

Archaeological Observation of drainage  
works at Waitrose car park extension, Priory  
Road, Alcester, Warwickshire

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Report 0918

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## Contents

- List of Figures
- List of Tables
- Summary
- 1. Introduction
- 2. Location
- 3. Archaeological and historical background
- 4. Observation
- 5. Radiocarbon determinations
- 6. Waterlogged plant remains *by Pamela Grinter*
- 7. Insect remains *by David Smith*
- 8. Conclusions
- Acknowledgements
- Bibliography
- Appendix A: List of Finds
- Appendix B: List of Contexts

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## List of Figures

Cover: Archaeological recording taking place on wall of Roman building

Fig. 1: Site location

Fig. 2: Detail from Sutton's map of 1754

Fig. 3: Detail from 1886 and 1887 First Edition 1:2500 Ordnance Survey maps

Fig. 4: Detail from 1905 Second Edition 1:2500 Ordnance Survey map

Fig. 5: Trenches observed 2009 and features found in 1979

Fig. 6: Trench plan and sections

Fig. 7: Roman surface (3) within the Japanese Knotweed removal trench, looking southwest

Fig. 8: Marsh deposits

Fig. 9: Wall 6 visible in the replacement manhole excavation. The base of cross wall 7 is also just visible as a single large stone on the left of the photograph

Fig. 10: Wall 6, visible both to the left and right of the pipe trench, showing the difficult recording conditions

Fig. 11: Wall 8 after partial backfilling of trench, looking north-east

Fig. 12: Wall 8 in both faces of trench, looking north-west

## List of Tables

Table 1: Radiocarbon calibration plots and dates

Table 2: Plant species

Table 3: Context, sample details and the insect taxa

Table 4: Summary of the nature of the insect faunas

## Summary

Archaeological observation of a new culvert trench, running partly along the line of an existing trench, and three associated manholes recorded a number of archaeological deposits. The side walls of a large Roman stone building, probably a granary discovered during work in 1979, were observed along with the slight remains of a single internal cross wall. The location surveyed during the present work matched extremely well with the 1979 plan, and a small amount can therefore be added to the known plan of the building.

The level of the geological natural gravel was also seen along the entire length of the trench. A single tiny area containing organic material overlay the gravel and may be associated with the postulated prehistoric and early Roman marsh found in previous work, although it was not found in its expected location. A twig and a hazel nut within it gave radiocarbon dates in the Mesolithic period. Several layers of clay seen above this are probably associated with those recorded in 1979 and interpreted as deliberate layers of make-up laid down during the Roman period to make the land dry enough to use. A possible Roman occupation layer containing occasional sherds of pottery and fragments of animal bone was observed on the northwest (exterior) side of the stone building. No apparent trace was found of the extensive burnt deposit of Roman cereal processing waste that was located in 1979, and it is possible that it did not extend this far to the northeast.

A separate small trench was also excavated to remove Japanese Knotweed roots that existed on part of the site. This exposed a pebble and limestone Roman layer, probably an external yard surface, from which sherds of 2nd- to 4th-century pottery and fragments of animal bone were recovered. This area lay within a former garage building which had existed in 1979 and so had not previously been excavated. The Roman layers in this part of the site appeared to survive quite well.

## 1. Introduction

1.1 Planning permission has been granted by Stratford-on-Avon District Council for an extension to the car park at Waitrose supermarket, on part of the adjacent former Brooklyn Garage site (Planning Ref. S09/1868). The construction of the car park surface was to be preceded by the replacement of the existing floodwater culvert that crosses the site roughly north-south by a larger culvert. Because the site lies within an area of high archaeological potential, previous archaeological work on the site having located Roman buildings, human burials and other features, it was a condition of planning permission that the applicant should secure the implementation of a programme of archaeological work to be carried out in conjunction with the development.

1.2 A programme of fieldwork, consisting of archaeological observation of the excavation of the culvert trench for the new extension, in accordance with a Brief prepared by the County Planning Archaeologist on behalf of the Planning Authority, was commissioned from the Warwickshire Museum Field Archaeology Projects Group and carried out in November 2009. This report presents the results of that work. The project archive will be stored at the Warwickshire Museum under the site code AL112.

## 2. Location

2.1 The site is at national grid reference SP 0885 5736 in the parish of Alcester (Fig. 1). At the time of the fieldwork covered by a layer of demolition rubble from the garage

buildings previously on the site.

2.2 The underlying geology of the area is 1st and 2nd river terrace gravels, with an outcrop of Arden Sandstone immediately to the north-west (British Geological Survey 1974).

### 3. Archaeological and historical background

#### Prehistoric

3.1 There is little evidence for pre-Roman activity in Alcester, although a number of undated cropmarks visible in air photographs of the area surrounding the town could represent activity in this period. Artefacts have been recovered either as chance finds or residual material in archaeological work, but no definite settlement is known although earliest evidence for human activity in the area comes from the north side of Cold Comfort Lane, where archaeological evaluations on the north side of Cold Comfort Lane have uncovered evidence for scattered possible late Iron Age occupation to the west of the town (Warwickshire Sites and Historic Monuments Environment Record Nos. MWA 7113, MWA 8783; not on plan).

#### Romano-British

3.2 During the Romano-British period Alcester was a major town, probably known as *Alauna* (HER MWA 4495; Fig 1). The original Roman presence was military, with a fort initially established on the hill south of the river and almost certainly succeeded by another in the Bleachfield Street area. The town seems to have first grown around the latter fort, and then continued to expand as a civilian settlement after the army moved northwards, the occupation lasting through the Roman period until the end of the 4th century at least. The later core of the town lay on either side of Henley Street and Church Street, and was defended by a rampart in the 2nd century and by a wall enclosing a slightly larger area to the south-west in the 4th century. An area of marshland to the north of the town added to its defences. There was also a large suburban area to the south extending to the east and west of Bleachfield Street, over the probable fort site, and to the north of Evesham Street and Seggs Lane (Fig. 1). A number of areas that have remained free from modern development in the town are collectively Scheduled as an Ancient Monument (Warwickshire No 128: Alcester Roman Town).

3.3 The Roman town owed its existence to its location at the junction of important roads on crossings of the River Arrow. These roads were probably laid out by the army in the early years of the Conquest but remained in use throughout the Roman period. Ryknild Street (HER MWA 445) was a major north-south route from Bourton-on-the-Water on the Fosse Way to Templeborough in South Yorkshire. Its line has been investigated in a number of places although uncertainties about it remain, particularly to the south where alterations in the course of the River Arrow have masked the location of the crossing point and the line north of the river across the flood plain (Booth 1982, 138). North of the historic area of the town, the drainage ditches on either side of the road show as cropmarks from the air across the Grammar School playing fields, along with those of a branch road running to the northeast (HER MWA 4712, not on plan).

3.4 A second road (HER MWA 495), later known as the *Salt Way*, ran north westwards to Droitwich, a centre of the salt industry. Evidence for ribbon development along this road has been recorded from the Romano-British period (HER MWA 7113, MWA 8783; not on plan). A third road (HER MWA 446) ran eastwards to Stratford and the Fosse Way.

## Anglo-Saxon

3.5 Alcester may have been the site of a settlement in the late Saxon period being sometimes identified as that '*celebrated place called Alne*' where an ecclesiastical council was held in AD 704, but this is far from certain (VCH 1945, 12). There is some slight evidence of Saxon activity in the Bleachfield Street area, where Anglo-Saxon pottery was recovered from excavations at Lloyds Bank, at the junction of Stratford Road and Bleachfield Street, in 1975 (Booth and Evans 2001, 116-123) and 1997. In 1964 Hughes recovered a 7th-century silver bracelet from his excavation further south on Bleachfield Street.

## Medieval and Post-medieval

3.6 In the medieval period Alcester was a prosperous small town concentrated around the parish church and the present High Street (HER MWA 9585). The Borough of Alcester was probably founded during the reign of Henry I (1100-1135, VCH 1945, 13). The medieval plots fronting on to High Street formed a series of extended narrow properties, and another group of these continued along the north end of Bleachfield Street. The surviving lines of these boundaries may be seen on estate maps of 1754 by Sutton (Fig. 2) and 1760 by Eyre. A number of late medieval and early post-medieval buildings survive within the town (VCH 1945, 9-12). The church has a 14th-century tower but was otherwise rebuilt in the 18th century (HER MWA 541). Gunnings Bridge stands on the site of one of the medieval bridges of Alcester, but the present structure is of probable 19th-century date (HER MWA 538).

3.7 Immediately to the north of the town was the Benedictine abbey of St Mary and St John the Baptist, founded in 1140 by Ralph le Boteler (Scheduled Ancient Monument Number 21562; HER MWA 534). The abbey would have been an economic as well as religious centre. The financial fortunes of the abbey suffered through the negligence of later abbots, and its status was reduced to a cell of Evesham Abbey in 1465. It was dissolved in 1536 (VCH 1908, 59-61). After this time the site was used as a source of stone for Beauchamp Court and by the 18th century was in agricultural use. The site of the town's water-powered medieval corn mill survives just to the north of the abbey site. This was converted into a needle mill in around 1805 and most of the existing buildings date from the 19th century (HER MWA 5023).

3.8 The Grade II listed 17th-century town hall was originally the market hall with an open ground floor, enclosed in the 19th century (HER MWA 540). The town continued to develop as a market town into the 19th century, and also had a thriving industrial base, particularly needle manufacturing. The railway from Redditch to Evesham *via* Alcester opened in 1866, with a further line from Alcester to Bearley opening in 1876 (HER MWA 7405), but both are now closed and dismantled.

## The site

### *Documentary and cartographic evidence*

3.9 The present site lies within the Roman and medieval settlement at Alcester, immediately to the southwest of the Roman defended area and the medieval High Street. The earliest map of the area is Sutton's map of 1754 (Fig. 2). The map is not accurate by modern standards but does show numerous narrow plots of land stretching back from the High Street, which represent the survival of medieval burgage plots laid out when the Borough of Alcester was founded. The area of the site is shown as being occupied by houses running along the street frontage of Priory Road whilst the area to the rear is shown as open ground.

3.10 The site is shown on the First Edition Ordnance Survey map of 1886-7 when several houses are shown on the street frontage with a number of outbuildings to their rear. Behind this the area of the new culvert is shown as being an orchard (Fig. 3). The Second Edition Ordnance Survey map of 1905 shows a similar situation (Fig. 4). The site was still the same at the time of the Fourth Edition Ordnance Survey of 1938 (not shown). By 1978 many of the buildings along the street frontage had been demolished and the area had become a garage and car dealership. The site has had numerous name changes over the years. By the 1970s it was known as Coulter's Garage, and later became Brooklyn Ford; this closed and the buildings were demolished in 2006.

#### *Archaeological evidence*

3.11 In 1978 two initial trenches to test the archaeological potential of the site uncovered a number of Roman deposits including two walls. Further work was carried out in 1979 when, during extensions to the existing garage buildings, a number of small scale excavations took place (Booth 1989). The remains of a very large Roman stone building, at least 37m long and almost 12m wide, were partially exposed (Fig. 5). This was interpreted as a granary, probably an official Roman building, possibly for collecting grain for the army. Two other small sections of wall were also observed to the north and south of this building suggesting other stone buildings remain to be found on the site. Other Roman deposits included rubble spreads, mortar spread, pits, post holes and two burials.

3.12 The site is also notable for the extensive organic deposits that were also found. These included the remains of charred wheat and chaff, possibly associated with the granary. The very high ratio of chaff is relatively unusual for a deposit of this type and suggests that the deposit represents the burning of material associated with grain processing, rather than just of a store of grain. Areas of waterlogged organic material, associated with the site of a prehistoric-early Roman marsh have been found across much of the site (and elsewhere in the vicinity). Several preserved wooden posts were also found during the work suggesting that a large timber building, possibly also a granary, had existed on the site before the later stone building. The stone building is believed to have been constructed around 300 AD and to have been dismantled around 360 AD.

3.13 The supermarket, now Waitrose, was built in 1983. Prior to this, further archaeological work was carried out, some of it targeted to find the north-eastern end of the granary found in 1978-79 (Cracknell 1996). This revealed the line of the 4th-century Roman town wall. Although the stonework of the wall had been completely robbed out, the remains of its foundations survived. These consisted of oak piles which had been driven into the wet ground to give a stable platform on which to set the foundations. The date of the construction of these defences is believed to be around 360 AD. The wall cut through the end of the granary building, which appears to have been removed to enable the wall to be built. The granary is likely to have been out of use at this time, as it would otherwise be expected to have been included within the new defences.

3.14 In 2006 an archaeological evaluation was carried out by Archaeological Services & Consultancy Ltd on the site, which was then known as Brooklyn Ford (Hawtin 2006). A total of nine trenches were excavated and located, according to the report, using a hand held GPS (trench locations not shown on Fig. 5). Two walls forming part of the granary were exposed in two of the trenches, and three oak posts running in a north-south direction were found in a trench just to the north-east of the Methodist church. Three trenches also produced environmental samples including further evidence of the former marsh and of the burnt crop processing deposit.

## 4. Observation

4.1 At the start of the work, the site was covered with a variable thickness of crushed demolition rubble, which had been used to build up the surface after the demolition of the garage buildings. The drainage works consisted of excavations for two new inspection chambers, excavation of an enlarged trench to replace an existing manhole (built in 1979) and the replacement of the existing culvert along its current course. The trench excavation followed the existing culvert as far as possible but was slightly wider, which revealed previously unseen archaeological remains in the trench sections to a maximum width of c.0.3m. The excavation for the new manholes was carried out using a large toothless ditching bucket. The new service trench was excavated with a smaller toothed bucket with a 'straight edge' attached to the teeth. All the excavations had to be supported with box-shoring as they were excavated, limiting the opportunity for archaeological recording at depth. Levels were taken from the engineer's site datum, which was based on Ordnance Survey datum.

### Knotweed Trench

4.2 When the site was first visited it was discovered that a trench was to be excavated to remove Japanese Knotweed roots. This was excavated using a toothless ditching bucket. As soon as Roman layers were encountered the excavation was stopped and the archaeological remains were cleaned and recorded (Figs. 6 plan and section A; 7).

4.3 The lowest layer exposed was a dark grey clay loam (3) which contained very frequent small-medium pebbles and small fragments of lias limestone and sandstone. This formed a relatively compact, firm surface and was at a height of 38.85m AOD at its highest point. Fragments of 2nd- to 4th-century pottery were recovered from this surface along with well preserved animal bone and very occasional Roman tile. Overlying this was a layer of very dark greyish brown silty loam (2) which was a maximum thickness of 0.14m. Above this was a layer of dark brown clay loam (1).

4.4 At the north-eastern end of the trench, loam layer 1 was overlaid by a few slabs of limestone (4), only 20mm thick. This appears to have formed a surface but only a small area was exposed within the trench. It was overlaid by layer of very dark greyish brown soil (10) which was covered by modern layers of hardcore (9). The north-western edge of this excavation was formed by the concrete footing (21) and foundation (22) of one of the former garage walls. The footing was probably cut into layer 1 but did not penetrate as far as the Roman surface (3). No further excavation was carried out on this trench and the exposed remains were reburied. A layer of breathable synthetic membrane (terram) was placed over the Roman layer before it was backfilled.

### Culvert Trench

4.5 The culvert trench was excavated for its full length down into geological natural gravel (16), work progressing from the south-east to the north-west (Fig. 5). The earliest deposit, found only at the northwest end, was a thin layer of dark brown clay (18) which contained frequent fragments of organic material, including twigs and branches (Fig. 8). This layer lay directly on top of gravel 16. The organic layer is likely to be associated with the prehistoric/early Roman marsh deposits that have been recorded from several different parts of the site and elsewhere in the vicinity. However, only a 3m stretch of the trench was seen to contain this material, and despite the site conditions it can be stated with some certainty that it was not present elsewhere in the observed trench. The top of layer 18 was visible at a depth of 38.15m AOD and its maximum thickness was only 0.1m. It was overlaid by a probably Roman clay layer (15, section 4.7 below). A 10-litre sample, all that could



be obtained due to the box-shoring, was taken from marsh deposit 18 for assessment and analysis (section 6 below).

4.6 The excavation for a new manhole at the southeastern end of the trench reached its maximum depth at 37.68m AOD. The geological natural gravel (16) was reached at a depth of 38.42m AOD. The area of the new manhole was largely destroyed by the existing culvert but in the north eastern section (Fig. 6, section B) it was possible to see a layer of grey clay (15) overlying the gravel (16). The clay was partly overlaid by a thin spread of limestone rubble (20). No finds were recovered from either of these layers but it was felt at the time that they were probably Roman layers and seemed similar to nearby layers uncovered during the archaeological work in 1979. Layers 15 and 20 were overlaid a thick layer of dark greyish brown sandy loam (19). This was relatively loose and was thought to be backfilled material from the 1979 excavations. It is possible that this was an incorrect assumption, as it later proved to be largely outside the excavated area marked on the 1979 plan. Layer 19 was overlaid by highly unstable layer of modern demolition rubble (9).

4.7 In the section of trench between the eastern and intermediate manholes it was largely impossible to see any significant archaeological layers, although the natural gravel (16) could be seen at the same level. No organic deposits associated with the prehistoric and Roman marsh were present.

4.8 The excavation for the new intermediate manhole involved the removal of an existing manhole that had been built in 1979. This revealed part of the south-eastern side wall (6) of the Roman building located in 1979 (Figs. 6 section C; 9, 10). The base of the wall lay on top of the geological natural gravel at a level of 38.33m AOD, and it cut through a very similar layer of clay (15) to that seen within the first manhole. It was constructed from medium-large fragments of brownish yellow sandstone. No bonding material was visible and the remains of the wall were heavily cut by the existing culvert, existing manhole and a pipe trench running to the southwest. The tallest surviving fragment of wall (39.28m AOD) was just over 0.95m high and almost 1m in width.

4.9 Above clay 15, within the building, were several layers, but it was impossible to tell if wall 6 had been cut through them or if they had built up within the interior of the building. Overlying layer 15 was a very thin layer of charcoal (14) no more than 5mm thick. This was too thin and slight to sample although no charred grain could be seen within it. It was only visible within the excavation for the new manhole. Above layer 14 was a layer of grey clay with occasional charcoal flecks (13). This was covered by a layer of yellowish brown clay (12) which was itself overlaid by a layer of grey clay, again with occasional charcoal flecks (11). A tiny fragment of sandstone cross wall (7) from within the Roman stone building was also seen (Fig. 8). The highest visible part of this survived at a depth of 39.23m AOD, whilst the lowest point again lay on top of the gravel 38.33m AOD.

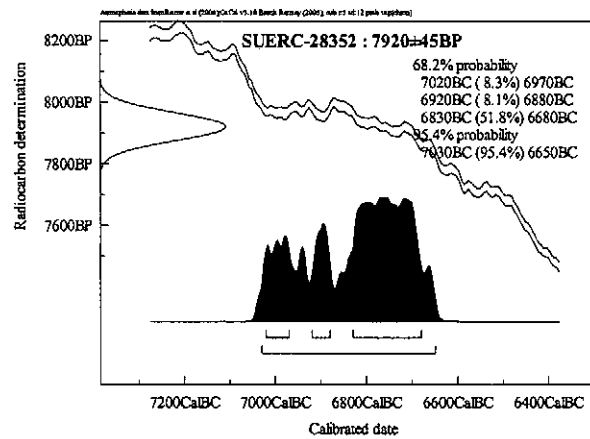
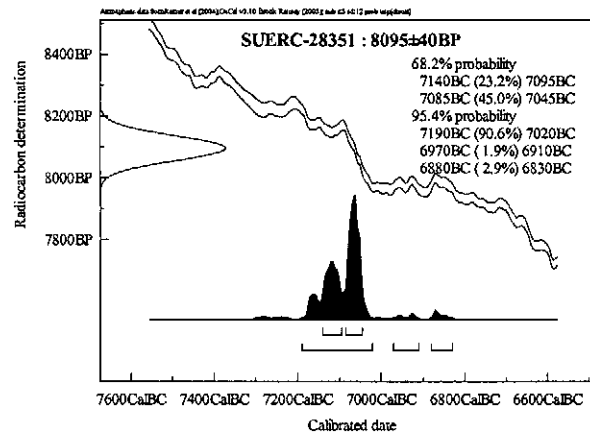
4.10 The north-western side wall (8) of the Roman stone building was also seen within the sides of the trench (Figs. 5, Fig. 6 section D, 11, 12). Where observed it was up to 0.95m wide and 0.8m high. The top of the wall survived at a height of 39.11m AOD, whilst the bottom of the wall, again sitting on the natural gravel (16) was observed at a height of 38.32m. A small spur trench, running westwards, was also excavated to enable an existing pipe to be re-attached to the new pipe. This also cut partially into wall 8. The wall again cut through the layer of grey clay (15). This layer was overlaid by a layer of dark grey clay (17) which contained occasional small pebbles, fragments of lias limestone and fragments of sandstone. Several sherds of Roman pottery, some at least dating from the 2nd century, and fragments of animal bone were recovered from this layer and it appears to represent a Roman occupation surface. It was only visible outside the building and appeared to exist across most of the rest of the pipe trench up to its northwestern end.

4.11 The Roman walls and contemporary deposits were overlaid by a thick layer of very dark greyish brown clay loam soil (10) which contained occasional fragments of brick and post-medieval pottery (not kept). This layer was seen across most of the new trench and appears to represent a cultivation/garden soil to the rear of the houses on Priory Road. A layer of crushed demolition rubble (22), derived from the recently-removed garage buildings covered the entire site.

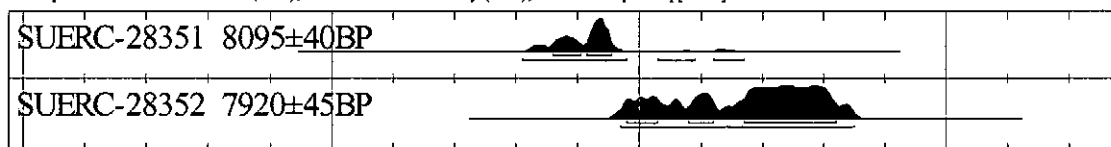
## 5. Radiocarbon determinations

5.1 A fragment of twig and a hazel nut from marsh deposit 18 were submitted to the Scottish Universities Environmental Research Centre AMS Facility for radiocarbon dating (SUERC-28351; GU-21083 and SUERC-28352; GU-21084 respectively). These gave dates within the Mesolithic period rather than the Iron Age, as had been assumed from the single radiocarbon determination from the 1979 work on the site (Booth 1989, 68).

Table 1: Radiocarbon calibration plots and dates



Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]



8000CaIBC

7500CaIBC

7000CaIBC

6500CaIBC

Calibrated date

## 6. Waterlogged plant remains by Pamela Grinter (University of Birmingham)

### Methods

6.1 One sample of c.10 litres was recovered from the waterlogged deposit (context 18) thought to be associated with the prehistoric marsh deposits previously found in the area. The aim of the sampling was:

- to assess the type of preservation and the potential of the biological remains, and
- to provide information on the past environment.

6.2 In order to maximise the results obtained from the sample, the samples were first processed at the University of Birmingham using the standard method of paraffin flotation outlined in Kenward et al. (1980) for the removal of insect remains (section 7 below). The insect remains were then sorted from the paraffin flot and the resultant flot remainders were then sorted for plant remains. The paraffin residues were also washed through a sieve with 300µm mesh using a mixture of detergent and hot water in order to remove the paraffin from the remaining organic material. A portion of these residues were then sorted in order to retrieve any waterlogged plant-macrofossils.

6.3 The processed sample was sorted, and material identified, under a low power binocular microscope. Identification was aided by use of a modern comparative collection and by using various seed identification manuals (Anderberg, 1994; Beijerinck 1947; Berggren 1969 & 1981; Cappers *et al* 2006). The nomenclature and habitat information for this report follows Stace 1997.

6.4 Initial assessment indicated that the sample examined contained identifiable plant remains from a limited range of species which indicated the presence of hedgerow species, along with those taxa which thrive in damp marshy environments. It was therefore recommended that further sorting of the paraffin residues take place in order to recover all identifiable plant material, and that further analysis should be undertaken to try to shed more light on the nature of this enigmatic deposit. The further assessment was carried out in September 2010, and the results are presented below.

### Results

6.5 The sample contained a variety of waterlogged plant material which included: twigs, buds, organic detritus and seeds which include hazelnuts (*Corylus avellana* L.) sedges (*Carex* sp.) hawthorn (*Crataegus monogyna* Jacq.), blackthorn (*Prunus spinosa* L.), and club rushes (*Schoenoplectus* (Rchb) Palla); for a full species list see Table 2.

Table 2: Plant species

Species	
<i>Corylus avellana</i> L (whole fruits and fragments)	+
<i>Crataegus monogyna</i> Jacq.	+
<i>Prunus spinosa</i> L	+
<i>Gallium</i> cf. <i>palustre</i> L..	+
<i>Schoenoplectus</i> sp. (Rchb.) Palla	+
<i>Carex</i> spp. (ovate and triangular spp.)	+
Buds <i>indet.</i>	+

+ Present

## Discussion

6.6 The sample taken is assumed to be part of an organic rich layer which has been observed and sampled as part of previous excavations in the vicinity. This organic layer has produced a variety of radiocarbon dates which prior to this sample were much later, and ranged from the Iron Age through to the Roman Period (Booth 1989; Cracknell 1996, 36; Greig 1988; Greig 1993).

6.7 The layer has previously been identified as an area of marshland, and one sample has produced taxa which was interpreted as a possible Iron Age hedgerow (Greig, 1993). The sample analysed here appears to be part of this same organic marsh deposit, but has produced two much earlier dates of 7920 +/-45 BP and 8095 +/-40 BP, placing it in the Mesolithic period. The possibility that the material tested could be residual, and may have been washed in by the river from another location, cannot be discounted; however, given the position of the layer sampled, this is thought to be unlikely. The sample also contained well rounded white quartz pebbles of various sizes up to 3cms diameter. These pebbles are likely to have been transported by water *via* the local river or stream and suggest, therefore, that this deposit is likely to be part of the river flood plain, perhaps indicating close proximity to a stream or river tributary which have subsequently silted up and moved course.

6.8 The plant remains preserved are those associated with scrub vegetation and are common in hedgerows in later periods. These were: hazel nuts, many whole and fragments (*Corylus avellana* L) and blackthorn (*Prunus spinosa* L), which are native of hedgerows scrub and woodland, together with hawthorn (*Crataegus monogyna* Jacq) which occurs in wood-borders, scrub and hedges. Other plants present include common marsh bedstraw and clubrushes (*Gallium* cf. *palustre* L, *Schoenoplectus* (Rchb) Palla) both of which are common in damp ditches, marshes and fens.

6.9 The preserved identifiable plant remains contained far less variety of plant taxa than that preserved and discussed by Greig and Booth respectively, and perhaps represents the marsh development at an early stage, possibly indicating wetter conditions in the immediate vicinity which prevented the range of species which were able to grow in the area at a later date. There was no indication from the plant species present that there had been any human interference in the area, but population density during the Mesolithic was such that any evidence of such interference would be extremely rare.

6.10 Waterlogged deposits of Mesolithic dates are not common. Work by Hall on plant material from a sequence from Star Carr, thought to be from the late Holocene and Mesolithic (Hall *et al.* 2007), contains sedges and birch along with many other species which would be expected from a waterlogged inland site. Caseldine and Vaughan have both worked with waterlogged plant material from Mesolithic sites located on the west coast (Castledine, 2000, 2007, Vaughan, 1987); again the species range is wider but does include those discussed here.

6.11 The sample analysed from Alcester Waitrose site appears to have been from the large marsh deposit which exists in an area to the west of Alcester and has been observed and analysed in other excavations. This deposit seems to have been in existence from at least the Mesolithic through to the Medieval period. It probably represents a flood plain which is connected to the River Arrow. It is likely that as the river moved, and minor streams silted up, the marsh vegetation was gradually superseded by scrub and woodland species.

6.12 The samples from the various excavations have provided a keyhole look into this developing environment. It is recommended that in any future excavations within the area samples should be taken from this layer in as many locations as possible to try to discover more details of the development of the local environment.

## 7. Insect Remains *by David Smith* (University of Birmingham)

### Introduction

7.1 A single sample of material from the Alcester Waitrose car park was presented for assessment of its potential for insect analysis. This came from the thin grey brown 'marsh deposit' at this site. This lay directly above the natural gravels of the site and was sealed by a grey clay. The deposit contained the remains of small twigs and other organic matter. This layer has produced two radiocarbon dates which are 7920 +/- 45 BP (6926-6656 cal. BC) and 8095 +/- 40 BP (7275-6990 cal. BC).

7.2 It was hoped that an assessment of the insect remains from these samples would provide information on the following:

- Are there insects present?
- Are the faunas of interpretative value?
- Do the insect remains suggest the nature of the surrounding environment and land use?
- Would the insects present provide information on the nature of water conditions present at the site?

### Methods

7.3 The sample was processed using the standard method of paraffin flotation as outlined in Kenward et al (1980). The system for 'scanning' faunas as outlined by Kenward et al. (1985) was followed in this assessment.

7.4 When discussing the faunas recovered, the following considerations should be taken into account:

- Identifications of the insects present are provisional. In addition, many of the taxa present could be identified down to species level during a full analysis, producing more detailed information.
- The various proportions of insects suggested are very notional and subjective. As a result, these faunas should be regarded as incomplete and possibly biased.

### Results

7.5 The insect taxa recovered are listed in Table 3. The taxonomy follows that of Lucht (1987). The majority of the taxa present are beetles (*Coleoptera*) though the cases and head capsules of both cased and caseless caddis flies (*Tricoptera*) were observed.

7.6 The numbers of individuals present for each taxa is estimated using the following scale: + = 1-2 individuals, ++ = 2-5 individuals, +++ = 5-10 individuals. The nature of the preservation and the potential for archaeological interpretation is outlined in Table 4.

7.7 The insect fauna recovered is comparatively small, fragmented and poorly preserved. Further analysis of this fauna is not needed since the insect fragments recovered could not be identified to a higher taxonomic level that is recorded in this report.

7.8 Despite this, some tentative conclusions can be reached. Several of the water beetles recovered are associated with flowing waters running over sands and gravels. Examples of these are the 'riffle beetles' ?*Elmis aenea*, *Limnebius volckmari* and *Oulimnius spp* which are normally associated with these conditions (Holland 1972). Other species, such as the *Hydraena spp.*, the aquatic *Cercyon spp.* and ?*Cyphon* are

**Table 3: Context, sample details and the insect taxa**

**Sample Code.** AL 122 Phytophage host plants  
**Weight (kg)** 5.8  
**Volume (l)** 6

**COLEOPTERA**

**Carabidae**

*Dyschirius* spp. +  
*Pterostichus* spp. +  
*Agonum* spp. +

*Hydraenidae*

*Hydraena* spp. +

**Hydrophilidae**

*Cercyon* (aquatic) spp. +  
*Megasternum* *boletophagum*+  
(Marsh.)

**Elateridae**

*Agriotes* spp. +

**Dryopidae**

*Elmis aenea* (Müll.) +  
*Oulimnius* spp. +  
*Limnius volckmari* (Panz.) +

**Helodidae**

Helodidae Gen. & spp. Indet. +

**Scarabaeidae**

*Aphodius* spp. +

**Scolytidae**

*Scolytus scolytus* (F.) or *Scolytus*+  
*ratzeburgi* (Jans.)

**Curculionidae**

*Phyllobius* spp. +  
*Curculio* spp. 'nut weevils' associated with a range of deciduous trees

**TRICOPTERA**

Genus and spp. Indet. ++

**Table 4: Summary of the nature of the insect faunas**

Sample number	Degree of preservation	Comparative size of faunas	Water conditions	landscape	Overall potential of sample
AL 112	fragmented, eroded	small	<i>Elmis aenea</i> , <i>Limnebius volckmari</i> and <i>Oulimnius</i> suggest fast flowing water. The aquatic <i>Cercyon</i> , <i>Cyphon</i> and <i>Hydraena</i> are associated with slow flowing waters	<i>Aphodius</i> dung beetle may suggest grazing in area. <i>Curculio</i> , and <i>Scolytus</i> spp are associated with woodland	poor / moderate

usually associated with more still and slow flowing water conditions (Hansen 1986). Previous work has clearly indicated that in Early and Mid Holocene rivers and streams such a mix of water conditions is quite common and probably represents the presence of pools and riffles in clear gravel based rivers before the onset of alluviation in the Late Bronze Age / Early Iron Age (Osborne 1988; Smith 2000; Smith and Howard 2004).

7.9 A few of the taxa recovered are associated with woodland. The fragments of *Scolytus* spp. recovered are in the size range to be either *Scolytus scolytus* 'the elm bark beetle' or *Scolytus ratzeburgi* which is associated with birch (*Betula* spp.) (Koch 1992). Unfortunately, it was not possible to determine which of these two species were present from this eroded and fragmented material. Similarly, it was also not possible to identify the *Curculio* spp. 'nut weevil' to species. This is a shame since this could have allowed us to indicate which specific species of tree was present.

7.10 There is also a slight hint from the insect fauna that clearings either in the forest or along the banks of the river were present. This is suggested by the recovery of a single individual of an *Aphodius* 'dung beetle'.

#### Recommendation

7.11 Given the limited preservation and limited potential of these insect faunas it is recommended that no further analysis of this material should occur. The fauna recovered can really only be used to support / confirm any conclusions reached from the pollen and waterlogged plant remains from these deposits and should not be used to draw any primary conclusions.

## 8. Conclusions

8.1 The main trench followed the existing culvert, which had destroyed the archaeological layers along its line. However, geological natural gravel was seen along its entire length and within all three excavations for new manholes. The clay layers seen above the geological natural are probably those previously suggested as being make-up layers laid during the Roman period to build up a dry surface on the comparatively wet ground, although no finds were recovered from the clay layers despite repeated attempts.

8.2 Only a tiny area of possible early Roman or prehistoric 'marsh' deposit (layer 18) appeared to exist along the whole length of the trench, much less than had been anticipated from previous attempts to extrapolate its extent. More surprisingly, the radiocarbon dates from material within it were firmly within the Mesolithic period, rather than the Iron Age as had been anticipated from the single such date from marsh deposits determined during the 1979 excavations on the site. It is possible that it represents a different deposit to those recorded previously, but is perhaps more likely to represent a peripheral area of the same 'marsh' which did not develop in the same way as elsewhere. Grinter (above) suggests that the relatively limited plant taxa recovered could indicate that this was an early marsh formation and not representative of the vegetation and extent of the later marsh. The evidence of insect species associated with flowing water and pools (Smith, above) also suggests a transitional period.

8.3 The south-eastern and north-western walls of the large Roman stone building, partially exposed in 1979 and generally accepted as being a granary, were both located during the excavation. The surveyed location of these walls within the new trench matched very well with the position of both excavated and extrapolated

sections of the walls, and show that the 1979 excavation plan was accurate. A tiny fragment of a cross wall (7) was also seen. Only a single charcoal layer (14), barely 5mm thick and only visible inside the probable granary was seen, and was almost certainly not associated with the large burnt deposit of grain processing waste which had previously been found further to the south.

8.4 A possible Roman occupation layer (17) was seen within the trench, to the north-east of (and therefore outside) the large stone building. The relatively small number of finds from this layer almost certainly reflects the difficulty of locating archaeological finds in the sections of a deep trench, rather than the actual number of finds within the layer. However, within the smaller trench excavated to remove Japanese Knotweed roots a small area of well-preserved Roman surface (3) was exposed. This might be associated with some of the areas of Roman rubble spreads that were recorded in 1979.

8.5 The observation of the new culvert trench and the trench for removal of Japanese Knotweed roots did provide some useful archaeological evidence for the site, particularly the Roman occupation layers, the apparent lack of large scale marsh deposits and the confirmation of the position of the building as it was surveyed in 1979. Care was also taken to obtain accurate levels above Ordnance Datum (AOD) for the significant features and deposits.

8.6 However, it must be remembered that the recording took place in a deep, often shored, trench which ran largely along the line of a previous culvert and its associated construction trench. Although providing important evidence to confirm, and in the case of the marsh deposits possibly contradict, previous results and hypotheses, the results were inevitably fragmentary and cannot provide a definite interpretation of the site. A large-scale excavation, and programme of environmental investigation, would be needed to provide a proper understanding of the archaeological deposits revealed in this, and previous, work. In particular, a comprehensive programme of sampling, dating and analysis of the marsh deposits, to establish their extent, date and development would give a much greater understanding of this part of the town.

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## Appendix A: List of Finds

<i>Context</i>	<i>Material</i>	<i>Quantity</i>	<i>Date/Comments</i>
3	Pottery	29	2nd- to 4th-century
3	Tile	1	Roman, roof
3	A. bone	17	1 Roman
3	Daub	1	Roman
3	Oyster shell	1	Roman
17	Pottery	5	2nd-century?
17	Animal bone	5	Roman

## Appendix B: List of Contexts

<i>Context No.</i>	<i>Description</i>
1	Layer
2	Layer
3	Surface
4	Surface
5	Layer
6	Wall
7	Wall
8	Wall
9	Modern car park layers
10	Layer
11	Layer
12	Layer
13	Layer
14	Layer
15	Layer
16	Geological natural gravel
17	Roman occupation layer
18	Probable marsh deposit
19	Possible backfill from previous excavations
20	Rubble surface
21	Concrete footing
22	Concrete wall

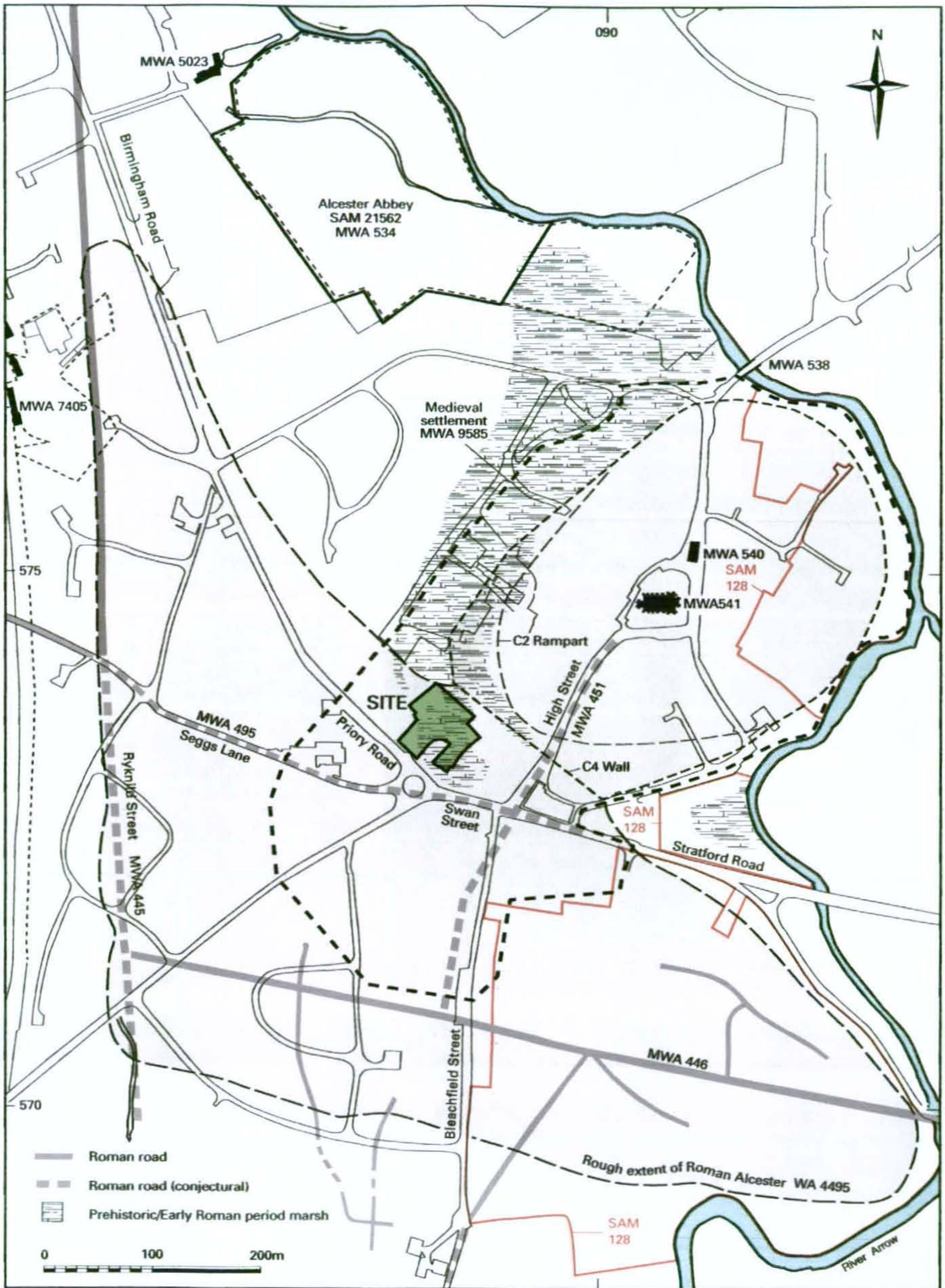


Fig 1: Site location

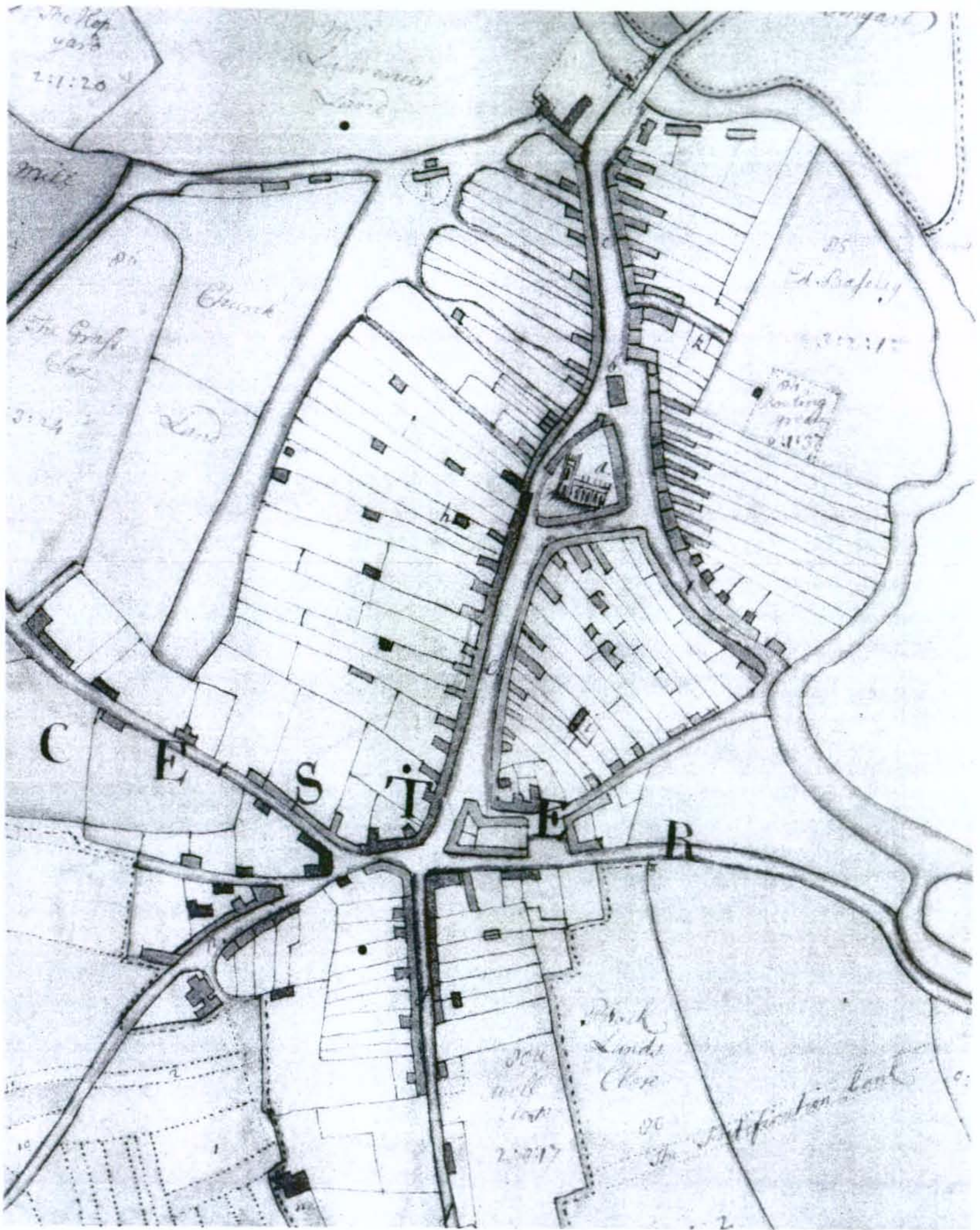


Fig. 2: Detail from Sutton's map of 1754



Fig. 3: Detail from 1886 and 1887 First Edition 1:2500 Ordnance Survey maps



Fig. 4: Detail from 1905 Second Edition 1:2500 Ordnance Survey map

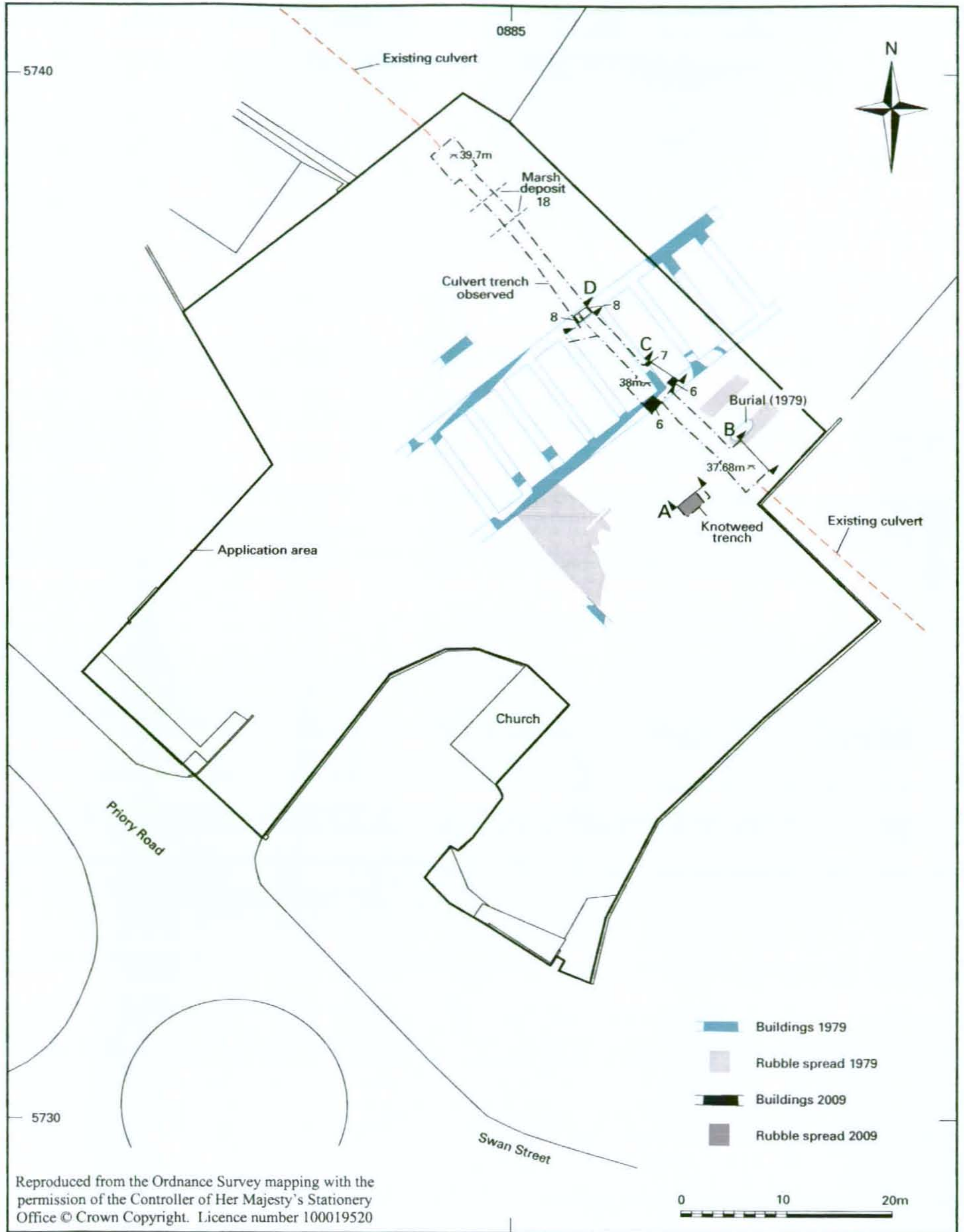


Fig 5: Trenches observed 2009 and features found in 1979

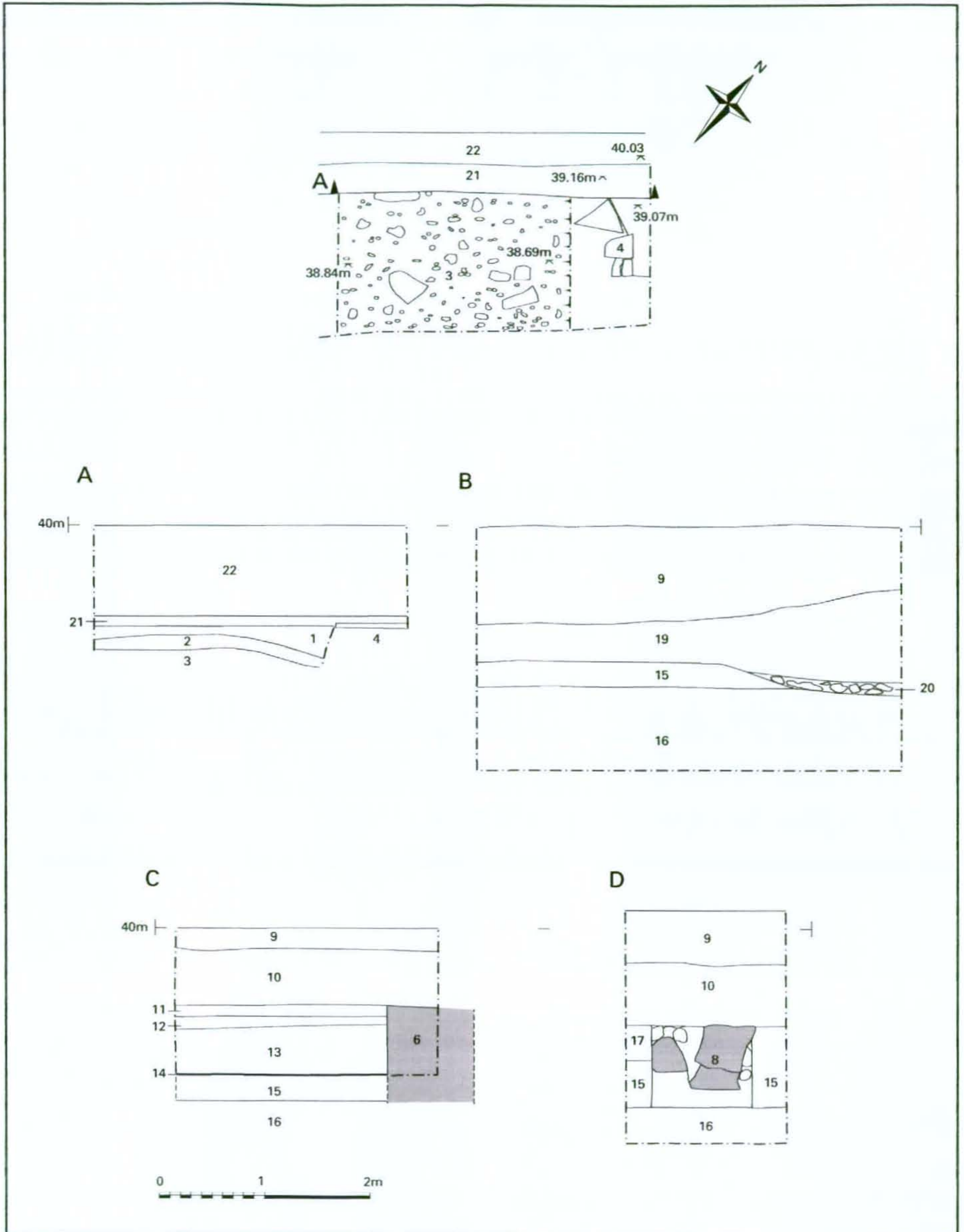


Fig 6: Knotweed trench plan and sections A-D





Fig. 7: Roman surface (3) within the Japanese Knotweed removal trench, looking southwest



Fig. 8: 'Marsh' layer (18)



Fig. 9: Wall 6 visible in the intermediate manhole excavation. The base of cross wall 7 is also just visible as a single large stone on the left the photograph



Fig. 10: Wall 6, visible both to the left and right of the pipe, showing the difficult recording conditions



Fig. 11: Wall 8 after partial backfilling of trench, looking north-east



Fig. 12: Wall 8 in both faces of trench, looking north-west

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