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The M541 from Abonae: Excavation of a Roman Road at Henbury, Bristol

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With contributions by Jane Timby, Lorrain Higbee, Jane Bircher, Sarah Newns, Fiona Petchey, Andrew Young and Brian Hawkins, Sarah Elliott, Karen Wicks and Lisa-Marie Shillito, Lisa Gray and Alex Brown

INTRODUCTION

In 2006, a planning application was submitted by Barratt Homes Bristol for residential development on 2.5 ha of open ground off Marissal Road in Henbury (Fig. 1), formerly occupied by the premises and facilities of Henbury Comprehensive School, rebuilt in 2004/5 to the immediate southeast. Documentary sources indicate a Roman road may have crossed the area (Burchill 2001, Smith 2002) and significant archaeology of late prehistoric and Roman date was located during investigations preceding the construction of the new school (Cotswold Archaeology 2003, Evans *et al* 2006). A metalled road surface was located at shallow depth in two of the nine trial trenches opened on the former school site during an initial field evaluation undertaken in Oct. 2006 (Payne 2006). The alignment of the metalled surface coincided with the proposed route of Margary's (1973) Roman road 541 suggested to link the military garrison and settlement at Abonae (Sea Mills) and the fortress at Glevum (Gloucester).

This report details the results of a subsequent stage of archaeological excavation undertaken the following year by Avon Archaeological Unit Limited, in order to *preserve by record* the Roman road where it would be destroyed by new building foundations. Three separate, but adjacent excavation areas (1a, 1b and 2) totalling some 500 square metres were opened within a specified corridor orientated northeast to southwest in the east of the development footprint, between OS. Nat. Grid ST 56137934 and ST 56177939.

The excavation areas, which incorporated brick and concrete foundations of the former school buildings, were essentially level at *c.* 37.5 m above OD and the site-specific geology consists of reddish sandy clays and tea green clays. These deposits form part of the Triassic Mercia Mudstone sequence that underlies much of the Henbury area, with Dolomitic Conglomerates occurring close to the site, where they lie unconformably over Carboniferous Limestone. The local geology had a significant impact on the excavation, as the summer of 2007 was one of the wettest in recent history with over twice the average expected rainfall during the May to July period (metoffice.gov.uk), resulting in the frequent flooding of the excavation areas, seriously inhibiting site investigations.

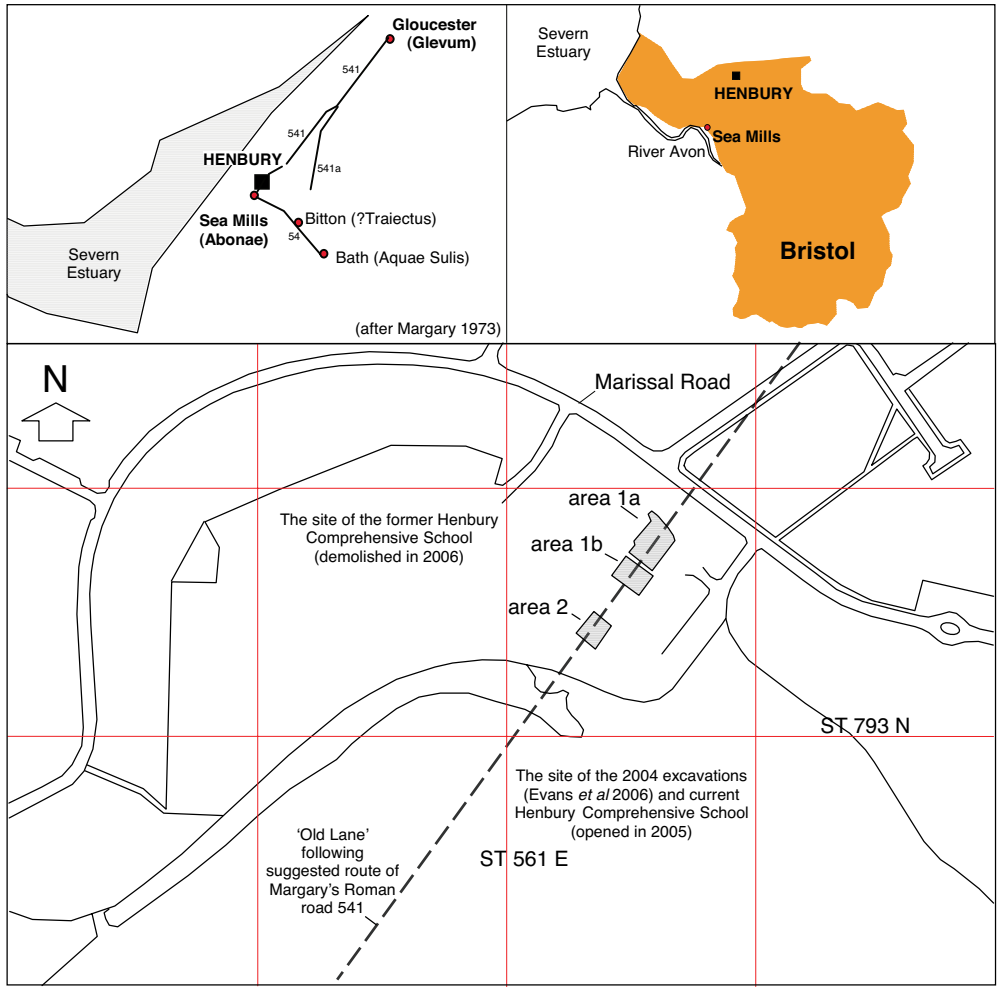

Fig. 1. Location of excavation areas 1a, 1b and 2.

THE EXCAVATION

In all, three periods of archaeological activity were identified on the site. Excavation revealed the survival of the Roman road varied markedly over the three areas and that the southwestern extent in areas 1b and 2 largely had been destroyed. Accordingly, the description below is focused on the best-preserved section at the northeast end, in area 1a (Figs. 2 and 3), with mention made of features and deposits in areas 1b and 2 where relevant.

Period I (late Iron Age/early Romano-British transition: 1st century BC to mid-1st century AD)

Structural evidence dating to this period was restricted to an arrangement of three broadly parallel gullies or slots (F1, F2/F3 and F4, Figs. 4 and 5) that cut the clay substrate (191) on an

Fig. 2. The Roman road in area 1a, looking east.

Fig. 3. The Dolomitic Conglomerate kerbstones, some displaced, used to edge the later surface (R21) of the Roman road, exposed during removal of metalling 109, looking southeast.

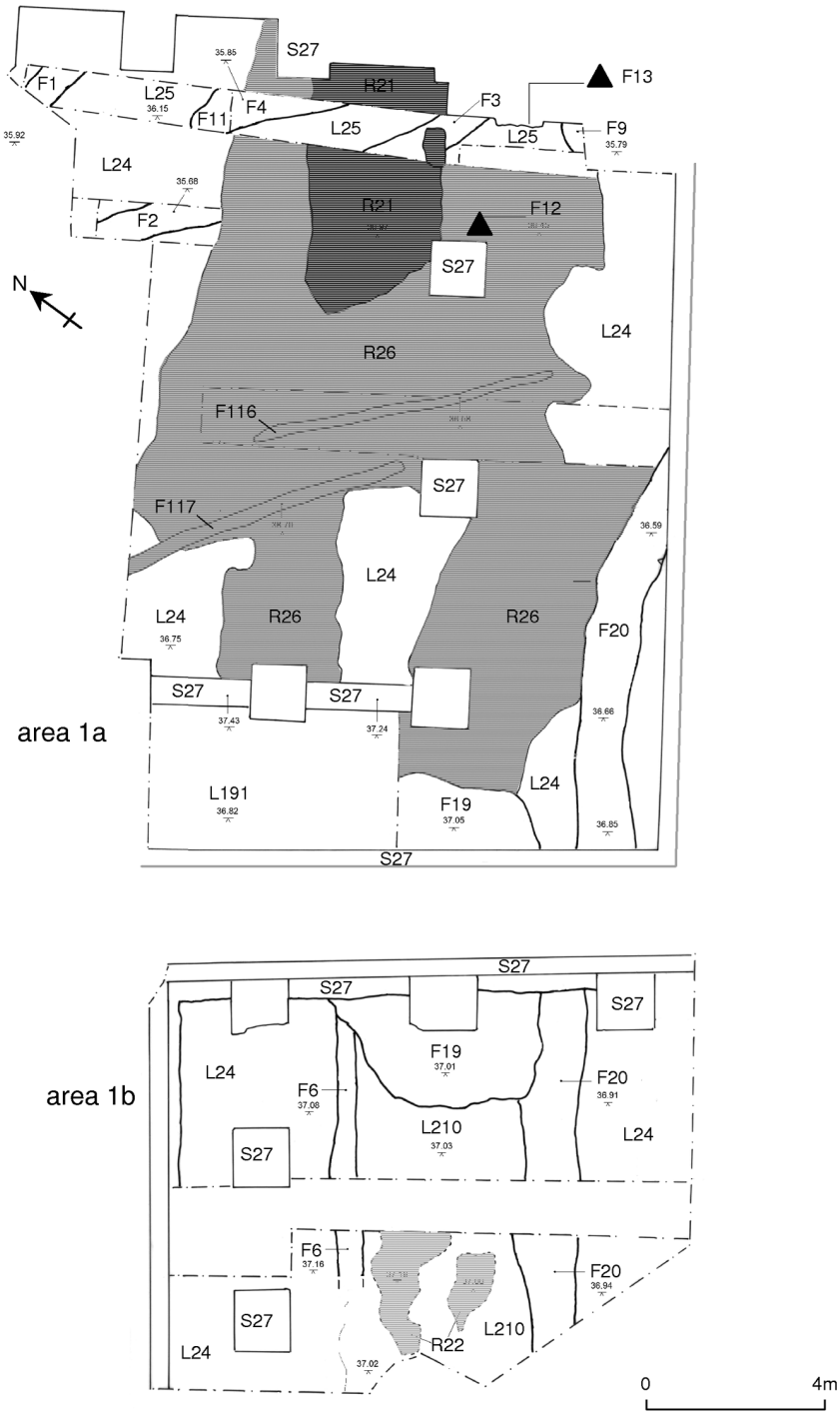

Fig. 4. Excavation areas 1a and 1b.

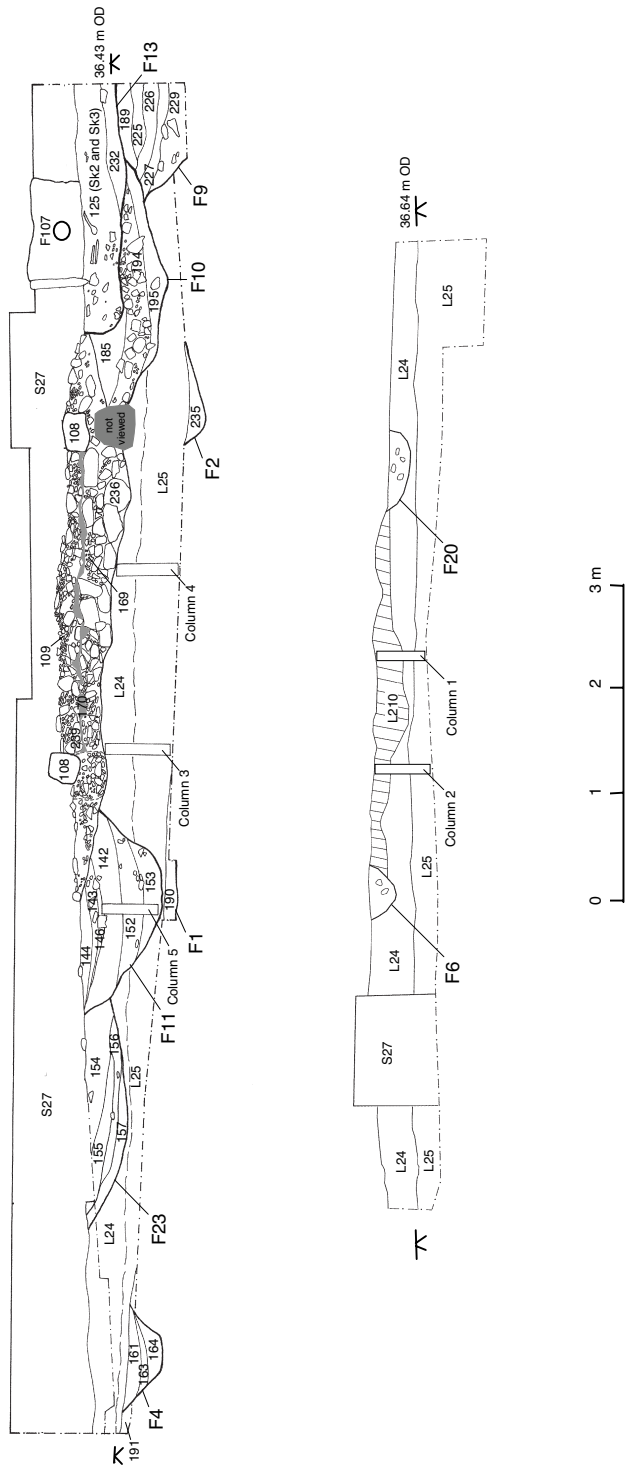

Fig. 5. Southwest-facing sections of cuttings excavated across the line of the Roman road in areas 1a (top) and 1b (bottom).

east to west orientation in the extreme northeast of the site (area 1a) close to the Marissal Road frontage. The silted fill of gully F2/F3 yielded a single calcite-tempered rim sherd of 1st century AD or earlier date, alongside a fragment of brick/tile and small collection of unidentifiable animal bone.

Period II (Romano-British: later 1st and 2nd centuries AD)

Three distinct phases of activity spanning the later 1st and 2nd centuries AD were attributed to this period. The deposition over the site of a sequence of layers (L24 and L25, Figs. 4 and 5) that increased in thickness to the southeast following the natural gradient of the underlying land surface reflected an initial phase of diminished activity. Geoarchaeological analysis of the layers (below) identified that the *Period I* gullies were sealed by some 900 mm of *in-situ* naturally accumulated silts with high clay content, defining two episodes of soil formation separated by rapidly deposited sediments, probably during flooding. The small collection of Romano-British pottery sherds incorporated in the layers confirmed an early 2nd century date at latest for their deposition.

A series of pits and/or ditches (F9–11 and F23, Figs. 4 and 5) cut layers L24 and L25 in area 1a during the second phase of activity. The full extent of the features was not revealed, as these were sealed by the later road, but each contained a varied series of fills incorporating some redeposited material including limestone and Dolomitic Conglomerate rubble. The complete absence of finds, save for a very few pottery sherds dating to the 1st and 2nd centuries in the latest fills of F9 and F11, indicated the features had not been utilised as rubbish pits. No related activity was recorded in areas 1b and 2 to the southwest.

The final phase saw the construction of the Roman road on a northeast to southwest alignment. Much of the southwestern extent of the road, in areas 1b and 2, had been all but destroyed by recent historic activity, the exposed 4 m width of metalling producing pottery dating to the 18th century (below). The Roman road was best preserved to the northeast in area 1a, surviving as an extensive surface some 11m wide at maximum (*c. 37 Roman pedes*) with a gently graded camber at either side (Figs. 2–5). Unlike many Roman roads, no evidence of associated drainage ditches was recorded within the limits of the excavation area, although these may yet lie outside, and no soil *agger* had been constructed, rather it was founded in a broad, shallow cutting in the surface of *in-situ* deposit L24. The makeup of the road itself did however, conform to Margary's (1973, 20) and Davies' (2002, 58; 2008, 32) description of the formation of a Roman road, with a base layer of larger stones, the 'bottom', or rubble, the 'heavy bottom', over which the surface 'metalling' of small stones and gravel was laid. At Henbury (Fig. 5), the heavy bottom of mixed limestone and Dolomitic Conglomerate rubble (236) was immediately sealed with remnants of compacted metalling (169). A thin layer of gritty silts (170) separated this possible earlier surface (R26) from a second stage of road construction, at which time a much narrower road (R21) defined by two perpendicular kerbs of roughly dressed Dolomitic Conglomerate (108) placed some 3 m apart (*c. 10 Roman pedes*) was laid. A second bottom of smaller rubble and stones (239) was laid as a foundation between the kerbstones and sealed with the extant metalled surface (109). Only a 6.5 m length of road R21 survived in the extreme northeast of area 1a, disturbed remnants of the underlying surface (R26) were exposed elsewhere in the same area.

Two narrow slots (F116 and F117, Fig. 4) crossed diagonally over the Roman road, cutting surface R26 some 4 m to the southwest of road R21. Their dating and function was uncertain, but the slots possibly represented wheelruts from vehicles leaving or joining the road at this location. Several possible repairs to surface R26 were also noted, one of which yielded from amongst the stones a 2nd-century Samian sherd from central Gaul and a T-shaped brooch (SF401 below), the style of which is typical of the South West region and the dating well established, spanning the

later 1st to mid-2nd centuries. Further pottery sherds dating to the 2nd century were recovered from metalled surface 109 (R21).

Where best preserved, the combined depth of stone used in the two stages of road construction averaged *c.* 450 mm and assessment of the stone used, principally Dolomitic Conglomerate with lesser quantities of Old Red sandstone, quartzites and Liassic Limestone, indicated the raw materials were locally sourced within a 4 km radius of the site.

Period III (Modern: 18th to 21st centuries)

The subsequent history of the site is not easily determined from the archaeological record. The recovery of a very few residual pottery sherds of medieval and post-medieval date testify to activity during these periods in the vicinity, although the paucity of finds suggests the focus lay some distance away. Historic documents indicate that locally, the route of the former Roman road was preserved in the landscape as field boundaries and as a trackway known as the 'Old Lane' exploited into the 19th century (Smith 2002, Fig. 4). The trackway is depicted extending over the site from the southwest, but terminating before the northeastern boundary. This scheme is concordant with the archaeological evidence recorded, particularly in the southwest of the site in areas 1b and 2.

The trackway (R22) was best preserved in area 2 (Fig. 6), as a linear strip of metalling some 4 m wide. The exposed metalled surface differed in character from northeast to southwest. In the northeast, the metalling (316) was composed of stones of differing size and type, characteristically very similar to the make-up of Roman surface R26 in area 1a and was similarly worn and rutted. The metalled surface (315, R22) exposed at the southwestern end of the trackway was, however, distinctly different in composition, largely made up of similarly-sized fragments of subangular

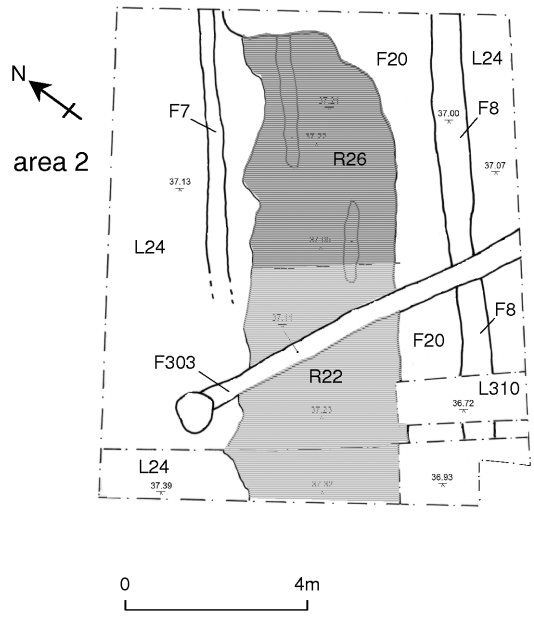

Fig. 6. Excavation area 2.

limestone that yielded finds dating to the 18th and 19th centuries. An adjacent ditch (F8) extending alongside the trackway possibly represented a related field boundary.

Very little of trackway R22 was preserved to the northeast in area 1b, where further artefacts of 18th and 19th centuries date were recovered from amongst the stones (216) in the few surviving patches of metalled surface. The metalling was bedded in distinctive yellow-brown clay (L210), probably deposited as made ground in order to repair or consolidate the trackway at this location (Fig. 3). No evidence of trackway R22 was recorded in area 1a in the extreme northeast of the site and here, the Roman road (R21 and R26) appeared to have been entirely silted over by this time. The likely 18th century date indicated from radiocarbon determinations (below) for a cow (F12, Sk1: WK-25479, 220 ± 32 BP) and of one of a pair of adult horses (F13, Sk2: WK-25480, 204 ± 44 BP) interred in two pits cut through the silts and on into surface R26, suggested the Roman road had been buried for some considerable time.

The trackway (R22) and related ditch (F8) were replaced during the middle years of the 19th century with an extensive boundary ditch (F20) and hedgeline that defined adjacent fields or enclosures. The ditch extended northeastwards from area 2, curving to the east where it exited area 1a (Figs. 4 and 6). The function of a parallel slot opened some 4 m to the west in areas 1b and 2 (F6 and F7) was not determined. In area 1b, the redundant trackway was also disturbed by a later 19th century rubbish pit (F19) that extended into area 1a, destroying the southwestern end of the Roman road (R26).

Thereafter, activity on the site was restricted to the 1950s construction of Henbury Comprehensive School (S27) and associated services (F107 and F303), and its eventual demolition in 2006, after the completion of the new school buildings adjacent.

ARTEFACTS AND ECOFACTS

Romano-British Pottery by Jane Timby

A small assemblage of 33 sherds of Roman pottery and two small pieces of pre-Roman native ware collectively weighing 188 gm were recovered. The sherds were associated with 12 recorded contexts, all from area 1a. The pieces are of variable condition with a mixture of fragmented, abraded pieces and larger sherds. The overall poor condition is reflected in a low average sherd size of just 5.4 g. Featured sherds were sparse.

The assemblage was scanned to assess its likely chronology and quantified by sherd weight and count for each recorded context. Known named or traded wares have been coded using the National Roman fabric reference series (Tomber and Dore 1998). The resulting data is summarised in Table 1.

Most of the sherds appear to be of local origin comprising grey, black and oxidised wares, but there are a few recognisable imports present, including a sherd of burnt central Gaulish Samian dish, Savernake ware jar from Wiltshire, Severn Valley ware and Southwest oxidised sandy ware. Where sherds could be dated, the emphasis appears to be more towards the earlier Roman period.

Finds from road surface R21 (109), comprise five sherds of local sandy ware including a bowl typologically datable to the mid-late 2nd century. Broadly similar material came from L27 (111) overlying the road surface whilst the sherd of burnt 2nd-century Samian came from a repair to road R26 (124).

Boundary ditch F20 (119) produced an extremely small fragment of oxidised ware, not closely datable, whilst the Savernake ware, broadly dating to the 1st or early 2nd century AD all came from layer L25 (141). The soil horizon underlying the road (L24, 183) contained a single oxidised

Table 1. Summary of the pottery

Context	Description	No	Wt	Date
109 (R21)	black, grey & oxid ware, bowl rim	5	41	C2
111 (L27)	black, grey and oxid sandy wares	5	18	Roman
119 (F20)	oxidised bodysherd	1	2	Roman
124 (R26)	central Gaulish Samian (LEZ SA) – burnt	1	12	C2
141 (L25)	Savernake ware (SAV GT)	5	31	C1-C2
142 (F11)	black sandy ware	1	2	Roman
166 (L24)	black sandy ware; ?flagon	1	27	?C2
167 (L25)	Shell and limestone tempered black ware	1	2	?C1 or earlier
168 (F3)	calcite tempered rim	1	2	C1 or earlier
183 (L24)	Southwest oxidised ware (SOW OX)	1	4	C1/2
184 (L25)	hm jar, oxid/Severn Valley ware (SVW OX)	6	12	C1?
189 (F9)	Grey sandy jar, combed wavy dec.	7	35	C2
TOTAL		**35**	**188**	

sandy ware, whilst L25 (184) also produced a brown ?early Severn Valley ware jar and two sherds of SVW OX intimating a 1st century date.

Gully F3 (168) contained a small rimsherd of handmade, calcite-tempered ware, a later Iron Age ware, which frequently continues to occur in early, Roman deposits. A small fragment of fired clay also came from this context. As this was the only sherd it is difficult to know if this was a pre- or early Roman feature. It was sealed by L25 (167), which contained another very small sherd with a shell and limestone temper potentially of late Iron Age or early Roman date and by L24 (166) thereafter, which yielded a single black wheel-made sherd, possibly from a flagon, of 1st or 2nd-century date.

Despite this being is a very small group of material, it does appear to confirm an early 2nd century date for the construction of the road and intimates some possible pre-Roman activity in the locality.

Animal bone by Lorrain Higbee

A total of 996 bone fragments was recovered. This figure includes 942 fragments from three separate animal burials recovered from two pits cut into the Roman road. The remaining fragments were recovered from contexts dating to the late Iron Age/early Roman transition, Romano-British and modern periods. Bone preservation is generally quite good.

Features pre-dating the construction of the road

A small collection of unidentifiable animal bone was recovered from a late Iron Age/early Roman transition gully F2/F3. Fragments of several loose upper sheep/goat teeth and a cattle incisor tooth were identified amongst the 24 animal bone fragments recovered from the overlying deposits L24 and L25. A 2nd-century pit or ditch, F11 also yielded a cattle cervical vertebra.

Roman road

Identifiable animal bone recovered from the Roman road was restricted to a single cattle first or second molar recovered from a repair to metalled surface R26.

Animal burials and other modern deposits

Three part skeletons of probable mid-18th century date (below) were recovered from two pits (F12 and F13) cut through metalled surface R26 of the Roman road. Epiphyseal fusion suggests that a cattle skeleton (Sk1) from pit F12 was less than 2 years of age at death. Both the skull and feet (i.e. phalanges) are missing and although there are no obvious signs of dismemberment on any of the articulating bones, it is likely that the animal was skinned before burial, the skull and feet being removed with the hide. The fact that the animal was not exploited for meat suggests that it might have been diseased. Several dog bones, including a complete, but fragmented, right radius, a fragment of proximal scapula, two cervical vertebrae and a fragment of skull were also identified.

Parts of two adult horse skeletons were identified from pit F13, the more complete skeleton (Sk2) included the trunk (i.e. vertebral column and ribs) and several incomplete long bones (i.e. scapula, femur and pelvis). Bony changes consistent with the early stages of ankylosis, a condition that is likely to have been caused by repeated load bearing, were observed on lower thoracic and upper lumbar vertebrae. Only fragments of rib, sternum and ossified costal cartilage were recovered from Sk3, which extended only very slightly into the excavation area.

Five unidentifiable fragments of animal bone were recovered from ditch F20. Unstratified fragments include a proximal sheep/goat radius.

Roman brooch by Jane Bircher

A T-shaped brooch (SF401, Fig. 7) 54 mm in length was recovered from a repair to metalling R26. The wings have three prominent vertical mouldings and are closed at each end to hold the sprung pin axial bar in the Polden Hill fashion. The top of the head is flat with a pierced, vertical moulded crest through which the spring chord passes. The front of the upper bow has a fine groove down each side framing a rectangular recess containing traces of a two-colour enamelled inlay. Below this is a well-moulded and prominent knop. The lower bow has a raised central aris with four vertical grooves to the sides and terminates in a moulded foot. The sprung pin was broken in antiquity and has been replaced with a coiled pin from another brooch.

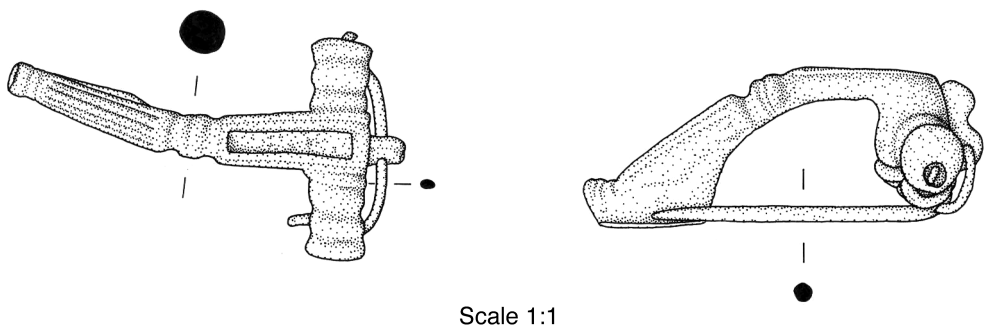

Fig. 7. The brooch.

The T-shaped brooch with the Polden Hill method of attaching the spring and axial bar is a predominantly southwestern type and displays a wide range of enamelled decorative panels. This example has a close parallel from Fosse Lane, Shepton Mallet (Mackreth 2001, Fig. 51, 12). The Fosse Lane example has very similar mouldings but differs in having two triangular enamelled panels on the upper bow. The dating of the type is well established, spanning the later 1st to

mid-2nd century. Mackreth (*ibid*) has noted that the type with the sprung pin may be slightly earlier than those with hinged pins.

Post-Roman pottery by Sarah Newns

Two unstratified thin-walled medieval earthenware sherds with external green glaze dating to 1200–1400 AD were included in the small collection of 36 sherds of post-Roman pottery retrieved. The remainder of the assemblage consisted of examples from the standard suite of modern domestic pottery, including glazed whitewares (18th and 19th centuries), Somerset redwares (1600–1800 AD) and a single sherd of English brown stoneware (18th century).

Radiocarbon dates by Fiona Petchey

Samples from two undated animal burials, an immature cow (Sk1, F12) and adult horse (Sk2, F13), cut into the Roman road (R26, Fig. 4) were submitted for radiocarbon dating to the University of Waikato Radiocarbon Dating Laboratory in New Zealand. The resulting determinations are, for Sk1: WK-25479, 220 ± 32 BP and for Sk2: WK-25480, 204 ± 44 BP at 1-sigma confidence rating (68.2% probability), where BP = AD 1950.

Geology and provenance of stone from the Roman road (R21 and R26) by Andrew Young with lithology by Dr Brian Hawkins of University of Bristol Dept. of Geology

The Roman road formation was composed of a number of different types of stone rubble whose varying geology was evident even in weathered hand specimen. Eighteen representative samples were examined by hand at x5 magnification in order to establish the original provenance of the various types of stone. The detailed results are available in the full version of this text available in the project archive.

In summary, the samples incorporate a relatively restricted range of rock types dominated by several varieties of Triassic Dolomitic Conglomerate in addition to examples of finer-grained Old Red Sandstone, probable Triassic conglomerate, quartzites of very generic type and Jurassic Liassic Limestone. The rock types, utilised at Henbury for both the heavier foundation layer and the finer surface metalling, occur naturally within a 4 km radius and the majority in the locale, mapped within 500 m or so of the site.

Identification of the rock types used in the road formation and kerbing highlights a pragmatic approach by the road builders who, not surprisingly, appear to have utilised locally available raw materials.

Geoarchaeological analysis by Sarah Elliott, Karen Wicks and Lisa-Marie Shillito

A suite of sedimentary analytical techniques was employed during geoarchaeological analysis of column 3 (area 1a, Fig. 5), in order to determine the origin of sediments L24 and L25 underlying the Roman road (R21 and R26) and establish whether the deposits formed naturally or were deliberately placed as a foundation/soil *agger* upon which the road was constructed. The full text detailing the methods and results of the various analytical techniques employed is available in the project archive, the conclusions of which are summarised here.

Pedogenic processes observed in column 3 indicated that deposits L24 and L25 probably represented *in-situ* Holocene soils formed prior to the construction of the Roman road. Two episodes of soil formation were identified, one located just under the base of the road and the other

at the boundary between layers L24 and L25, separated by a period of rapid siltation possibly due to increased flooding of the area. Lithostratigraphic recording and particle size analysis identified clear banding in the deposits and an increase in fine texture up profile, typical of natural soil formations. The presence of manganese showed the soils formed in alternating wet and dry conditions, whilst geochemical analysis indicated the soils were derived from the local geology, Triassic Mercia Mudstone and Dolomitic Conglomerates.

In short, the geoarchaeological study of the Henbury sequence demonstrated that (unusually) the Roman road was constructed directly onto a naturally formed waterlogged clay soil.

Plant Macrofossils by Lisa Gray

Six samples taken from Roman deposits dating to the 1st and 2nd centuries AD were assessed for the abundance, diversity and state of preservation of plant remains. Unfortunately, preservation was poor and charred remains were scarce. The plant remains recovered were identified to *genus* and consisted of two fragments of wheat/oat (Triticum/Avena sp.) grain, a poorly preserved wheat (Triticum sp.) glume and a fragment of oat (Avena sp.) awn from gully F1. Two seeds of blackberry/ raspberry (Rubus fruticosus/ idaeus) were found in the primary fill of pit/ditch F10. Both features predated the construction of the Roman road.

Palynological Remains by Alex Brown

Eight samples were prepared for pollen analysis from deposits underlying the Roman road (Fig. 5), two from column 1 (area 1b), four from column 3 (area 1a) and two from column 5 (area 1a), in order to reconstruct the local vegetation environment and to investigate the evidence for human activity and land use. The detailed results of the analysis are available in the full version of this report in the project archive.

In summary, overall pollen/spore preservation and concentration was very poor. The samples from column 1 (area 1b) yielded too few viable taxa to comment. In column 3 (area 1a), the low numbers of arboreal pollen grains amongst the few robust forms of taxa preserved tentatively suggested a largely open environment prior to the construction of the Roman road, whilst the restricted range of taxa identified in the best preserved samples, from column 5 (F11, area 1a), again supported an open environment, possibly meadow or pasture.

DISCUSSION

The excavation on the former school site at Marissal Road, Henbury allowed the detailed recording of a section of Roman road that lies on the route (541) proposed by Margary (1973) linking Sea Mills and Gloucester. Further evidence for occupation in the vicinity, previously identified during investigations to the immediate southeast (Russell 1983, Cotswold Archaeology 2003, Evans *et al* 2006), was also recorded, the current work revealing the earlier phases of this activity predated the construction of the Roman road.

No evidence of an associated settlement for the previously recorded mid to late Iron Age inhumation cemetery (Evans *et al.* 2006, 5, *phase 1*) was revealed during investigation of the Roman road. The earliest recorded features, a series of parallel gullies, probably related to the small number of postholes and pits that yielded pottery dating to the late Iron Age/early Romano-British transition during the mid to later 1st century AD (*ibid.*, 8, *phase 2*). Thereafter, activity was focused entirely in the southeast for a time, as the utilisation of Enclosure 1 in the later 1st and early

2nd centuries (*ibid.*, 11, *phase 3*) corresponded with the hiatus in activity to the northwest, during which the thick sequence of deposits over which the Roman road was constructed accumulated during episodic flooding. A number of pits and/or ditches that cut the accumulated deposits were opened and filled during the 2nd century and prior to the laying of the road. These features provide a *terminus post quem* some time during the 2nd century for the construction of the road, whilst surface finds of 2nd-century Samian pottery and a later 1st to mid-2nd-century T-shaped brooch indicated the road was certainly in use during the latter half of the century if not before. The laying of the road and cutting of the features that preceded it broadly related to an extended period (2) of activity in the southeast spanning the 2nd and early 3rd centuries, during which (*phase 3*) Enclosure 1 was apparently abandoned and a series pits and gullies associated with dispersed smaller rectangular enclosures were established (*ibid.*, 14, *phases 4 and 5*). This was followed in the southeast by an extended period of later Roman activity spanning the 3rd and 4th centuries (*ibid*, 16–22, *phases 6–12*), for which no associated evidence was recorded during investigation of the Roman road.

The few artefacts and poor preservation of the limited range of ecofacts recovered during the current excavation add little to Holbrook's interpretation of the site as a rural settlement or farmstead situated in an open environment and involved in mixed agriculture (Evans *et al.* 2006, 44). In combination, the evidence at Henbury School is consistent with a long-lived agricultural settlement of low status with its origins in the prehistoric period, consistently occupied from the later Iron Age through to the end of the 4th century. Whilst the archaeological record has illustrated that the settlement had been variously remodelled during its long history, the overall development and character of the settlement does not appear to have been influenced significantly by either the coming of the Romans or of the adjacent Roman road.

The 2nd century date for the construction of this section of Roman road at Henbury was unexpected given the assumption that the road represents part of Margary's (1973) route 541 between Sea Mills and Gloucester. Although Margary is careful not to suggest an origin date for the road in his description (*ibid.*, 140–141), his introduction implies a military origin for many (but not all, *ibid.*, 18) Roman roads. This is reflected in the literature, where the road is often suggested to be a military construct linking the forts at Abonae, established by AD 60, and Kingsholm, founded in *c.* AD 49/50 and abandoned by AD 66/67 (Ellis 1987, 99; Holbrook in Evans *et al.* 2006, 45). Alternatively, the road possibly extended between Abonae and the legionary fortress at Glevum (Gloucester), constructed after AD 64–66 and abandoned as a military base by the final decade of the 1st century AD when the civil *colonia* was founded (McWhirr 1981, 22; de la Bédoyère 2001, 57). Both these situations infer a 1st century date for the founding of the road in contrast to the 2nd century date revealed during the excavation. This later date would better suit an alternative interpretation for the road, as a link between two civilian settlements, the port and town at Sea Mills, the latter established by the early 2nd century, and the *colonia* at Gloucester.

In Davies' (2002, 58) analytical approach to the engineering of Roman roads, he suggests the use of 'heavy bottoming' as a foundation may have been favoured by military road builders, as this design is prevalent in the west and north of the country where the Roman army was most active. This would, however, appear to conflict with the adoption of such a technique during the 2nd century for the road at Henbury, constructed after the major military presence at Sea Mills had withdrawn. Nor does the size of the road elucidate its relative importance and thereby possible military or civilian origins. When compared with data on width of metalling amassed by Davies (*ibid.*, 73) from a sample of 488 excavated sites, the initial metalling at Henbury (R26, *c. 37 pedes*) can be seen to be above average width (*22 pedes*) suggesting it may have been a significant route. Alternatively, if the overlying narrower strip of metalling defined by the kerbstones is taken as the actual running surface for the Henbury road (R21, *10 pedes*), then the apparent significance of the

route diminishes markedly, as at such a width the road would be suitable for no more than single file vehicular traffic (*ibid*, 70).

The greater width of surface R26 may be due to the lack of an *agger* for the road, the metalling acting as a foundation in order to consolidate the underlying clay soil before the final running surface (R21) was defined. This interpretation seems unlikely however, given that although the wheelruts that cut surface R26 were not securely dated, evidence for 2nd century repairs to the metalling indicated it had been utilised and become worn or damaged. It would seem more likely therefore, that an initial broad roadway was subsequently remodelled and a central narrower lane (R21) laid. Alternatively, it has been suggested for some roads that discrete 'traffic lanes' were defined, the central lane commonly reserved for vehicles only, whilst the metalling to the sides was used for foot and animal traffic (e.g. Old Ford, Mills 1984, 26), a scheme which would fit with the evidence at Henbury.

Only two known excavations have been undertaken elsewhere along the route of Roman road 541, with which to compare the data from Henbury. The works were carried out in Quedgeley on the outskirts of Gloucester and aimed to identify the proposed route of the northeastern end of the road where it entered the city. Both projects, at the Tesco Filling Station site and on Quedgeley Recreation Ground (Greatorex 1994, 1995; 2003), identified a poorly dated metalled trackway that followed the proposed alignment of the Roman road, but displaced some 15 m to the west of its expected position. Much of the trackway was located only by geophysical survey at the recreation ground, but where fully exposed on the filling station site consisted of a metalled surface some 7.5 m in width at maximum bedded directly on the surface of the underlying clay substrate and bounded by shallow ditches. The composition of the metalling, a single layer of mixed, local limestone gravels and non-local bunter pebbles, was different from that at Henbury, but this is not unexpected given the common usage of locally available stone during the construction of a Roman road. More surprising perhaps is the lack of evidence for a 'heavy bottom' stone foundation at either site, although a sandy deposit underlying the metalling at the recreation ground possibly represented remnants of a soil *agger*. The inconclusive results of these works highlight the need for further opportunities to investigate the road, preferably at several locations along its proposed route.

The Roman road at Henbury compares more favourably with a second Roman road (54, Margary 1973) leading to Sea Mills, from Bath. Excavations on Durdham Down in Bristol (Parry 2001), where a length of *agger* (SAM AV88) survives as an extant earthwork, revealed the *agger* was some 15 m wide at maximum and composed of desiccated clay sealed with metalling, incorporating an area of larger uneven stones that probably represented the 'heavy bottom' foundation for a running surface long since eroded away. These findings mirrored the observations recorded by Trice-Martin (1900) a century before, when an adjacent section of the same road was exposed at Durdham Lodge.

In conclusion, the excavations at the former Henbury Comprehensive School site have provided a rare opportunity to record a section of Roman road using modern archaeological techniques and have helped further elucidate the character and development of the adjacent long-lived rural settlement. The extreme variation in survival of Roman roads has also been highlighted during the excavations at Henbury, where the exposed southwestern extent of the road had been all but destroyed and replaced in part by a post-medieval trackway. The 2nd century date for the construction of the Roman road indicated by the admittedly small, but more importantly, stratified Romano-British pottery assemblage would appear to negate the commonly held belief that Margary's road 541 was a vital route linking military sites at Sea Mills and Gloucester during the westwards expansion of the Empire in the early decades of the Conquest. Rather, the road would appear to have functioned as an important civilian road linking the urban centre at Gloucester to the burgeoning 2nd century port and trading centre of Sea Mills.

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