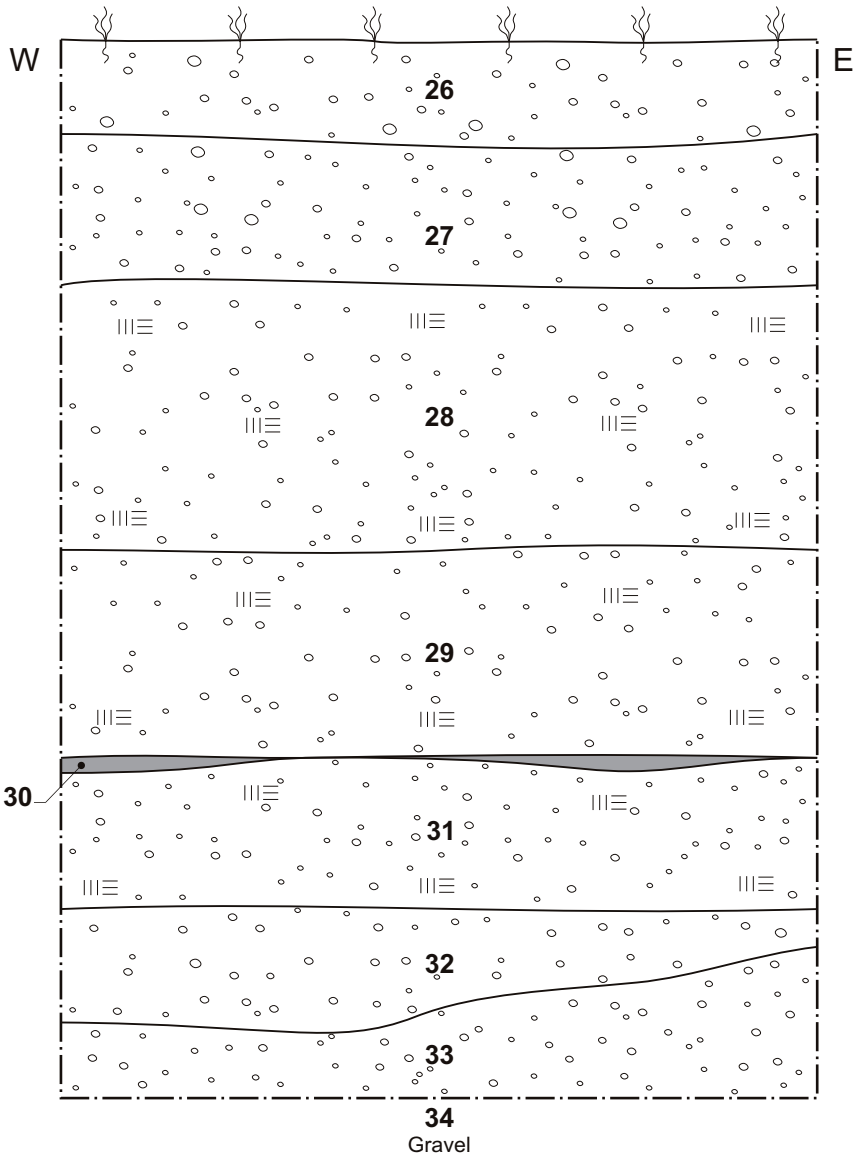


Section 6 - Ditch [7]



Sections of Iron Age pits (pit alignment) and Roman/early medieval ditch Fig 5

Section 7 - Alluvial deposit



Clay

Organic material

0 1m

Schematic section through alluvial deposits in new river channel Fig 6

Plate 1: Iron Age pit alignment, facing west.

Plate 2: Iron Age pit [11], facing north.

Plate 3: Iron Age pit [5], facing north.

Plate 4: Roman/early medieval ditch [7], facing north-east.

Plate 5: Machining of new river channel.

Plate 6: Alluvial sequence overlying river gravel, facing south.

Plate 7: Wooden stake removed from base of alluvial deposits.

Plate 8: Wooden stake, showing tool marks.