An archaeological excavation at 21 St Peter's Street, Colchester, Essex in 2008

2010

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1 Introduction (Fig 1)

1.1 This is the archive report on a two-part archaeological project at 21 St Peter's Street, Colchester, Essex, carried out on behalf of Enterprise Heritage by the Colchester Archaeological Trust (CAT) between November 2007 and February 2008 (Phases 2 and 3). Previously a single evaluation trench excavated in April 2006 had been undertaken on behalf of Vaughan and Blyth Ltd (Phase 1).

a. The site is an area of land 28m by 20m on the southern side of St Peter's Street and the northern side of Northgate Street (Fig 1). The site is bounded by a commercial property to the east (Ryegate House) and a residential property to the west (Claudius Court) (Fig 2).

b. The site centre is at NGR TL 99595 25534.

c. Following submission of a planning application to Colchester Borough Council for a proposed housing development on the site the Colchester Borough Council Archaeology Officer (CBCAO) Martin Winter issued a brief outling the archaeological work needed to fulfil the condition on planning consent. Following *Planning Policy Guidance note 16* (DoE 1990), this recommended an evaluation as the proposed housing development may have affected the Roman town wall, a Scheduled Ancient Monument (Essex monument no 10). The results of the evaluation would inform a decision on whether more archaeological work would be required before development.

d. The evaluation uncovered significant archaeological remains. Therefore the CBCAO recommended a Phase 3 of archaeological work which resulted in the excavation of an area measuring 10m x 13.5m, which included the area of the trial-trench excavated in Phase 2.

1.2 Both phases 2 and 3 of the archaeological work were carried out in accordance with *Written Schemes of Investigation* (WSIs) produced by CAT (CAT 2007; CAT 2008) and agreed by the CBCAO.

1.3 In addition to the WSI, all fieldwork and reporting was consistent with standards and practices contained in CAT's *Policies and procedures* (CAT 1999, revised in 2008), Colchester Borough Council's *Guidelines on the preparation and transfer of archaeological archives to Colchester and Ipswich Museums* (CIMS 2008), the Institute for Archaeologists' *Standard and guidance for archaeological field evaluation* (IfA 1999a, revised in 2008), *Standard and guidance for archaeological excavation* (IfA 1999b revised in 2008), and *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (IfA 2001 revised in 2008). The guidance contained in the documents *Management of research projects in the historic environment* (MoRPHE) and *Standards for field archaeology in the East of England* (EAA **14**) was also followed.

2 Archaeological background (Fig 1)

2.1 The site is within an archaeologically sensitive area. It is adjacent to the Roman town wall that is clearly visible to the rear of Claudius Court (Fig 2). To the west at the Middleborough site known as the Royal London building, excavations produced evidence of Roman buildings and a major Roman road (EHCR 13293). To the north of the site Roman masonry walls were discovered underneath what is now St. Peter's Court and at 6 Middleborough (EHCR 12282).

2.2 The town wall was likely constructed around AD 65-80 following the attack on the town by Boudica. The wall was built of septaria with tile courses with a rubble core, bonded with mortar (*CAR* **3**, 14). A recent study has concluded that the wall has an average width of 2.67m (including offsets at the rear), which is equivalent to precisely nine Roman feet (*pedes Monetales*). A hypothetical cross section of the wall shows the foundations as 3.77m wide (Crummy 2003). Some previous work suggests that in places the wall foundations might have surprisingly shallow at 600mm deep (Hull, 1958, 25 -26). However, work at the Sixth Form College in 2005 showed the stone foundations to be 1.2m deep with wooden piles below (CAT Report 347). The original height of the wall is not known but the highest surviving part is next to the south side of the Balkerne Gate where four groups of four tile courses point to a height below parapet level of at least 4m.

2.3 A hard gravel surface that was the uppermost of a series of gravel layers forming a

1.3m thick construction was identified on the site of 18 St Peter's Street near to the River Colne (perhaps a bank or road). This may have related to activity on the river in this area (CAT Report 25).

3 Aim

The aim of the project was to record the character, extent, date, significance and condition of any archaeological remains and deposits likely to be affected by groundworks for the new development. The aim of the excavation was to 'preserve by record' all archaeological features and deposits which would be destroyed by the development.

4 Methodology (Fig 2)

4.1 **Fieldwork Phase 1.** In April 2006 an exploratory trench (Trench 1) was hand excavated in the south eastern corner of the site adjacent to Ryegate House (Fig 2). The trench was excavated across the projected line of the Roman town wall in an area covered by a bank of earth partially covered by thin concrete. The trench was excavated to locate the north face of the town wall. The trench was positioned on a north-to-south alignment abutting a brick retaining wall at the southern end.

4.2 **Fieldwork Phase 2.** Trench 2 was located near the western edge of the site on a north-south alignment (Fig 2). The projected line of the town wall in this area (based on its location in the car park of the neighbouring Claudius Court and in Trench 1) was covered with a concrete capping. The capping was constructed when the brick retaining wall collapsed in this area in the 1970's resulting in the construction of a new concrete retaining wall. The concrete capping extended out 1.8m from the base of the retaining wall and due to its structural nature prevented excavation over the line of the town wall in this area. Trench 2 extended 16m from the concrete capping northwards towards St Peter's Street and was excavated using a three ton 360 excavator equipped with a toothless bucket.

4.3 **Fieldwork Phase 3.** In accordance with a brief issued by the CBC archaeological officer (Martin Winter), a third phase of evaluation was undertaken consisting of two further trial trenches (Trench 3 and Trench 4). Trench 4 was 10m long, 1.5m wide and parallel with the neighbouring building Ryegate House (Fig 2). A 12-ton 360 excavator was used to excavate through the overburden until an archaeological horizon was reached at a depth of roughly two metres below modern ground level. As such, the uppermost significant archaeological layer in this area was below the contractor's site formation level (6.45mOD) so the trench was backfilled. Subsequently it was decided that rather than excavate the other north-south trench in the centre of the excavation area (Trench 3), an east-west trench would be excavated starting at Trench 2 where the height of the uppermost archaeological layer was known to be above the contractor's site formation level. The archaeological layer was located between 600mm and 700mm below modern ground level in the west of the trench, sloping off notably to the east. Trench 3 (Fig 2) would have revealed the uppermost archaeological layer at a height above the contractor's formation level but at a depth that would have made excavation unsafe in a 1.5m wide trench. Following the findings of the evaluation trenches, an excavation area was defined based on the closest safe distance to the damaged brick retaining wall of Northgate Street in the south and the building Claudius Court in the west, and to the east and north by the point at which the uppermost archaeological layer was located at a depth below the contractor's formation level (Fig 2). Full excavation involved the mechanical removal of the overburden down to the uppermost archaeologically significant layer across the whole excavation area and the creation of a 45° soil batter around the extent of the excavation area where deep excavation had occurred.

5 Results (Figs1-15)

5.1 This section gives combined results of all three phases of fieldwork outlined above. Excavations revealed features dating to the Roman, medieval and post-medieval periods on the development site. All deposits below about 6.50m OD were wet and

were waterlogged by 6.25m OD. This allowed for the preservation of organic remains including wood.

The archaeological remains from each period are detailed below.

5.2 Roman

Timber drains and surrounding stratigraphy

During Phase 2 of the project, an independent research project was undertaken to excavate under the foundation of the Roman town wall to ascertain whether a sample of original wooden piling could be obtained for tree ring (dendrochronological) dating. It was hoped that such a sample would assist in dating the construction of the town wall and help increase our knowledge of the development and phasing of the town within the Roman period. Once the overburden had been removed and the archaeological deposits uncovered had been recorded, a slot was excavated against the concrete capping that was presumed to cover the town wall. However, excavations ceased when an extremely well-preserved timber drain (F7) was discovered (Fig 3 and Fig 7a). The drain was situated within a fast flowing water inlet that filled the excavated slot within minutes making the search for the wall foundation unsustainable. A 1.9m-long stretch of the north-south aligned timber drain was excavated and recorded at this stage.

In Phase 3, an 11.5m length of the drain was exposed and details of its constructed were established (Fig 5). The excavated section of the drain comprised two adjoining sections, each consisting of two opposing upright planks either side of a base plank that were held apart by wooden struts (Fig 6). The base and upright planks of the two sections were joined end to end by scarf joints, all at the same location. The scarf joints were formed by cutting opposing tapered ends, with the taper of the southern section overlying the taper of the northern section to match the direction of the water flow. The exposed length of the planks in both sections were around 5.75m and, although in both cases finding the respective southern and northern ends of the planks was problematic, it was determined that in both instances the end of the section was very near. A plank 'lid' 5.96m long covered the central area of the drain, with the scarf joints located towards the centre of the cover as opposed to at its end. Both sections of the drain measured roughly 19.5 *pedes Monetales* in length (*pes Monetalis*, a Roman foot, taken to measure 295mm) suggesting an intended 20 *pedes Monetales* per plank, which was the measurement of the fully exposed plank cover. All seven of the planks measured approximately 400mm in width with a thickness of 35-40mmm, although preservation was variable.

The plank cover was supported by a series of wooden struts dovetailed at each end so as to clasp the plank sides of the drain and hold them upright (Plate 3). Six of the struts survived *in situ* with three more having collapsed into the drain (Fig 5). The spacing of the surviving struts and empty mortices indicates that three additional struts were missing from the structure. The twelve struts were evenly spaced 900-950mm apart, and each measured approximately 400mm in length, 100mm in width and 40mm in thickness. The '**pins**' (ie the triangular-shaped parts) at either end of the struts were roughly 400mm in length and cut 10mm into the strut at the deepest point giving a slope of 1:4. They also had a 2-4mm recess on the underside where they rested upon the upright planks.

The majority of the **tails** (tapered mortices in the tops of the side planks), whether they contained a pin or not, were heavily eroded and wider than the width of the struts (many of which were also eroded or damaged). The angled cuts made in the upright planks to form the tails were still observable on a few of the tails (i.e. the tails on strut b: Fig 5). The thickness of the pin (approximately 40mm) matched the depth of the tails, which would have made the joint flush with the top of the strut.

The drain was evidently assembled without the use of nails or wooden pegs. However, two dowels or stout pegs came from the waterlogged silt to the west of the drain and are interpreted as probably deriving from its construction or later repairs The dovetail joint would have prevented the upright planks from collapsing inwards as well as providing resistance to being pulled apart making the structure self-supporting. Over time the weight of soil pressing onto the sides and the plank cover, coupled with decomposition of the wood, caused the side planks to lean inwards at a slight angle (Fig 7), and some of the struts to protrude through the tails and overhang the side of the drain. This may also be the reason why the drain appears to taper

towards the northern end of the exposed section where the preservation of the wood was not as good (Fig 5).

The drain sloped downwards in a northwards direction, dropping approximately 410mm over the 11.5m length of drain exposed. This would have provided a significant gradient (1:30) to ensure the steady flow of water away from the town and into the river.

Close examination of wood samples taken from the drain for dendrochronological analysis identified cut marks approximately 20-30mm in size on the planks and one of the struts. A raised diamond shape approximately 40mm x 400mm was also noted on a sample from the base plank of the northern section on the exterior face. The diamond-shaped protuberance was located at the point at which the scarf joint began on the other side of the plank and may therefore have served as a marker to ensure correct assembly of the drain. Alternatively it may simply have been a maker's mark.

The surviving section of cover took the form of a single piece of wood 5.68m long. This presumably was the remains of a single plank 20 Roman feet (5.91 m) long since this evidently was the length of plank used to make the rest of the drain. There was no evidence by way of nails or peg-holes that the cover had been fixed to the body of the drain in some way. The planks appear to have been simply placed loose on top of the struts (Fig 5). The planks to either end of the surviving one were missing and must have been removed before the drain was filled in.

The excavation of the interior of the drain was made extremely difficult by the water that constantly flowed through the drain saturating the fill. The quantity of water suggests the drain is, and always has been, located downstream of a natural spring. Notwithstanding this complication, the wooden base planks of the drain were uncovered during our excavations in two locations: one near the southern limit of excavation where there was no plank cover, and another in the vicinity of the scarf joint after part of the cover had been removed (Figs 5 & 6). Elsewhere the very upper fill of the drain was excavated sufficiently to define the sides of the wooden structure.

The fill of the drain near the southern limit of excavation consisted primarily of small-medium sized stones, chips and blocks of septaria, and fragments of undiagnostic brick/tile (Fig 7a). These inclusions were in a light grey/brown silty sand matrix. The light colour of the fill was attributable to the presence of mortar in the fill. The septaria was largely covered in mortar as were the brick/tile fragments. The septaria pieces ranged in size from small chips to cut blocks larger than those used to face the wall. The drain fill in this area was very similar to the overlying layer (L10), which consisted of many fragments of septaria and mortar along the whole length of the drain, including over the plank cover. It was not discernable whether the lower fill of the drain at this location was silt or whether the mortar/septaria dominated fill continued to the base of the drain. Roman pot fragments, brick/tile, oyster shell and animal bone were recovered from the drain in this area.

The drain fill from the central section where the plank cover had remained in place was notably different from the uncovered section to the south. A waterlogged dark grey silt with rare small stones and brick/tile fragments filled the bottom two thirds of the drain (Fig 7c). Overlying this on the western side of the drain where the plank cover did not completely cover the drain was mortar rich silt comprised of the material from the overlying layer (L10). Above this deposit and on the eastern side of the drain was another dark grey silt very similar to the lower silt. The silts in the drain were composed of fine soil particles and decomposed organic matter that had been deposited by the flowing water until the drain had eventually filled. Only undiagnostic brick/tile fragments were found during the excavation of this section. However, a fragment of Roman pot was recovered from concreted material on the inside of a wood sample taken from this section.

The drain lay below the contractor's intended formation level and, because it was expected to survive the construction works, the extent of the area excavated around it was minimal. The limited nature of the subsequent excavation combined with the continual flow of water made distinguishing the stratigraphy in the immediate area of the drain problematic. The drain appeared to have been located in a gully cut into an alluvial sandy-gravel layer (L25; Fig 7a). Once the drain had been constructed, presumably *in situ*, it would appear that the gully was left to infill around the drain. This is suggested by the number of finds recovered from the dark grey/orange highly

organic silt (L21a) immediately to the west of the drain, which included Roman pottery, animal bone, brick/tile, oyster shell, a wooden handle and a pine cone. The deposit to the east of the drain (L21b) was less organic and stonier than that to the east because it contained stones which presumably had tumbled into the drain after it had been cut from the metalled surface to the east.

Subsequent to the infilling of the construction trench for the drain, the layer of large septaria blocks and mortar mentioned above (L10) was deposited on, and in, the drain (Fig 7b). As well as the large blocks of septaria, there were also some medium-large fragments of brick/tile and pot fragment(s). The building materials were in a wet cream/white sand and mortar mix with occasional small stones. This material is likely associated with the construction of the town wall.

L10 was overlain by a yellow/orange mortar layer with occasional small brick/tile fragments, small septaria chips and stones (L9) (Fig 7a/b). This layer was identified in other areas of the site and is interpreted as a construction surface resulting from the deposition of building materials during the construction of the town wall. This may have occurred unintentionally during the construction process or possibly intentionally to create a solid working platform. Over the area of the drain, the Layer 10 appeared to have been intentionally covered with the mortar layer (Fig 3) although it had been cut away from the southern end of the drain by F2 (and possibly F9 previously). The presence of the layer over the drain at a considerable distance from the town wall, further suggests it was intentionally deposited in this instance.

Two further timber drains were identified 10.5m to the east of the drain F7 on the same alignment (Fig 3).The more westerly of the drains (F43) was located at a height of 5.42mOD (base of drain) whereas the eastern drain (F42) was located higher up at a height of 5.78mOD, similar to the height of the base of F7 at 5.80mOD (Fig 9). The drains were located approximately 400mm apart at the western extent of the gravel that made up the metalled surface (see below). Only short lengths of the two drains were uncovered as they were located below the contractor's formation level, with excavations having been specifically targeted, with the permission of the contractors, to explore the hypothesis that the drain F7 was for roadside drainage (see below).

The base plank of drain F42 was well enough preserved to excavate but the upright planks were observable only as stains in section (Fig 9). Very little of the base plank of F43 survived. However, both uprights of F43 were preserved, although the eastern upright was badly eroded. The western upright had a concretion on the inside of the plank 40mm from the bottom that had formed a lip over the base plank and a deep notch in the top of the plank that had probably once housed the dovetail pin of a supportive strut. A small section of the plank cover also survived on drain F43. Although not as well preserved, both drains appeared to have been of the same construction as drain F7 and measurements of the surviving planks suggested they were made of similar sized planks.

The drains F42 and F43 had a grey silty sand fill with frequent small/medium stones and rare tile/brick fragments. Roman pot was recovered from the middle and upper fill of F43. The deeper drain F43 was located in a dark brown/grey silt with abundant gravel (L23) that contained Roman artefacts (ie leather) (Fig 9). The higher drain F42 lay in a mid grey/brown silt with abundant gravel and rare brick/tile (L22) that overlay L23 and F43. No discernable cuts were observed for either drain. Based on the stratigraphy, it is probable that drain F42 superseded drain F43 and that L22 was probably intentionally deposited over drain F43, perhaps in association with the metalled surface. The 'construction layer' (L9) was located over drain F43 and partially over the drain F42.

Construction/consolidation layers

In most instances the deposits detailed below were located at, or below, the contractor's formation level and as such were not extensively excavated .

Nowhere else in the excavation area were large pieces of town wall building material found in a loose matrix other than over the drain F7 (L10, see above). The layer of small septaria and brick/tile fragments in a predominantly mortar fill that overlay L10, however, was seen elsewhere in the excavation (L9). At the eastern limit of excavation a comparable deposit was identified (F31/L9), and in the centre of the site overlying a much harder layer (L9) (Fig 3 and Fig 9). Similar deposits of a

greater solidity were also identified at the base of the medieval (F44) and post-medieval (F9) linears (Fig 3 and Fig 16), and over the drains F42 and F43 (Fig 3 and Fig 9). All of the instances of L9 detailed above were uncovered at a comparable height, correlated stratigraphically, and were within 6m of the projected face of the town wall. As such they are all considered to be areas of town wall construction material which varied in solidity due to probable variation in mortar content and perhaps differing levels of water in the surrounding soils.

Near the northern extent of the site, an area of gravel and brick/tile set solid in a yellow mortar was uncovered (F36) (Fig 3). This deposit appeared at first to have a definite shape as if it were a foundation (Fig 3 and Fig 13). However, its similarity to material further south suggests that, as for L9, variable mortar levels and perhaps soil conditions caused the variation in solidity. The depth of F36 and its stratigraphic location beneath gravel layers (Fig 13) and probable wall construction material (L9) further north, combined with the frequency of gravel in the deposit and its location over 10m from the projected town wall, suggests it was unlikely to have been associated with the construction of the town wall. It is most probably an early area of metalling or even a consolidation layer to stabilise or raise the ground level for the subsequent metalled surface. This would almost certainly have been a necessity as the area would likely have been marshland in Roman times due to the high water table and proximity to the river Colne (Fig 1).

Elsewhere beneath the metalled surface, the solidity of the material further supported the idea that the area was consolidated as part of/before the construction of the surface. A layer of large gravel and fragments of brick/tile compacted in a light grey sandy silt matrix (F40) underlay the metalled surface to the west of L9 in the centre of the excavation area (Fig 3, Fig 9 and Fig 15). This layer was comparable in level to the L9 deposit to the east and may have been an attempt to widen the solid platform provided by the construction material before the finer gravels of the metalled surface were laid over the top.

The town wall

In the southern end of Trench 1 (Fig 2), the remains of the septaria and mortar core of the wall were identified 0.25m below the modern ground surface and retaining wall at a height of 7.91mOD (Fig 10). What remained of the outer face of the town wall was located 1.72m from the southern edge of the trench at a height of 7.09mOD. The outer face appears to have been extensively demolished or robbed in this area and the exposed core of the wall shows signs of weathering. All that remained of the wall face was two partial tile courses only two tiles thick, with septaria and mortar above and below both courses. The lowest course of septaria extended outwards from the face (2.09m along the trench) and may be the offset identified elsewhere on the wall. This suggests only 0.58 metres of the wall's width is under Northgate Street at this locality based on the wall width of 2.67m including offsets (Crummy 2003;44). The wall foundation was located at a height of 6.23mOD extending around 0.22m from the face of the offset block (Fig 10). Further excavation of the wall foundations was inhibited by a modern concrete and brick structure and the high water table. Fragments of probable wall material were present in the soil layers covering the wall remains. However, the presence of post-medieval pottery in the layer directly covering the outer face of the wall suggests these layers were deposited in more recent times.

A projection along the outer face of the town wall remains in the car park of the property to the west of the site (Claudius Court) and the front of the wall section uncovered in Trench 1 suggested that the wall should have been observable in sections excavated in Phase 2 and 3 of the fieldwork (Fig 3). Excavation in close proximity to the wall was very limited partly because it was within the footprint of the proposed new building and partly because it lay below a tall and unstable brick retaining wall which supported Northgate Street and could not be disturbed. Three localities were excavated where the wall or its foundation should have been observable based on both the projected wall line and the heights of the wall remains in the adjacent property and in Trench 1.

The attempt to excavate beneath the town wall foundations to sample potential wooden pilings that led to the discovery of the drain F7 should have unearthed the town wall foundation just underneath the edge of the concrete capping (Fig 11). This

was not the case and the wooden drain was found to stretch at least 0.4m under the concrete at a height comparable to the centre of the 1.16m deep wall foundation (Crummy 2003, 44). The water from the probable spring that flowed into the drain from under the capping suggests that the drain is not cut by the wall further under the capping. Based on the height on the wall only 5m to the west, it is not possible that the foundation is beneath the drain unless it has been extensively robbed out.

To the east of the drain F7, the distance that the concrete capping extended from the retaining wall of Northgate Street over the projected line of the town wall decreased from 1.75m to 1.30m. This allowed exploratory excavation to identify the wall to be undertaken 0.45m further south than in the area of the drain F7 (Fig 3). A slot was excavated that extended over 0.7m across the projected foundation of the wall but no masonry was seen (Fig 15, southern end). Moreover, the construction surface L9 extended over the area and what appeared to be a gravel surface (F24) lay beneath the layer.

A third section across the projected wall alignment was excavated to the east near to the location of Trench 1 which extended across the medieval and post medieval ditches (F44 and F9 respectively) into the bank of soil adjacent to the retaining wall of Northgate Street (Fig 3). The southern limit of the trench was defined by a thin layer of concrete forming a 1.25m wide plateau on top of the bank. A large modern feature with a dark silt fill (F11) was identified in the section which to continued to a depth of 6.22mOD, at which point excavation ceased because of the water table and safety implications. At this depth, the core of the town wall and the top of the foundation should have been located in the trench but were not.

The absence of the town wall in the western and central localities appears to represent an absence in antiquity, especially since there where other observable archaeological deposits present in both localities in its place. Although this may also be the case for the eastern slot the presence of a deep modern feature and nothing but dark silt may imply that the wall was removed in this locality, perhaps in more recent times.

A gravel surface

Overlying the areas of consolidation outlined above and concentrated between the eastern drains F42 and F43 and the western drain F7 was a surface comprised of successive layers of compacted gravels (Fig 4). Most archaeological features on the site were either cut into or covered by this metalled surface and the wash-off on the surface periphery. An east-west aligned slot was hand excavated through the surface to record the sequence of layers (Fig 4).

There were five distinct layers of compacted 'metalling' identified in the surface separated by less compact sandy silts (F15, F23, F27, F29 and F30) (Fig 9, Fig 15). These layers varied widely in compaction, constituent stone size and even colour (Plate 1). During subsequent machine excavation of the surface, the five distinct layers were broadly observable. However, the mottled appearance of the gravels suggests that overall deposition had been quite *ad hoc* and that numerous repair episodes had occurred during the time the surface was in use. A slight east-west camber was observable in the slot excavated through the surface (Fig 9) suggesting the metalled surface was a north-south aligned road. This assumption is supported by the alignment (north-south), spacing (10.5m apart) and location of the wooden drains near to the eastern and western edges of the metalling. For descriptions of each deposit in the road surface see the context list at the end of the report.

The uppermost level of the metalled surface, F15, was manually planned (Fig 12), as in the north-west of the excavation area a dense level of Roman brick and tile was removed to reveal a cobbled surface constructed of large, well-rounded stones. The area was truncated by later pitting (F25 and F1) and did not appear to have a particular shape or alignment.

Areas of surface repair were observed in the layers of metalling as deposits of different solidity, stone composition and colour. In the uppermost layer F15 repairs had been carried out with large pieces of brick and tile laid flat, one such piece of tile had a hobnail shoe print on it. The thick sandy silt layer L16 was located to the west of the centre of the road (Fig 9 and Fig 15) and was not observed in what was considered the centre of the road. It is probable that this layer represents the widening of the main carriageway of the road on its western side, with the surface

subsequently being re-laid with the gravel layer F29. Underlying L16 and the lowest level of compact metalling (F30) was a layer consisting predominantly of Roman brick and tile laid flat and compacted down (F32) (Fig 9, Fig 15). In the east this layer overlay another silty sand layer (L18) which was similar to L16. These are early layers in the construction of the surface and probably represent the use of bulk, easily obtainable materials to begin building up the area before gravel was laid. A thin lens of densely deposited greensand stone chippings (F37) was observed within L18 (Fig 9). Very few finds were recovered from the surface layers making the dating of the various layers more specifically than Roman impracticable.

Towards the eastern edge of the road, a number of additional layers and features were noted in the surface sequence (Fig 9). These likely represent repairs to the surface (F41?), the addition of gravels to widen the road (L19?), and wash-off of sand and smaller stones from the centre of the surface (L26). The eastern extent of the road material was cut by the large post-medieval feature F12 (Fig 9, Fig 4). However the extent of the metalled gravel layers was observable in section just west of the drain F43.

The western limit of the surface was outside of our excavation area (Fig 8). The timber drain F7 was situated near where metalled gravel layers ceased (located in the retained baulk) and became loose sandy gravel layers as observed above the drain F7. These layers were truncated by modern building foundations (F1) and pits (F2) in the area of the evaluation trench and were more easily observed in section (Fig 8). The sandy gravels (L4-L7, thought in the evaluation stage to have been alluvial) roughly correspond in number and heights with the surface layers to the east, and likely represent material that has washed or tumbled off of the road. However, the layers are relatively thick for wash-off deposits perhaps indicating a depression in this area or maybe a practical consideration such as needing greater consolidation in this area due to the spring beneath. Also of interest in this area is a layer of dark brown silt (L8) located above the construction layer and below the sandy gravel deposits (Fig 8) which contained a dense deposit of bone. This layer must have accumulated in the time between the construction of the wall and the widening of the roadway.

Town ditch

Just over 7.5m north of the projected line of the town wall, the metalled surface layers were cut by the southern edge of what appeared to be of a wide and deep ditch (F5), Given its scale and position in relation to the town wall, the feature is likely to be part of the town ditch (Fig 4 and Fig 8). During the excavation of Trench 2, a depth of 700mm of dark sandy silt ditch fill was removed, at which point excavation ceased due to safety implications. Most of ditch was located below the contractor's formation level and as such it was proposed that the town ditch would define the northern boundary of the excavation area. Finds recovered from the ditch indicated it was Roman in date and included numerous Roman brick and tile fragments, animal bone, and copper-alloy slag.

A section was excavated through the ditch where it had been partially exposed at the northern extent of the excavation area (Fig 4 and Fig 12). Two distinct dark brown sandy silt layers were identified within its fill (L15 and L17) (Fig 13). Late Roman pot fragments (3rd-4th century) were recovered from these layers?, and large fragments of Roman brick, tile and septaria deposited so densely it resembled an intentional spread of material, were uncovered in Layer 17. The cut of the ditch was relatively shallow (Fig 13), and 700mm below the top level of the metalled surface flattened for 1.1m upon the solid mortared feature F36 (see above). To the north of F36, the depth of the silt increased, albeit below the contractor's formation level. The shelving of the ditch was most likely a response to the discovery of the hard mortar deposit (that was too hard to hand excavate) with excavation of the ditch continuing once the ground became soft again.

Further west it had been assumed that the timber drain F7 would be cut by the town ditch at its northern extent. However, the drain was found to continue for 1.7m beyond the point at which the ditch was anticipated to cut the drain. The dark brown sandy silt of F5, the shallow cut for which was observable in section (Fig 8), overlay the timber drain and the two mortar dominated layers overlying it (L9 and L10). This may once again imply a response to the discovery of harder deposits, and the depth

of the ditch may well have increased further north. Difficult working conditions and the depth of the excavation prohibited exploration to confirm this.

Roman features cut into the gravel surface

Six pits/post-holes assignable to the Roman period were identified cut into the western area of the gravel surface and its peripheral deposits (F14, F35, F21, F3, F4 and F25) (Fig 4). Four deep features (F21, F14, F35 and F3) were cut to depths below 6.40mOD and contained wooden remains.

The pits F14 and F35 both contained well-preserved remains of wooden logs. The location of the void left by the partially decayed pith suggested that they were not quite entire trunk cross-sections, and the adze marks and the absence of bark around most of the circumference attest to outside of the logs being worked. Both logs had flat bases with angled tips forming an off-centre point (Fig 14). The pointed tips may be taphonomic in origin, a consequence of the top of the angled logs protruding above the water table. They may, however, correspond to the working of the wood into an intentional point. Alternatively if both timbers were once proud of the metalled surface they may have been cut flat when they became redundant prior to the backfilling of the pits. Preservation of the tips of the logs was not as good as that of the base and as a consequence any evidence for the shaping of the timber into a point did not survive. The logs were located in the base of two large pits that had almost vertical southern edges and slightly sloping northern edges (Fig 14). Both logs were angled upwards at around 45º pointing towards the northern edges and away from the town wall. Medium to large packing stones found in both pits near the top of the surviving timber may have been positioned to help maintain the angle of the timbers. The angle of the timbers and similarities between the two pits located only 1.09m apart on the same alignment as the town wall (Fig 4), suggests that these features may have been Roman defensive *lilia,* securely fixed stakes or spears set in pits so that they did not project above the ground (Webster 1969; 176). Both pits were overlain by the final layer of metalling (F15, Fig 12) suggesting that the timespan of their use may have been quite short. The upper fill of both features was a medium grey/brown loose sandy silt, which could have originated from the same back-filling episode. This may have been done intentionally to remove the holes from the metalled surface so that use of the road could continue, probably once F15 had been laid over the top. Neither of the two features or the overlying F15 can be securely dated.

The pit F21 was close to F35 and F14 (Fig 4) and also contained a large piece of wood although this was considerably smaller than those in F14 and F35 despite being located further below the water table. The wood lay at the base of the feature and was of no discernable shape. If F21 had been a *lilium* or simply the remains of a post-hole with post *in situ*, then it would probably have contained a much larger piece of wood than it did. The feature had two distinct fills, the upper one being a medium grey sandy silt with frequent stones similar to that in F14 and F35. Once again the feature had been overlaid by the top layer of the metalled surface F15 (Fig 12).

A fourth pit/post-hole with surviving wood (F3) was cut through the sandy gravels on the surface's western periphery to a depth of 6.19mOD (Fig 4). Three short planks similar in size (roughly 350mm long, 190mm wide, and 70mm thick) were vertically positioned in the base of the pit post-hole and pressed closely together. The purpose of the planks was unclear but they had been intentionally placed in the feature in this manner. The top edges of the timbers had been cut. This may have occurred whilst they were still in the ground to so they could be buried rather than dug out.

A large pit/post-hole (F4) with large packing stones similar to those seen in the probable *lilia* (F14 and F35) was identified in Trench 2 (Fig 4). Other similarities between this feature and the probable *lilia* included the medium grey sandy silt fill, its profile (almost vertical southern edge and sloping northern edge) and its stratigraphic location (through gravel layers but overlain by the uppermost gravel layer) and height (Fig 8). F4 is also on the same alignment as F35 and F14 and they would be relatively evenly spaced (Fig 4). Surviving wood may have been present in the unexcavated portion of the feature or it may have been removed either in antiquity or in modernity when the modern building foundations that cut the feature were constructed (Fig 8).

To the north of the aforementioned pits/post-holes, another large and deep pit (F25) cut the metalled surface and the edge of F5 (Fig 4). This feature was considered to be part of the town ditch F5 when excavated in Trench 2. The lower fill of the pit consisted almost entirely of Roman brick, most of which were large broken pieces although some bricks were whole. The lower 400mm of the brick deposit exhibited brown organic staining resulting from the base of the feature residing below the water table. The feature cut the top layer of the metalled surface F15 (Fig 12). However, it appeared to have been covered by the dark earth (L11) which, with the quantity of Roman material and absence of any medieval evidence, suggests that it is Roman in date.

5.3 Medieval/post-medieval;

Ditches, pits and post-holes

The area immediately north of the projected line of the town wall was investigated in Trench 2, in three hand dug slots to the east, and in one machine excavated slot (Fig 4). Full excavation of this area was not undertaken due to its proximity to the unstable brick retaining wall of Northgate Street.

The Roman metalled surface did not extend to the southern limit of excavation in any of the excavated sections. Instead, two large post Roman linears, F44 and F9, were parallel with the town wall on an east-west alignment. The earliest of these linears, F44, was originally identified as two silt accumulations (L14, L13) and a probable feature (F20) located to the south of the later ditch F9 (Fig 15 and Fig 17). Subsequently it became clear that the stony fill to the north of F9 originally assigned to that ditch, was actually the cut of the earlier ditch on the same alignment with its northern edge barely 300mm to the north. The linear F44 was over three metres wide (the southern edge was located outside of the excavation area) with a flat base (Fig 15 and Fig 16). The profile of the linear is, as discussed for other features above, likely a consequence of the very hard mortared surface encountered beneath the gravels (L9) which we not able to hand excavate due to its solidity. The ditch had three distinct fills: a stony silt on its northern edge (L14), a highly organic silt similar to peat in the base of the feature (L13) and, overlying these, a layer of sandy silt containing frequent mortar and building material (F20) (Figs 15-16). The later fill of the ditch (F20) contained peg tile. However, pottery fragments recovered from L13 and F20 date the initial infilling of this ditch to around the 13th-14th century.

Once F44 had been infilled, a second linear was dug on the same alignment, with its northern edge 300mm south of the northern edge of F44 (Fig 4). This ditch (F9) had a 'U' shaped profile with a flat base once again attributable to the solidity of the layer onto which it was excavated (L9) (Fig 15, F16). The ditch F9 had a soft loam fill with a high organic content. Late medieval pot and peg tile was recovered from the lower fill and post-medieval pot and slate from the upper fill. The similarity in alignment of this ditch with the earlier linear (F44) would suggest that they were perhaps dug for the same purpose.

It was not possible to discern archaeological features cut into the dark earth (L11) that overlay the gravel surface, although it is likely many of the features outlined below were cut whilst this layer was accumulating.

At the eastern limit of excavation a very large pit (F12) with a fill containing numerous inclusions and finds, cut the edge of the gravel layers (Fig 4). The bottom of the pit was not excavated as it was below the contractor's formation level. It is most likely that Trench 4 of the trial-trenching phase was excavated through this pit (see above). During the reduction of F12 within the excavation area, numerous finds including pot, tile, animal bone, glass, iron objects and a bone pin were recovered. The pottery from the pit was predominantly late Roman as were the small finds (see below). However, fragments of late medieval/early post-medieval pot have been identified in the assemblage. This suggests that either the pit is late Roman in date with a later medieval/post-medieval feature cut into it that was not discernable due a similarity of the fills, or that it was a medieval/post-medieval pit that cut a late Roman feature subsuming the finds from this feature.

A similar pattern was identified in the finds of another large, if relatively shallow, pit (F10). This pit was cut into the gravels and had been subsequently cut by F12 (Fig 4). Finds included copper-alloy objects, pot counters, worked stone, a marble mosaic cube and a substantial quantity of late Roman pottery. However, two pieces of

medieval pot and fragments of peg tile were also recovered. Due to the large area and shallow depth of F10, it is also possible that it may have been an erosion hollow in the gravel surface that filled with dark earth.

Seven small pits or post-holes cut into the gravel surface (F7a, F8, F13, F16, F17, F18 & F28) are interpreted as post-Roman based on artefacts recovered from some of the features and the similarity of the dark fills in the features to the overlying dark earth (L11) (Fig 4). There was considerable variation in size, shape and depth amongst these features with no obvious patterning. Large stones, presumably used as packing around a wooden post, were recovered from three of the features (F7a, F13, F18). At least four of the features (F7a?, F8?, F13, **F16**, F17?) contained medieval/post-medieval finds such as peg tile, clay pipe and diagnostic pottery, whereas three others that were in close association with these contained only Roman artefacts. Roman artefacts were, however, found in the overlying dark earth and are most likely residual.

The dark earth

A layer of dark earth (L11, or L3 in the evaluation phase) directly overlay the Roman contexts on the site. The 'dark earth' archaeological horizon covers Roman remains in other localities, particularly urban and including London. The layer varied in thickness but was homogenous throughout, with no evidence of any depositional structure. The layer was organically rich and also contained frequent charcoal flecks. Finds from the layer were varied and ranged in date from the Roman to the post-medieval period. Finds included copper-alloy fragments, iron, worked stone, brick and tile (some peg tile) and slate. Roman pottery fragments recovered dated from the early-mid 2nd to 4th century (possibly late), and medieval pottery was recovered that is substantially a 12th- to 13th-century group. Because of the range of finds, it was decided that a sample area of the dark earth would be systematically excavated and the finds recorded in detail.

Sixteen squares (SQ1-SQ16) 25cm x 25cm in size, totalling a sample area of 1m², were carefully excavated in two 10cm deep spits (upper (spit 1) and lower (spit 2)), and the finds from this process were bagged accordingly. A number of post-medieval/medieval features were cut through the dark earth across the site and, because of this, small squares were excavated to ensure that if some of the squares were within the fill of a later feature the rest of the sample was not invalidated. The squares were excavated in spits to establish how the finds were stratified in the layer. The sample square was located towards the western limit of excavation where the layer was deepest (Fig 4). The sample entirely overlay undisturbed gravel surface and did not appear to be in any way disturbed.

Pottery fragments were not abundant in the metre-square excavation, and those fragments recovered were quite ambiguous and not easily datable. Roman pottery and brick/tile was found together with medieval pottery dating to the 12th/13th century in both the upper and lower spits of some quadrants (SQ1, SQ5, SQ4, SQ15). Roman pottery was not significantly more abundant in the lower spits and conversely medieval pottery was not more abundant in the upper spits. However, there are not any unambiguous examples of Roman pottery overlying medieval pottery whereas there is one example of late medieval/post-medieval pottery overlying Roman (SQ5). Fragments of brick and tile were the most common find recovered during sampling and all fragments were identified as Roman. One piece of glass was also found in SQ1 spit 1 but this could not be dated.

There were no distinguishable medieval or post-medieval layers on the site. A post-medieval/modern topsoil containing few finds overlay the dark earth layer and later features such as F9 (L2).

6 Finds

6.1 The small finds and bulk ironwork

by Nina Crummy

The assemblage is small but diverse in both function and date. The objects are listed

below by material and within material by functional groupings and/or context.

Only one coin was recovered, a frequently-occurring copper-alloy issue of Constantine II dated to AD 330-5, found in modern topsoil (SF 8). Other copper-alloy finds are few and none can be closely dated, although a fragment of a pin or needle shaft from surface F27 is distinctively Roman (SF 22). Metal-working debris was found in two Roman contexts. The iron objects are similarly undistinguished. The only lead object is a fragment of sheet lead from an unstratified context while the only glass object is an unstratified modern bead.

Two bone pins or pegs are characteristic of the late Roman period (Fig 17.3, SF 6; not illustrated, SF 5). They have thicker shafts than hairpins and may instead have been used as pegs or dress pins (*CAR* 2, 162). A hairpin or needle shaft fragment of much slighter diameter was also recovered from a late Roman context.

Wood and leather objects are rare finds from Colchester, requiring waterlogged conditions for survival. A single featureless fragment of leather came from L23 (SF 36), while an offcut from a thin wooden board came from the early Roman construction level for the town wall (SF 28). Two dowels or stout pegs came from the waterlogged silt to the west of the drain and probably derived from its construction or later repairs (Fig 17.1and 17.2, SFs 27 and 35). A twig with fragments of leather wrapped around it came from an unstratified context and is not waterlogged; it is likely to be post-medieval or modern.

Stone objects form an unusually high proportion of the assemblage. Most are fragments of architectural stone, but they also include a Roman hone (Fig 17.4, SF 10), a possible medieval hone (SF 29) and three fragments of Mayen lava hand-querns, imported from the Eifel Hills in Germany during both the Roman and medieval periods. One of the quern fragments is from a medieval context and two from Roman or later dark earth; one of the latter (SF 30) may have been reused as a polishing or rubbing stone. Nearly all the architectural pieces are Roman and mainly consist of fragments of Purbeck marble veneer and mouldings. Two were used as packing around a timber in pit F14 (SF 15 and 18), the remainder were scattered across the site in a range of contexts. Their presence on the site and their wide distribution, suggests that they are either construction or demolition debris. The surface of one veneer fragment (SF 17) has not been polished and retains saw marks, suggesting that it was unused construction debris, other pieces are very worn and more likely to be demolition debris.

It is this group of architectural stone fragments that form the defining characteristic of the St Peter's Street assemblage. Together with three mosaic cubes from the probable medieval feature F10, they point to at least one substantial Roman building in the vicinity of the site, probably in the zone between the wall and the river, although there remains a possibility that debris from an intra-mural building may have been thrown over the wall.

Copper-alloy

SF 8. (46) L1. Copper-alloy coin. Constantine II, reverse *Gloria Exercitus* two standards, Rome mint. Diameter 17 mm, weight 1.86 g. Reference: HK 549. AD 330-5.

SF 2. (10) F5. Copper-alloy metal-working debris. Weight 33 g.

SF 4. (38) F10. Amorphous copper-alloy fragment. 15 by 12 by 8 mm.

SF 22. (78) F27. Copper-alloy pin or needle shaft. Length 38 mm.

SF 21. (114) L8. Copper-alloy metal-working debris. Weight 53 g.

SF 23. (89) L11. Copper-alloy strip fragment. Length 45 mm, width 4 mm.

SF 25. (90) L11. Copper-alloy wire fragment. Length 31 mm.

SF 19. (106) L17. Copper-alloy sheet fragment. 38 by 39 mm.

Lead
SF 7. (45). Unstratified. Sheet lead fragment, folded at one end. 19 by 15 mm.

Iron
SF 32. (68) F12. Strap fragment. Length 65 mm, width 37 mm.

SF 31. (136) F12. Right-angled corner bracket with each terminal expanded and pierced for attachment. Arms 107 and 101 mm, width 15 mm.

SF 26. (134) L11. Strap fragment with looped terminal. Length 63 mm.

SF 26. (135) L11. Split-ended socket or ferrule. Length 112 mm.

Nails
(17) F10. Three nails and one shank fragment. Lengths 64, 52, 40 and 68 mm.
(40) F12. Three nails. Lengths 70, 48 and 39 mm.
(136) F12. One nail. Length 35 mm.
(50) F14. Nail shank fragment. Length 20 mm.
(80) F21. Nail? Length 80 mm.
(32) L11. One nail, tip clenched. Length 80 mm.

Wood
SF 28. (122) L9. Triangular offcut from a thin board. Sides 77 by 68 by 68 mm, 14 mm thick.

Fig 17.1 SF 27. (103) L21. Dowel or peg. Length 112 mm, diameter 27 mm.

Fig 17.2 SF 35. (108) L21. Slightly tapering dowel or peg. Length 47 mm, maximum diameter 28 mm.

SF 20. (132). Unstratified. Curved twig with fragments of leather wrapped around it. Length 52 mm.

Leather
SF 36. (117) L23. Leather fragment with one original straight edge; no stitching. 68 by 15 mm.

Bone
SF 5. (74) F28. Bone peg or pin with flat head; the lower part of the shaft is missing. Length 74 mm.

Fig 17.3 SF 6. (31) F12. Bone peg or pin with flat head; the tip is missing. Length 85 mm.

SF 1. (9) F5. Bone pin or needle shaft fragment. Length 62 mm.

Glass
SF 24. (99). Unstratified. Modern globular glass bead. Length 6 mm, diameter 7 mm.

Stone

SF 37. (67) F10. Fragment of Mayen lava from a quern, but no surviving worked surfaces or edges. 49 by 49 mm, 21 mm thick.

Fig 17.4 SF 10. (34) L11. Micaceous calcareous sandstone hone of rectangular section, with one original end surviving. Length 54 mm, section 30 by 20 mm.

SF 14. (47) L11. Small fragment from the rim of the lowerstone of a Mayen lava quern, with radial tooling on the grinding surface. 98 by 69 mm, 30 mm thick.

SF 30. (91) L11. Palm-sized abraded fragment of Mayen lava from a quern, probably used as a rubbing or polishing stone. 83 by 68 mm, 29 mm thick.

SF 29. (138) F20. Schist fragment, possibly part of a rectangular-section hone, with one original edge remaining. Length 82 mm, width 32 mm, 23 mm thick.

Architectural stone

SF 9. (18) F10. Mosaic cube of cream/white hard chalk, with no surviving traces of mortar. 12 by 13 mm, 9 mm thick.

SF 33. (23) F10. Two mosaic cubes of cream/white hard chalk, joined by hard white mortar. There are traces of red tile left by adjoining tesserae on each long side. Length 35 mm, width 18 mm, 16 mm thick.

SF 13. (36) F10. Weathered Purbeck marble veneer fragment, both surfaces are damaged and no original edges remain. 105 by 90, 23 mm thick.

SF 34. (84) F35. Purbeck marble fragment of roughly triangular section to ovoid section. Length 129 mm, maximum section 73 by 48 mm.

SF 16. (73) F15. Purbeck marble block fragment with parts of two original edges surviving. 136 by 110 mm, 60 mm thick.

SF 17. (33) L11. Purbeck marble veneer fragment with one rough surface and one is smooth but is not polished and retains sawn marks. No original edges remain. 125 by 99 mm.

SF 15. (62) F14. Purbeck marble fragment, probably a from a quarter-round moulding. There is one straight vertical face and a straight flat slight groove along the top of the rounded face. Length 150 mm width 68 mm, 39 mm thick.

SF 18. (66) F14. Purbeck marble veneer strip fragment, with two original edges meeting at a curved corner. The underside is rough. Length 193 mm, width 75 mm.

SF 12. (27) F7. Purbeck marble veneer fragment with part of one original edge surviving. One surface is rough and the other polished. 122 by 114 mm, 27 mm thick.

SF 11. (24) F8. Purbeck marble veneer fragment with one polished surface and no original edges. 78 by 35 mm, 23 mm thick.

SF 3. (10) F5. Triangular fragment from a limestone block, with two roughly-worked original edges set at an obtuse angle. The surfaces are

rough but may be original; one has a rebated area close to the broken edge. 175 by 175 mm, maximum thickness 54 mm.

6.2 The clay tobacco pipe

by Nina Crummy

Most of the clay tobacco pipe assemblage consists of plain stem fragments that cannot be closely dated. The exceptions are part of a bowl from pit F11 that belongs to Colchester Type 9, dated to *c* 1700-40 (*CAR* **5**, 51-2), and a fragment of a late 19th century stem in a red fabric with the mark of McDougall's of Glasgow (Walker & Walker 1969, 132-46). A stem fragment with this mark has also been found at Balkerne Lane (*CAR* **5**, fig. 64, 2968).

(25) F11. Post-medieval to modern pit. Nine plain stem fragments. 1) Length 71 mm; bore diameter 2 mm. 2) Length 59 mm; bore diameter 2 mm. 3) Length 57 mm; bore diameter 2 mm. 4) Length 55 mm; bore diameter 2 mm. 5) Length 50 mm; bore diameter 2 mm. 6) Length 46 mm; bore diameter 2 mm. 7) Length 38 mm; bore diameter 2.5 mm. 8) Length 35 mm; bore diameter 2 mm. 9) Length 24 mm; bore diameter 1.5 mm.

(26) F11. Post-medieval to modern pit. Three bowl fragments and seven plain stem fragments. Two of the bowl fragments are small and cannot be assigned to a type. The third is a Colchester Type 9, with central swelling, dated to *c* 1700-40. Stem fragments: 1) Length 60 mm; bore diameter 2 mm. 2) Length 122 mm; bore diameter 3 mm. 3) Length 71 mm; bore diameter 2 mm. 4) Length 66 mm; bore diameter 2 mm. 5) With mouthpiece: length 44 mm; bore diameter 3 mm. 6) Length 63 mm; bore diameter 2.5 mm. 7) With foot and small part of bowl: length 95 mm; bore diameter 2 mm.

(51) F16. Post-medieval to modern small pit/post-hole. Plain stem fragment. Length 23 mm; bore diameter 3 mm.

(43). Unstratified. Red fabric. Stem and small part of the bowl. Incuse mark M^{C}DOUGALL on one side of the stem, GLASGOW on the other. Length 53 mm; bore diameter 1.5 mm. Late 19th century.

6.3 Dendrochronology: timbers from the Roman drain F7

by Dr Martin Bridge FSA

Samples 1, 2 and 3 (Northern planks, west, east and base) are all from the same tree and give a tree ring sequence covering 115 BC to 15 AD.

Sample 4 (Southern plank, west side) gives a sequence from 67 BC to 53 AD – that matches well with the sequence from the northern planks.

When these two series are combined, the dating is confirmed by a very strong match (t = 8.1) with Roman well timbers from Hacheston (Suffolk), and matches in the same position with Snettisham well timbers (t = 5.3), A Roman London chronology put together by Nigel Nayling (t = 4.7) and Regis House, London (t = 4.0).

There are no signs of sapwood on any of the samples, and it is not possible to tell how much timber has been lost from the outside of the tree on conversion into planks. Adding the minimum likely number of sapwood rings (9) means that the trees used were probably felled after 62 AD.

Several samples have been undergoing conservation at the Institute of Archaeology, UCL, and it is hoped to gain more information when this process has ended.

6.4 The Roman pottery

by S Benfield

In total a little over 8.5 kg (8,639 g) of Roman pottery was recovered during the excavation. This has been recorded using the Roman pottery fabric type series devised for *CAR* **10** in which the fabrics are recorded as two letter codes. These letter codes, together with the full fabric name, are set out in Table 1. Where appropriate the fabric code for the national Roman fabric reference collection has been included (Tomber & Dore 1998). The pot forms were recorded, where possible, using the Camulodunum (Cam) Roman pottery form type series (Hawkes & Hull 1947, Hull 1958). Samian vessels are recorded using Dragendorff (Dr) form numbers or other common form type references following those used in Webster 1996. Dating of the pottery broadly follows the dating of pottery fabric and forms in *CAR* **10**. For each context the number of sherds and the identifiable pottery forms were recorded for each finds number by fabric type. The total weight of pottery and an overall spot date was recorded for each find number. A catalogue of the pottery is provided for the contexts dated as Roman, for the pits F10 and F12 (which contain significant quantities of Roman pottery with little post Roman material) and the Roman pottery recovered from the dark soil (L11) is listed. A full catalogue of all the Roman pottery from the site is contained in the archive.

Fabric code	Fabric name	National Roman fabric reference collection Fabric code
AA	amphorae, all excluding Dressel 20 and Brockley Hill/Verulamium region amphorae	
AJ	amphora, Dressel 20	BAT AM 1, BAT AM 3
BA	plain samian forms	
SG	South Gaulish (La Graufesenque) plain samian	LGF SA
MV	Les Matres-de-Veyre	LMV SA
CG	Central Gaulish (Lezoux) plain samian	LEZ SA 2
EG	East Gaulish plain samian	
BX	decorated samian forms	
SG	South Gaulish decorated samian	LGF SA
CG	Central Gaulish (Lezoux) decorated samian	LEZ SA 2
EG	East Gaulish plain samian	
CB	Colchester red colour-coated, roughcast ware	COL CC2
CH	oxidised Hadham wares	HAD OX
CZ	Colchester and other red colour-coated wares	COL CC2
DJ	coarse oxidised and related wares	COL WH
DZ	fine oxidised wares	
EA	Nene Valley colour-coated ware	LNV CC
GA	BB1: black-burnished ware, category 1	DOR BB1
GB	BB2: black-burnished ware, category 2	COL BB2
GX	other coarse wares, principally locally-produced grey wares	
HD	shell-tempered and calcite-gritted wares	
HG	Eifelkeramik/Mayen ware	MAY CO
HZ	large storage jars and other vessels in heavily-tempered grey wares	
KX	black-burnished ware (BB2) types in pale grey ware	
MP	Oxfordshire-type red colour-coated wares	OXF RS
MQ	white slipped fine wares and parchment wares	
TE	Nene Valley mortaria, white fabric with black grits, unslipped or with reddish wash	LNV WH
TG	Oxford, red/grey fabric with red colour-coat and pink grits	OXF RS

Fabric code	Fabric name	National Roman fabric reference collection Fabric code
TZ	mortaria, Colchester and mortaria imported from the Continent	
UX	Romano-Saxon grey ware and types in similar fabric	

Table 1: Roman pottery fabric codes and names used in this report (after *CAR* 10).

Discussion

The Roman pottery recovered from contexts dated to the Roman period consists of some 75 sherds weighing 3,154 g. Most of this pottery is not closely datable, consisting of body sherds in oxidised ware and sherds from large storage jars, and can only be dated to the 1st-2nd/3rd century. Pottery from a few of the contexts can be more closely dated. L22 produced a South Gaulish platter of form Dr 15/17, which can be dated to the 1st century but is most common in the Claudio-Neronian/early Flavian period (Webster 1996, 30). The pottery from L10 included several forms that can be dated to the 1st or 1st-early 2nd century. Pottery from F7 and L21 can probably also be dated as 1st or 1st-early 2nd century. Three contexts contained pottery that can be dated to the 2nd or 2nd-3rd century. L20 contained Central Gaulish samian, black-burnished ware category 2 (BB2), and the rim from a Cam 268 jar which dated to after the early-mid 2nd century. L8 contained samian from Les Matres-de-Veyre, datable almost exclusively to *c* AD 100-125 (Tyers 1999, 113) and a mortarium variant of form Cam 479 which is probably Antonine. L7 can be dated, based on a sherd of mortaria which is probably a variant of form Cam 479, as Antonine. This is probably a sherd from the same mortarium as in L8. There is only one late dated Roman sherd, from F5 (finds number 82). This late sherd is from a Nene Valley colour-coated beaker and can be dated as early-mid 3rd to 4th century. There is one samian potters name stamp (L20, finds number 100) on a sherd of South Gaulish samian. Although fragmentary this stamp is probably of the potter Crestio (see catalogue) and can be dated c AD 50/55-65.

Of the remaining Roman pottery, the majority was recovered from two pits, F10 (1724 g), F12 (1816 g), and from the dark soil L11(1508 g). The two pits are of interest as, in contrast to other features dated as post-Roman, they contained significant quantities of Roman pottery and the average weight of the Roman pottery sherds is also higher than the other post-Roman features (Table 2). The closely datable pottery from the pit F12 spans the period from the early 2nd century to the mid-late 3rd to 4th century. This includes Central and East Gaulish samian, black-burnished wares of category 1 (BB1) and category 2 (BB2), late Colchester colour-coated ware, and Nene Valley colour-coated ware. There is a large sherd from a decorated East Gaulish samian bowl of form Dr 37. Among the pottery is an example of the flanged bowl form Cam 305A (F12 finds number 75) which dates from the mid-late 3rd to 4th century (*CAR* **10**, 481). The Roman pottery from the pit F10, while encompassing a similar range of pottery to F12, with he addition of one 1st century sherd of South Gaulish samian, includes sherds that are firmly of late 4th century date. These sherds are from a piece from a Mayen ware vessel, broken into several sherds, which is the latest datable Roman pottery type at Colchester (*CAR* **10**, 463) and can be dated to the late 4th century (after *c* AD 350)-?early 5th century. Also, there are two sherds of Oxidised Hadham ware (F10, finds number 37), which, while occurring from the late 3rd century, is more typical of 4th century contexts (*CAR* **10**, 297).

There is only a small quantity of Roman pottery (437 g) from other (post-Roman) features or that is unstratified. It is noted that among this are two sherds of Oxford red colour-coated ware, one from a mortarium (F20, finds number 63), and one sherd with a dense black slip (F20, finds number 59) which can be classified as Fabric UX: Romano-Saxon grey ware and types in similar fabric (*CAR* **10**, 444). The Oxford sherds can be dated to after *c* AD 300 (*CAR* **10**, 304) and the sherd in Fabric UX probably dates to after *c* AD 350 (*CAR* **10**, 444).

Context	Average sherd weight in grams.	Number of sherds
Pottery from contexts as dated Roman	42.0	75
Roman pottery from the pit F10	36.7	47
Roman pottery from the dark soil	25.6	59
Roman pottery from the pit F12	21.4	85
Roman pottery from the pit F9, dated post-medieval	16.3	12
Roman pottery from the ditch F44, dated post-medieval	17.9	10
Roman pottery from other features dated post-medieval and unstratified	12.4	5

Table 2: Average sherd weight for Roman pottery from dated features grouped by period and for other individual features in order from highest average weight to lowest.

Catalogue:
Pottery from contexts dated as Roman
F5 (L17)
Finds number 81, 62 g.
Fabric HZ, 1 sherd. Pottery dated: 1st-2nd/3rd century.

Finds number 82, 55 g.
Fabric EA, 1 sherd, beaker base. Pottery dated: early-mid 3rd to 4th century.

F7 (L21) Finds number 8, 6 g.
Fabric GX, 1 sherd, rim sherd, probably from a necked jar or bowl, possibly form Cam 266. Pottery dated: Roman, ?1st-early 2nd century.

F14 Finds number 65, 3 g.
Fabric GX, 1 sherd. Pottery dated: Roman.

F25 Finds number 72, 13 g.
Fabric GX, 1 sherd, slightly abraded. Pottery dated: Roman.

F29 Finds number 80, 2 g.
Fabric DJ, 1 sherd. Pottery dated: 1st-2nd/3rd century.

F32 Finds number 86, 71 g.
Fabric DJ, 3 sherds from a flagon body. Pottery dated: 1st-2nd/3rd century.

F37 Finds number 101, 11 g.
Fabric DJ, 1 sherd from a flagon body. Pottery dated: 1st-2nd/3rd century.

F43 Finds number 126, 1 g.
Fabric GX, 1 small sherd. Pottery dated: Roman.

L7 Finds number 1, 43 g.
Fabric GX, 1 sherd, abraded; Fabric TZ, 1 sherd, Cam ?479 variant. Pottery dated: probably Antonine.

L8
Finds number 111, 42 g.
Fabric DJ, 2 sherds; Fabric GX, 1 sherd, Fabric ?GX, 1 sherd with very pale fabric; Fabric HZ, 1 sherd. Pottery dated: Roman, ?1st-2nd/3rd century.

Finds number 112, 129 g.
Fabric GX, 3 sherds; Fabric HZ, 5 sherds from rim and shoulder storage jar with

bead rim with plain body, burnished on rim, possibly Cam 271, similar to vessel at Stanway, (Benfield 2007, fig 143, no. 111) from the ditch of Enclosure 4, context dated *c* AD 40 to 45/50 (Crummy et al 2007, 440-441). Pottery dated: early 2nd century, possibly Antonine.

Finds number 113, 584 g.
Fabric AA, 4 sherds, Haltern 70 handle; Fabric AJ, 2 sherds; Fabric BA(MV), 1 sherd, 18/31; Fabric DJ, 1 sherd; Fabric GX, 1 sherd; Fabric TZ, 4 sherds, from two pots, one probably the same vessel as L7 finds number 1, Cam ?479 variant. Pottery dated: early 2nd/2nd century , possibly Antonine.

L10 Finds number 110, 225 g.
Fabric AA, 1 sherd; Fabric GX, 5 sherds, Cam 108 (2 joining sherds), Cam ?218, Cam 266; Fabric TZ, rim from a Cam 195B. Pottery dated: 1st -?early 2nd century.

L20 Finds number 100, 970 g.
Fabric AJ, 3 sherds; Fabric BA(SG) 1 sherd from a platter, stamp,]**CRES**[probably OF.CRESTIO *c* AD 50/55-65 (*CAR* **10** S98-106); Fabric BA(CG) 2 sherds; Fabric DJ, 1 sherd; Fabric GB, 2 sherds, CAM 37A, Cam 278; Fabric GX, 6 sherds, Cam 268; Fabric HZ, 1 sherd. Pottery dated: early-mid 2nd to early 3rd/3rd century.

L21 Finds number 107, 205 g.
Fabric BA(SG), 4 sherds, Dr 18; Fabric DJ, 3 sherds from two flagons, one with sloping disc rim and up-right neck; Fabric GX, 1 sherd. Pottery dated: 1st -?2nd century, probably 1st century.

L22
Finds number 116, 635 g.
Fabric AJ, handle, abraded; Fabric DJ, 2 sherds, flagon handle and neck; Fabric GX, 1 sherd. Pottery dated: 1st-2nd/early 3rd century.

Finds number 119, 34 g.
BA(SG) 2 sherds, Dr 15/17. Pottery dated: Claudio-Neronian/ Flavian.

L23 Finds number 125, 33 g.
Fabric DJ, 1 sherd, flagon handle. Pottery dated: 1st-2nd/early 3rd century.

Roman pottery from the pit F10
Finds number 17, 187 g.
Fabric GX 4 sherds; Fabric HG, 5 sherds, all from the same pot. Pottery dated: late 4th (*c* AD 350-400) to early 5th century.

Finds number 23, 47 g.
Fabric CZ, 1 sherd; Fabric GX, 1 sherd, Cam ?266; Fabric ?MQ, 1 sherd, red surfaces with traces of white ?coating under rim. Pottery dated: early 2nd to mid-late 3rd century.

Finds number 37, 930 g.
Fabric AJ, 2 joining sherds; BA(CG) burnt; Fabric CH, 2 sherds; Fabric DJ, 1 sherd; Fabric CZ, 2 sherds; Fabric GX, 9 sherds; Fabric HD, 1 sherd, jar, *CAR* **10** Type 35/36 Fabric KX, 1 sherds, Cam 37/38. Pottery dated: 4th century, possibly late 4th century.

Finds number 67, 560 g.
Fabric BA(SG), 1 sherd; Fabric BA(CG), 1 sherd; Fabric BA(EG), 1 sherd, 18/31; Fabric CB, 1 sherd; Fabric CZ, 1 sherd; Fabric GX, 8 sherds; Fabric HZ, 3 sherds. Pottery dated: early-mid 2nd to mid-late 3rd century.

Roman pottery from the pit F12
Finds number 40, 709 g.
Fabric DJ, 1 sherd, flagon neck; Fabric CZ or DZ, 1 sherd, lid, *CAR* **10** fig 5.36 no 192; Fabric CZ, 1 sherd, beaker base; Fabric EA, 1 sherd, bowl base, late type; Fabric GA, 1 sherd, Cam 39 with burnished arcs; Fabric GB, 1 sherd, Cam 37B; Fabric GX, 9 sherds, 3 from a rouletted beaker; Fabric KX, 1 sherd from a thick walled Cam 39B. Pottery dated: late ?3rd-4th century.

Finds number 68, 780 g.
Fabric AA, 1 small sherd; Fabric BA(MV) 1 sherd; Fabric BA(CG) 9 sherds, Dr 27, Dr 31; Fabric BA(EG), 1 sherd, Walters 78; BX(CG), 1 sherd, Dr 37; Fabric DJ, 1 sherd; Fabric CZ, 8 sherds, Cam 392; Fabric GB, 4 sherds, Cam 37, Cam 39, Cam 278, small or miniature Cam 278; Fabric GX, 30 sherds, Cam 270B; Fabric HZ, 3 sherds; Fabric KX, 2 sherds, Cam 37/38; Fabric TZ, 1 sherd, Cam 496 variant. Pottery dated: late 2nd to mid-late 3rd century.

Finds number 75, 327 g.
BX(EG), Dr 37, near complete profile (footring missing), about one fifth of pot; Fabric DJ, 1 sherd, Cam 156; Fabric GA, 1 sherd, Cam 305A; Fabric CZ, 1 sherd; Fabric GX, 1 sherd; Fabric KX, 1 sherd, Cam 37/38, plain with bead rim. Pottery dated: late 3rd to 4th century.

Roman pottery from the dark earth L11
Finds number 12, 30 g. Fabric GX, 3 sherds.

Finds number 15, 240 g. Fabric BA(EG), 1 sherd, probably Dr 33 base; Fabric GX, 7 sherds, Cam ?270B, burnt; Fabric HZ, 2 sherds; Fabric KX, 1 sherd.

Finds number 21, 174 g. Fabric GX, 4 sherds; Fabric KX, 1 sherd, thick walled Cam 39; Fabric HZ, 1 sherd; Fabric TZ, 1 sherd.

Finds number 32, 910 g. Fabric DJ, 2 sherds; Fabric CZ, 1 sherd; Fabric GA, 1 sherd, Fabric ?GB, 1 sherd, Cam 407; Fabric GX, 7 sherds, Cam 268; Cam 305A; Fabric HD, 1 sherd, jar rim, *CAR* **10** Type 35/36; Fabric HZ, 3 sherds; Fabric KX, 2 sherds, Cam 37/38; Cam 40B (2), Cam 278; Fabric TE, 2 joining sherds, Cam 500.

Finds number 49, 7 g. Fabric GX, 1 sherd.

Finds number 69, 32 g. Fabric GX, 3 sherds, Cam ?268.

Finds number 141, 34 g. Fabric GX, 2 base sherds.

From controlled spits excavated into dark soil:
Finds number 56
Square 1, Spit 1, 8 g. Fabric GX, 2 sherds.
Square 2, Spit 2, 6 g. Fabric GX, 1 sherd.
Square 3, Spit 1, 2 g. Fabric GX, 1 sherd.
Square 4, Spit 1, 12 g. Fabric ?AA, 1 sherd, micaceous fabric; Fabric DJ 1 sherd probably from a jar or beaker.
Square 4, Spit 2, 9 g. Fabric GX, 2 base sherds.
Square 5, Spit 2, 28 g. Fabric GX, 2 sherds.
Square 15, Spit 2, 16 g. Fabric GX, 2 base sherds.

6.5 The post-Roman pottery

by H Brooks

Description of pottery
Fabrics present are as follows (after Cunningham 1985 and *CAR* **7**): Fabric 13 (early medieval sandy ware); Fabric 20 (medieval grey ware); Fabric 21 (sandy orange ware); Fabric 21a (Colchester-type ware); Fabric 22 (Hedingham fine ware): Fabric

40 (post-medieval red earthenware or PMRE); Fabric 42 (Border ware); Fabric 45m (modern stoneware); Fabric 46 (tin-glazed earthenware), and Fabric 48d (modern ironstone). A list of fabrics by context is given in the catalogue below. Full quantification can be found in the archive.

Comment
This is a small group of post-Roman pottery (68 sherds, 1,363g). The commonest Fabric was Fabric 40 post-medieval red earthenware (PMRE: 18 sherds, 524g), but the medieval fabrics were commoner that post-medieval fabrics (43 sherds 771g, as opposed to 25 sherds 592g). The range of fabrics present is typical of post-Roman groups from Colchester.

Catalogue of pottery

F2
Finds number 129
1 sherd Fabric 40 PMRE, 15g. 17th-18th century.

F7a
Finds number 11
1 sherd fabric 20, 30g. 13th century
1 handle fragment in Fabric 21 sandy orange ware, 13g. 13th-16th century
1 ?tile fragments, 31g. Date??
(plus 1 Roman sherd, 6g)

Group date F7a: 13th century, or possibly as late as the 16th.

F9
Finds number 16
5 sherds Fabric 20 early medieval sandy ware, 53g. 13th century.
1 sherd Fabric 21 sandy orange ware, 5g, 13th-16th century.
2 tile fragments, 23g. Date??
(6 Roman sherds 78g)

Finds number 41
2 sherds Fabric 21a Colchester-type ware, 1 partially-glazed,14g. 15th-16th.
1 sherd Fabric 20 early medieval sand ware, 10g, 13th century
1 Roman sherd, 15g

Finds number 57
1 sherd of micaceous orange fine ware – probably Fabric 22 Hedingham fine ware, 14g. 13th-14th century.
3 Roman sherds 20g.

Finds number 94
2 sherds Fabric 21a Colchester-type ware, 1 partially-glazed,13g. 15th-16th.

Finds number 96
1 rim sherd of Fabric 20, 13th century.
1 Roman sherd, 40g.

Group date F9: 15th-156th century

F10
Finds number 37
1 sherds fabric 21a??, 36g. 15th-16th century.
1 Fabric 20 rim, 19g. B2 type rim, 12th century.
1 Fabric 13 or 20, 6g. 12th-13th century.
(plus 18 Roman sherds, 882g)

Group date F10: probably 15th-16th century.

F11
Finds number 25
1 sherd extremely shiny fabric 45m, modern stoneware, 4g. No earlier than 19th century.
5 sherds Fabric 40 PMRE, 144g. 17th-18th century.

Group date F11 finds number 25: 19th century.

F11
Finds number 26
1 Fabric 48d modern ironstone handle fragment, 3g. 19th-20th century.
1 Fabric 50 Staffs slipware sherd, 28g. Early 18th century.
1 sherd Fabric 45f Westerwald ware, 9g. Early 18th century.
2 sherds Fabric 42 Borders Ware, 18g. Mid 16th or 17th century.
9 sherds Fabric 40 PMRE, 291g, 17th-18th century.
(plus 1 Roman sherd 16g)

Group date: 19th century.

F12
Finds number 75
1 sherd from large vessel in Fabric 21a Colchester-type ware, 111g. It has overall white slip on exterior. This may mean it is early – ie 12th 13th century.
(plus 6 Roman sherds, 130g).

Group date F12: 12th-13th century.

F17
Finds number 52
1 sherd of Fabric 46 tin-glazed earthenware, 6g. Late 16th or 17th century.

F20
Finds number 97
2 sherds Fabric 13 or 20, 20g. 12th-13th centuries.

Finds number 63
1 Fabric 13 rim of type B2, 12th century, 14g.
6 Roman sherds, 140g.

Group date F20: 12th-13th century.

L11
Finds number 12
2 sherds of Fabric 40 PMRE, 27g. No earlier than 17th century.
5 sherds of Fabric 21a, Colchester-type ware, 207g. Includes one fine handle fragment with overall white slip under occasionally speckly green glaze. This is probably an early Colchester ware type, 12th-13th century rather than 15th-16th century.
(plus 3 Roman sherds, 24g).

L11
Finds number 15
3 sherds Fabric 13, 25g, included a Type A rim, probably later 11th century?
(plus 12 Roman sherds, 224g)

Finds number 21
3 sherds fabric 13, 30g. Includes a type B2 rim - early 12th century.
1 sherds Fabric 21a Colchester-type ware, 2g.

Piece of slate, 7g
(6 Roman sherds 170g)

Finds number 23
1 sherd fabric 13, early medieval sandy ware), 23g. 12th century.
(plus 22 Roman sherds, 893g).

Finds number 69
1 sherd glazed Fabric 40, 34g. 17th-18th century
(plus Roman)

Group date L11 finds 12, 15, 21, 23, 69: this is substantially a 12th-13th century group with some later sherds and a piece of slate. The question is – are the later pieces intrusive? Based purely on what is seen here, I would say that the medieval sherds are residual, and that the group is no earlier than 17th century.

L11
Finds number 56, square 1, spit 1
1 sherd Fabric 13 or 20, 3g.12th-13th century
(plus 1 Roman sherd, 3g)

Finds number 56, square 2, spit 2
1 sherd, 6g – not sure if Roman or medieval.

Finds number 56, square 3, spit 1
1 sherd Fabric 13, 4g. 12th century
(plus 1 Roman sherd, 2g)

Finds number 56, square 4, spit 1
1 sherd Fabric 13, 3g. 12th century
1 sherd Fabric 21 sandy orange ware? 6g. 13th-16th century??

Finds number 56, square 4, spit 2
1 sherd fabric 13, 9g.13th century

Finds number 56, square 5 , spit 1
1 sherd glazed fabric 21a, 13g. 15th-16th century (possibly slightly later ?).

Finds number 56, square 5, spit 2
3 sherds, all Roman? , 32g

Finds number 56, square 8, spit 2
1 sherd Fabric 13, 13g.; 12th century

Finds number 56, square 15, spit 2
1 sherd Fabric 13, 16g. 12th century
(plus 2 Roman sherds, 16g)

Group date L11 sample material: 15th-16th century

L13
Finds number 85
1 sherd Fabric 13, 18g. 13th century,
2 Roman sherds, 18g

Finds number 93
1 sherd early Fabric 21a Colchester-type ware, 41g, 13th-14th century.

6.6 The brick and tile

with identifications by Ernest Black and Brian Hurrell

Approximately 120 kg (120,301g) of brick and tile was collected from 21 St Peter's Street. One third of the pieces (90 pieces 87,456g) are Roman brick and tile fragments from Roman contexts (Table 3).

The Roman brick and tile from the uncovered section of the wooden drain (F7) and from the mortar and septaria rich layer above (L10) were found in association with septaria nodules and are most likely associated with the construction of the Roman town wall. Brick courses in the town wall are nearly always four (horizontally laid) bricks deep interspersed with septaria nodules also four courses deep (Crummy 2003). Remnants of these brick courses were observed in the town wall immediately to the east and west of the site. The construction layer (L10) contained frequent small brick/tile fragments as well as numerous pieces over 1kg in weight. Although often large in size none of the bricks or tiles were whole. Fragmentary brick and tegulae would most likely have been used in the construction of the wall to form ragged internal edges as opposed to structurally weaker straight joints that complete overlying bricks/tegulae would have formed (Crummy 2003). Notably more brick than tile was recovered from the construction material. Many fragments retained mortar on their surfaces, most likely from deposition in a mortar rich layer as opposed to being evidence for re-use of the material. However, some fragments were identified as having been burnt suggesting they were re-used, perhaps from buildings destroyed by fire during the boudican revolt. Another badly burnt brick (*lydion*) was also recovered from the deposit on the western side of the drain F7 (F21). Two longitudinally convex *tegulae* were recovered from the construction layer. Such tiles may be manufacturing defects. However, It has been suggested that such tiles could have been used for vaulted roofs, being placed directly onto the curved extrados of the vaulting to provide the protective outer coating (Warrry 2006; 91-118). It is proposed that such tiles would have a smooth underside and no nail holes, characteristics observable on the two large examples from the construction surface. Vaulted roofs are often associated with bathhouses.

A large quantity of brick and tile, many of which were large fragments, were recovered during the evaluation stage from what was believed to be the Roman town ditch (F5). Full excavation showed that this material probably came from F25, a large pit extending beyond the northern limit of excavation that contained frequent brick and tile fragments. One fragment from this context was a tile with a diamond shaped scoring on the what is probably the underside of the tile and part of a signature on the opposing side. This is a *parietalis*, or facing tile, that would have been attached to a wall, and the purpose of the scoring, similar to that found on half-boxes, was to aid in the adhesion of plaster (Broadrib 1987;58-60). Further east an excavated section through the probable town ditch identified two dark soil layers with frequent brick and tile (L15 and L17). A fragment of tegulae of Gosbecks type 41, a tegulae that may have been used in the construction of the Temple of Claudius (E.Black forthcoming), was recovered from L17.

Brick and tile was compacted to form dense layers (ie F32), and discreet patches of repair (i.e. L12), in the north-south road surface. Most of the material was fragmentary, although large pieces were recovered from some contexts (F27, F29, F32, L12). Some of these deposits may be contemporary with the construction of the town wall, but a lack of datable evidence from the road stratigraphy means this is only speculative.

The majority of the Roman brick and tile recovered was residual in later contexts (61%). Fragments from these contexts were generally smaller (only 31,829g total weight compared with 120,301g total weight from Roman contexts). Fragments of brick, tegulae, imbrex, column brick, box tile and flue tile were recovered, including a Gosbecks Fabric 1 tegulae from F10. This tile is most probably a Type 16 and dates to the early second century (Black forthcoming). Details of the Roman brick and tile collected from post-Roman contexts will be retained with the site archive.

A small quantity of post-Roman tile (15 pieces, 827g) was collected from five contexts (Table 4). All five contexts also contained Roman brick and tile. Almost all of the post-Roman tile came from features dated to the late medieval/early post-medieval period and none of it is considered to be intrusive.

Context	Finds number	Type	Qty	Thickness	Frag size	Total weight (g)	Observartions (signature, prints etc..)
F3	2	Tegulae	2		Small	40	
F3	2	Brick	2	20-25mm	Small	117	
F5/F25	137	Tile/brick	1	25-30mm	Medium	700	
F5/F25	137	Brick	1	40+mm	Large	3140	Signature.
F5/F25	137	Tile	1	25-30mm	Small	366	Diamond shaped scoring & signature
F5/F25	137	Brick	2	40+mm	Large	6500	Signature.
F5/F25	137	Brick	1	40+mm	Large	1900	Signature. Both faces.
F5/F25	137	Brick	1	40+mm	Large	2170	Boot and animal prints. Mortar.
F5/F25	137	Brick	1	40+mm	Large	7000	Signature. Mortar.
F5/F25	137	Brick	1	40+mm	Large	5000	Signature. Animal print.
F5/F25	137	Brick	2	30-40mm	Large	4000	Faint signature. Thumb print. Some mortar.
F5/F25	10	Brick	1	40+mm	Large	2100	Plain.
F5/F25	10	Tile/brick	1	30-40mm	Small	555	Mortar.
F7	124	Brick	3	30-40mm	Small	1160	Mortar.
F14	50	Tile/brick	1	20/25mm	Small	56	
F14	50	Brick	1	40+mm	Medium	680	
F21	60	Tegulae	1	25-30mm	Medium	478	Wide, rounded flange, 50/50 tile/flange ratio.
F21	60	Tile/brick	1	20/25mm	Small	228	
F21	60	Flue tile	1	20/25mm	Large	1053	
F21	60	Brick	1	40+mm	Large	1945	
F21	60	Brick	1	40+mm	Medium	615	Burnt lydion.
F25	72	Brick	1	40+mm	Large	5500	Signature.
F27	79	Brick	1		Small	181	Pale orange.
F27	79	Tile/brick	12		Small	165	
F29	80	Brick	4		Small	241	
F32	86	Imbrex	2	20/25mm	Small	600	Mortar staining.
F32	86	Brick	5	40+mm	Medium	3000	Mortar staining.
L8	113	Brick	4	20/25mm	Medium	3000	Mortar. Studmarks.
L8	113	Brick	3	25-30mm	Medium	550	
L8	113	Brick	1	25-30mm	Small	170	'Rib' parallel markings.
L8	112	Brick	1	25-30mm	Medium	394	
L10/F7	110	Tegulae	1	40+mm	Small	200	Mortar.
L10/F7	110	Brick	1	40+mm	Large	1800	Mamarta, Recess, Mortar.
L10/F7	110	Brick	1	40+mm	Medium	940	'V' notch.
L10/F7	110	Brick	1	40+mm	Large	3000	Animal print. Mortar.

Context	Finds number	Type	Qty	Thickness	Frag size	Total weight (g)	Observartions (signature, prints etc..)
L10/F7	110	Brick	1	40+mm	Large	2030	Mortar.
L10/F7	110	Brick	3	40+mm	Medium	5500	Rough cutting. Mortar. Burning.
L10/F7	110	Tegulae	1	20/25mm	Large	3500	Convex. Cut away on left side (type 2) with 'X' key mark. Signature. Wide, rounded flange, 25/75 tile/flange ratio.
L10/F7	110	Tegulae	1	25-30mm	Large	1600	Wide, rounded flange, 50/50 tile/flange ratio, cut back (type 1). Slightly convex.
L10/F7	110	Imbrex	2	20/25mm	Small	360	
L10/F7	110	Brick	1	30-40mm	Medium	280	Mamarta
L10/F7	110	Brick	4	30-40mm	Medium	3400	Shaping Cut Moulded.
L10/F7	110	Brick	2	30-40mm	Medium	1140	
L10/F7	110	Brick	2	30-40mm	Medium	1400	Animal Print.
L12	30	Brick	1	40+mm	Large	5500	Signature. Burnt. Boot Print.
L17	81	Tegulae	1	25-30mm	Small	290	Wide, rounded flange, 50/50 tile/flange ratio, cut back (type 1) & cut away (type 5). Gosbecks type 41
L17	81	Brick	2	30-40mm	Large	1588	Signature.
L17	82	Brick	2	30-40mm	Small	1015	Mortar on one face.
L20	100	Tile/brick	1		Small	42	
L21	107	Brick	1	40+mm	Medium	462	Burnt.

Table 3: Roman tile and brick from contexts dated as Roman.

Context	Finds number	Context dated	Qty	Weight (g)	Description
F9	16	late med/early post-med	3	152	Peg tile fragments
F9	41	late med/early post-med	1	115	Peg tile
F9	54	late med/early post-med	1	68	Peg tile
F9	94	late med/early post-med	2	97	Peg tile fragments
F10	67	late med/early post-med	1	50	Peg tile
F13	44	late med/early post-med	1	37	Peg tile
F20	58	medieval	1	36	Peg tile
F20	63	medieval	1	115	Peg tile
L11	21	late med/early post-	1	40	Peg tile

Context	Finds number	Context dated	Qty	Weight (g)	Description
		med			
L11	12	late med/early post-med	2	99	Peg tile fragments
L11	1	late med/early post-med	1	18	Peg tile

Table 4: Post-Roman tile.

6.7 Roman and post-Roman glass

by H Brooks

Comment

This is the report on a small group of a Roman and later glass (23 pieces, 79g). The Roman material includes possible window glass (residual), and a fragment of a large glass bottle (a cinerary urn?) from L9, the construction layer for the Roman wall. The context here is interesting. If this is a cinerary urn, and it became incorporated into L9, this would imply that there were early Roman burials here which were disturbed by the wall construction (even though they had only been in the ground for a few decades, at most).

The post-medieval pieces are unremarkable. None of the glass dating contradicts the pottery dating of these horizons.

Catalogue of glass

F10
Finds number 17
1 fragment of green glass, 5mm thick, 3g. Roman window glass or piece from large vessel.

F10
Finds number 39
2 pieces of window glass 2.25mm thick, 1g. Probably Victorian or later.

F11
Finds number 26
3 fragments of brown glass wine bottle, 27g. 18th-19th century.
1 piece window glass, 1.5mm thick, 2g. Victorian or later.

F12
Finds number 40
1 fragment of green hexagonal Victorian bottle, 4g.

F12
Finds number 68
4 pieces of silvery glass in imitation of facon de Venise glass, 3g. Victorian or modern.

F16
Finds number 51
3 fragments including base of fine green glass bottle, 24g. Presumably modern

F21
Finds number 60
6 pieces of clear glass from fine vessel, 1g. Roman?

L9
Finds number 110
1 piece of green Roman glass, 10mm thick, 13g. From a cinerary urn?

L11
Finds number 56
1 piece of pale green vessel glass, 1g. Roman or later.

6.8 The faunal remains

by A Wightman

Introduction

During excavation of the building plot at 21 St Peter's Street, 623 pieces of bone (14.5kg) were hand-collected from Roman, medieval and late medieval/post-medieval contexts. Contexts included linears, pits, post-holes, a wooden drain and numerous archaeological layers. A metre-square sample of a Roman layer (L8) located just above the water table was carefully hand excavated and 12.1kg (524 fragments) of the bones examined were recovered from this layer (L8).

The bone was generally well preserved (due to the high water table), and the bone from Layer 8 was exceptionally well preserved. The number of small bones and small bone fragments further attests to a good level of preservation.

Methodology

All of the bone was examined to determine range of species and elements present. Each bone was inspected to determine if bone, horn or antler working was present in the assemblage. Butchering and any indications of skinning, hornworking and other modifications were recorded. When possible, a record was made of ages (i-infantile, j-juvenile, sa-sub-adult, a-adult in Table 5) and any other relevant information such as pathologies. Counts and weights were taken and recorded for each context. All information was input directly into a Microsoft works spreadsheet for analysis. Measurements were not taken for the bones that came from contexts other than Layer 8 as there would have been too little data for any meaningful interpretation. Bones of sheep and goats were recorded as *Ovis* (sheep species) based on the greater frequency of this species in these climes, but horn cores, metapodials and deciduous fourth premolars (DPM4) of sheep or goat were distinguished between the two species.

The sample from Layer 8 was the bone from a 1m² square of the deposit carefully excavated and collected by hand. The fragments recovered were of significant frequency and character to warrant further analytical techniques. The bones were separated into size classes according to their maximum length and the side of the body from which they were derived was noted. Due to the heavily butchered character of the assemblage, further techniques were implemented to determine specific characteristics of a butchered and heavily fragmented assemblage. These included a record of the type of butchery observed, the zones of the bone that were represented by the fragment (Z1-Z8 in Table 5) and the zone on which butchery marks occurred (recorded using the methodology devised by D. Serjeantson (1996)). Characteristics of the often neglected indeterminate fragments were also recorded. These included the bone fragment type and details about the freshness of the bone fracture based on the angle, outline and texture of the fracture. The data collected from this layer was input directly into a Microsoft Works spreadsheet as well as a Lotus database for statistical manipulation.

The analysis was carried out following a modified version of guidelines by English Heritage (Davis, 1992) and specific texts dealing with butchered animal bone remains (see references below). A catalogue of the assemblage is included as a table with this report.

The assemblage – Findings

Medieval/post-medieval

The animal bone assemblages from the medieval contexts (and one late medieval/early post-medieval context) were relatively small. The late medieval/early post-medieval ditch (F9) contained the largest assemblage totalling 49 bones (828.7g).The assemblage consisted primarily of axial (in the head and trunk of the body) and small appendicular (from an appendage) bones from domestic species. Relatively little evidence of butchery was observed on the bone. A high frequency of *Ovis* bones are notable in this assemblage as was the presence of bones from birds in the order of *Galliformes* (fowl), *Canids* (biological family of the dog) and *Equus* (genus of mammals including horse). Bones from a small unidentified bird were also collected as was a sawn off horncore. The small assemblage of bone from the different fills of the medieval ditch F44 (F20 & L13) contained no long bone fragments, consisting exclusively of butchery waste (non-beat bearing elements). The small medieval pit (F7a) contained three long bone fragments.

Roman

With the exception of the bone from Layer 8, the assemblage of bone from Roman contexts was also relatively small. Bone was recovered from one of the wooden Roman drains, a pit, and five Roman layers. The bone from these seven contexts totalled 1.271kg. The remains were fragmentary but well preserved. The very small assemblage from the wooden drain (F7) contained a bone from each of the three domesticated mammals *Ovis, Sus* (pig species), and *Bos (cattle)*. Mortar was observed on two of the three bones examined, and is presumed to be a concretion resulting from deposition in a mortar rich deposit. The small assemblage from pit F21 included a mix of skeletal elements, some exhibiting evidence of butchery, mostly of indeterminate species. A *Cervidae* (deer) bone was found in L10. Evidence of butchery was noted in each of the small assemblages detailed above. It has been postulated that L16 may actually be the eastern extent of L8. However, the low frequency of bone recovered from L16 over a larger sample area (6 fragments 39.1g) suggests that if this is the same layer than the dense bone deposit from L8, then it is an isolated area just west of the metalled surface. Three of the bones from L16 are from a small mammal, quite likely a hare. The assemblages from the other three Roman layers are dominated by the butchery waste from the main domestic mammal species with occasional evidence for butchery. One *Canid* tibia was recovered from the probable town ditch fill L17.

Roman Layer 8

The bone recovered from Layer 8 was carefully hand-collected during excavation, with 524 fragments weighing 12.183kg recovered from a mere metre square. Layer 8 was located just above the water table and as such was saturated. The bones exhibit excellent surface preservation although some are stained green and black due to contact with organic material as opposed to burning.

All of the 524 bones recovered were mammal bones of which 95.4% of the fragments (96.2% weight) were identified as *Bos* or large mammal. Only 13.9% of the fragments (26% weight) could be attributed with certainty to the species *Bos*. As the bones of *Equus* and large *Cervidae* species are low in frequency in other assemblages from early Roman contexts in Colchester (Luff 1993:12), and no bones of these species were identified in Layer 8, it is reasonable to assume that most of the large mammal fragments are also *Bos*. Analysis in the preceding paragraphs will focus on the numerically dominant *Bos*/large mammal fragments.

The level of fragmentation in the assemblage is notable. The large number of unidentifiable pieces is attributable to the heavy fragmentation of the bone as smaller pieces do not necessarily have the diagnostic features on them that permit identification. Almost 60% of the bone fragments weighed less than 20g and almost 90% less than 40g.

Due to the highly fragmented nature of the assemblage, only 44% of the fragments

(65% weight) were assignable to a specific element. Axial fragments accounted for only 5.8% (8.2% weight) and the bones of the lower appendages (carpals, metacarpals, astragalus, calcaneus etc.) 1.4% (3.2% weight). Long bone fragments (tibia, humerus, femur etc.) accounted for 36.6% of the fragments (52.9% weight) whilst 56% (35% weight) were not ascribable to a specific element. Of the unidentifiable bone, only 1 piece of the 281 was identified as axial, whereas 230 fragments were completely or partially diaphysis (hard shaft of long bone) and 50 were appendicular cancellous (spongy osseous bone tissue that fills the epiphysis). In summary, a high percentage of the bos/large mammal bone was identifiable as part of the long bones whether the specific element could be identified or not.

Humerii fragments were the most common of the identified elements (33.8% fragments 34.4% weight) followed by tibia/fibula (28% fragments 31% weight), Radius/ulna (19.6% fragments 19.5% weight) and femur (18% fragments 14.9% weight). The difference between quantities of elements is not significant, suggesting that the meat bearing areas of both the front and hind limbs were being processed.

As explained in the methodology, a number of variables were considered to asses the evidence of butchery in the assemblage. Around 70% of the fragments recovered were identifiable as having been butchered. Those that were not were mainly the unidentifiable fragments, many of which may well have been broken by impact or chopped but did not exhibit any observable characteristics.

The most commonly identified evidence of butchery was the chopped edges of fragments. Most of the long bone fragments identifiable to a specific element had been chopped, many of which were chopped in a particular way. The humerii and radii fragments in particular were frequently chopped antero-posteriorly (lengthways down the bone). Over one third of the humerii fragments were from the distal condyle, occasionally with some of the bone shaft, chopped antero-posteriorly so that one distal condyle was chopped into 3 or 4 slices. Fourteen fragments of radii were also observed to have chopped antero-posteriorly. In the case of the radii, this chop was almost down the centre with four fragments representing clear radii halves. Eleven of these fragments retained part of the proximal articulation whilst 3 retained part of the distal articulation. The chopping the bone anterior-posterior was not as common on the tibiae or femora. These elements appear to have been more frequently chopped across the bone in an medio-lateral direction. The process of chopping the bone anterior-posterior creates a lot of long diaphysis fragments, hence 20.4% of the unidentifiable pieces being over 10cm in length.

Discussion

Medieval/post-medieval

The small quantity of medieval/post-medieval bone collected contained a greater variety of species than the Roman assemblages. These included *Equus*, *Galliform* bones (most likely from domestic fowl) and *Canids*, from the late medieval/early post-medieval ditch (F9). Small bird bones also recovered from this context are most likely from a wild bird and either represent hunting (probably trapping) or the natural death of a wild bird within the ditch. The presence of a sawn off horncore suggests hornworking in the vicinity during this period. The small assemblage from the medieval ditch F44 (F20, L13) is quite similar to the assemblage from the later ditch F9 that cuts it. Some of the bone from F9 may well have originated from F44. Both assemblages are dominated by non-meat-bearing elements and are more reminiscent of primary butchery waste as opposed to the waste you expect to see coming directly from the table. The dominance of *Ovis* bones as opposed to *Bos* is a notable difference between these bone assemblages and the Roman assemblages.

Roman contexts

The small assemblages of bone from the Roman contexts other than Layer 8 were predominately comprised from the three main domestic species, in particular *Bos*/large mammal. The presence of a *Cervidae* bone suggests hunting supplemented the diet whilst a *Canid* tibia suggests dogs were kept in the vicinity. Once again axial and small appendicular bones dominated with relatively few long bone fragments. Butchery evidence was observed on numerous fragments.

Layer 8, a butchery assemblage

Bones are subject to many forms of post-depositional attrition that can lead to

fragmentation. These range from trampling, carnivore activity and compaction to recovery bias. The assemblage from Layer 8 exhibited a low frequency of carnivore gnawing evidence, was located just above the water table in a wet deposit and was sampled with great care. Moreover, there are a number of characteristics identified on the bones themselves that confirm the fragmentation was the result of butchery. Bones fracture in different ways depending on the degree of freshness of the bone. A fresh (or green-bone) fracture produces a helical fracture outline (morphology of the break) with a smooth fracture surface at an acute or obtuse angle to the bone's cortical surface (Outram 2001). As a bone becomes less fresh and loses its organic content the characteristics of the break are notably different. The suite of characteristics listed above was noted on the majority of the bone fragments from L8. This implies that the bone was fresh at the time of fracturing and that post depositional factors did not result in or intensify the fragmentation. Moreover, the butchery marks on the bones and the uniformity of the breaks (i.e. numerous long bones being broken antero-posteriorly), indicates that the assemblage is butchery waste and was not fragmented due solely to taphonomic factors.

The fragments from Layer 8 are primarily from the meat bearing bones of cattle around the shoulder and upper forelimb areas. As such a high frequency of meat removal and jointing activity in these regions is expected to be exhibited on the surface of the bones. Chop marks from the disarticulation and portioning/jointing of major limb elements and entire muscle groups were observed around joint articulations, and scoop marks from paring/meat removal were observed on the long bone shafts. Cut marks were rare but may suggest filleting to remove the tighter muscle attachments, or may simply be more delicate marks left from the portioning/jointing process whereby a carcass section was processed into more manageable or saleable joints.

The chop marks and scoop marks identified indicate the use of a large blade to remove small portions of meat or to detach muscle, and many of the cut marks observed are also likely to have been created by the use of a large blade. Other cut marks had a shallow, sharply 'V' shaped profile, indicative of the use of a fine blade. However, these cut marks were rare and may just have been created by a large knife if a steeled blade was being used. As the stages of carcass processing identified above are not too complex the cleaver and large knife would be expected to dominate as has been identified.

The most prominent aspect of butchery identified was bone breaking. The chopping of the long bone shafts and cancellous bone of the epiphysial ends appeared to have been undertaken with a cleaver. This is suggested by the smooth entry point and fractured exit on the long bone fragments that are characteristic of the use of a cleaver. Smooth planes and sharp angular edges observed on the cancellous bone also suggest that the chopping was being performed by a sharp cleaver, most likely with a steeled cutting edge. Impact damage was noted on some of the fragments. Other fragments that were not identified as having been broken by impact or chopped may well have been chopped but did not exhibit the characteristic smooth entry point and resulting fresh break edges that the others did.

Had the cattle been butchered just for meat, the only damage to the bones by humans would have been the result of killing the animal, butchering it and possibly processing some elements for craft purposes (Outram 2001). The high frequency of bone fragmented whilst in a fresh state, primarily with a cleaver, indicates that the bone itself was being processed for bone nutrients. Deliberate long bone shaft fracturing was observed to extract marrow but the cancellous bone of the epiphysis was also fragmented perhaps to extract grease. Different parts of the skeleton produce different kinds of fat and this may explain why the cancellous bone of the appendicular skeleton and not of the axial skeleton was found in the deposit (Outram 2001). The regularity of the bone sizes, particularly the distal humerii fragments may well suggest some bones were broken into a specific size to be placed into a pot for cooking/bone nutrient exploitation (pot sizing).

Conclusions

The highly fragmentary nature of the cattle long bones matches the distinctive military signature of marrow exploitation typified by deposits of intensively processed long bones for marrow/grease extraction (Stallibrass 2002). The model that is

observed from Roman military sites indicates that marrow extraction is evidenced by axial or medial long bone fracturing (Maltby 1989). This has been noted in the assemblage from Layer 8 that had a high frequency of bones, in particular radii, fragmented in this way. The fragmentation of the cancellous epiphysial bone that is also a good source of bone nutrients suggests that not just marrow cavities were being exploited (Outram 2001). It has been postulated that these 'specific deposits of intensively fractured long bone' may be exceptional and unique to Roman military sites.

The bone assemblage also shares characteristics with the assemblage described by Luff (1993) from Balkerne Lane. The dominance of cattle bones, the quartering of cattle long bone epiphyses, and the dominance of meat bearing bones were all characteristics associated with this assemblage. Also both assemblages represent the deposition of fragmented meat bearing bones outside of the town wall. Meat bearing bones have been described as rare within the fortress and town itself (Luff 1993, 48). This supports the notion that waste was deposited on-mass outside of the town. Unlike Balkerne lane the assemblage is most probably associated with military waste as opposed to the waste of an organised butchery trade (Luff 1993, 54), and the notable patterning within the bone fragments and density within the layer suggests that the bone accumulated rapidly perhaps from a single source.

6.9 An assessment of the plant macrofossils and other remains

by Val Fryer

Introduction and method statement

Excavations on St Peter's Street, undertaken by the Colchester Archaeological Trust, recorded the remains of three well-preserved waterlogged wood-lined drains of Roman date, which appeared to be flanking a previously unknown north/south metalled road surface. Samples for the retrieval of the plant macrofossil assemblages were taken as follows:
From the fills of drain F7 (samples 2, 6 and 7),
From the fill of drain F43 (sample 5)
From material adjacent to and beneath the drains but within the same cuts (sample 1, 4 and 8)
From the organic fill of a later 'ditch' of probable medieval date (sample 3)
Eight samples were submitted for assessment.

The samples were processed by manual water flotation/washover and the flots were collected in a 300 micron mesh sieve. As all flots were highly organic and were seen to contain waterlogged plant remains, all materials were stored in water prior to sorting. The wet retents were scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils and other remains noted are listed on Table 6. Nomenclature within the table follows Stace (1997). With the exception of the charcoal/charred wood fragments, all plant remains were waterlogged.

The non-floating residues were collected in a 1mm mesh sieve and sorted when dry. Any artefacts/ecofacts were retained for further specialist analysis.

Results

Seeds/fruits of common weeds and wetland/aquatic plants were noted at varying densities within all eight assemblages along with a limited number of tree/shrub macrofossils. Preservation was generally good, although the root/stem fragments, which formed the matrix of most samples, were often exceedingly comminuted.

Food remains were very scarce. A single charred fragment of an indeterminate grain, noted within sample 3, was the sole cereal remain recorded, while occasional fig (*Ficus carica*) seeds were present within four assemblages. Seeds of common grassland, ruderal and segetal weeds were moderately common within all but two samples (2 and 7). Taxa noted included orache (*Atriplex* sp.), fat hen (*Chenopodium album*), persicaria (*Persicaria maculosa/lapathifolia*), knotgrass (*Polygonum aviculare*), meadow/creeping/bulbous buttercup (*Ranunculus acris/repens/bulbosus*),

dock (*Rumex* sp.), and stinging nettles (*Urtica dioica*). Wetland/aquatic plant remains, including seeds/fruits of wild celery (*Apium graveolens*), sedge (*Carex* sp.), spike-rush (*Eleocharis* sp.), meadow-sweet (*Filipendula ulmaria*), rush (*Juncus* sp.) and celery-leaved crowfoot (*Ranunculus sceleratus*), were also present within all but one sample (2). Tree/shrub macrofossils occurred less frequently, but did include fragments of hazel (*Corylus avellana*) nutshell, a single sloe (*Prunus spinosa*) fruitstone, bramble (*Rubus* sect. *Glandulosus*) 'pips' and elderberry (*Sambucus nigra*) seeds.

Charcoal fragments, most of which were very small, were present throughout along with abundant waterlogged root/stem fragments and small pieces of wood. Other plant macrofossils were scarce, but did include indeterminate buds, moss fronds and twig fragments and an indeterminate conifer leaf ('needle'). A single possible fragment of bracken (*Pteridium aquilinum*) stem was recorded from sample 1.

Other remains occurred very infrequently, although a number of very fragmented indeterminate brown mineral concretions were noted within the assemblage from sample 7. Waterlogged arthropod remains were present within all but sample 2, and sample 4 appeared to contain a low density of possible domestic detritus including bone, fish bone and eggshell fragments.

Discussion

Although taken from an area immediately within the north wall of the Roman town, the assemblage from stony silt layer L23, into which drain F43 was dug (sample 4), is dominated by seeds of meadow herbs and plants commonly found in damp, marshy conditions. Anthropogenic remains in the form of possible domestic detritus and charcoal fragments are present, but at such a low density that it would appear that the area was marginal grassland and probably largely unsuitable for habitation.

The drains themselves were well constructed and sealed, and the assemblages from the fills (samples 2, 5, 6 and 7) are, perhaps not unsurprisingly, relatively sparse. It is assumed that the few recorded plant remains were largely deposited by water flowing through the drains and, as a result, the precise source of the material is unknown. However, sample 5 from drain F43 and sample 6 from the lower fill of drain F7 again contain macrofossils of grassland and marsh plants possibly confirming that damp grassland conditions were locally prevalent. The assemblages from samples 2 and 7 (respectively from the upper and middle fills of drain F7) are largely composed of tangled mats of comminuted roots, with few other plant remains being recorded.

Two samples (1 and 8) were taken from organic deposits (L21) which had accumulated along the western side of drain F7. The assemblages are essentially similar to those already discussed, although sample 1 does contain a broader spectrum of segetal weed seeds possibly indicating that some ground nearby was disturbed or under minimal cultivation.

Sample 3 is from a deposit of organic silt of probable medieval date. With the exception of a single charred grain fragment and a low density of small pieces of charcoal, anthropogenic remains are still all but absent. In addition, seeds of stinging nettles and elderberries are relatively abundant, almost certainly indicating that, by the medieval period, the area was overgrown and still peripheral to any main centre of activity within the town.

Conclusions and recommendations for further work

In summary, it would appear that pockets of damp grassland/marsh were incorporated within the northern edge of the Roman town, possibly as a means of securing continued access to the river to the north. Until the drains and metalled road were constructed, this area appears to have been largely wild, with only minimal evidence for any domestic or settlement activity, and even after building, marshland conditions appeared to prevail for some considerable period. Similar conditions are also indicated during the medieval period, by which time parts of the St Peter's Street area appeared to consist of overgrown and poorly maintained scrub.

Although a number of the assemblages do contain a sufficient density of material for quantification (ie 100+ specimens), further analysis would add little additional data to that contained within this assessment.

Key to Table 6
x = 1 – 10 specimens xx = 11 – 50 specimens xxx = 51 – 100 specimens xxxx = 100+ specimens cf = compare fg = fragment c = charred tf = testa fragment ss = sub-sample

Sample No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Context No	**104**	**109**	**115**	**120**	**121**	**127**	**128**	**130**
Feature No.	**L21**	**F7**	**L13**	**L23**	**F43**	**F7**	**F7**	**L21**
Cereals and other food plants								
Ficus carica L.	x		xcf		x	x		
Cereal indet. (grain)			xfgc					
Dry land herbs								
Aethusa cynapium L.						x		
Agrostemma githago L.				xcftf		xcftf	xcftf	
Atriplex sp.			x		x			x
Carduus sp.	x							
Chenopodium album L.			x					x
Chenopodiaceae indet.			x					
Fallopia convolvulus (L.)A.Love			xcf					
Fumaria officinalis L.					x			
Hyoscyamus niger L.	x							
Lamium sp.			x					
Lapsana communis L.			x					
Lepidium sp.	xcf							
Mentha sp.						x		
Papaver dubium L.	xcf		xcf					
Persicaria maculosa/lapathifolia			x	x				x
Small Poaceae indet.			x			x		
Polygonum aviculare L.	x			x	x	x	xcftf	x
Polygonaceae indet.	x					x		x
Potentilla sp.					x			
P. anserina L.				x				
Prunella vulgaris L.	x			x				
Ranunculus sp.				x	x	x		
R. acris/repens/bulbosus	x	x	x	xx	x			x
R. parviflorus L.				xcf				
Raphanus raphanistrum L. (siliqua frags.)	x		x					
Reseda sp.	x							
Rumex sp.	x		x	x	xx			x
R. acetosella L,	x				x			
Sonchus asper (L.)Hill			x					
Stellaria graminea L.						x		
Thlaspi arvense L.	x							
Urtica dioica L.	x	x	xxxx		x	x		x
U urens L.			x					
Verbena sp.			x					
Wetland/aquatic plants								
Apium graveolens L.			x		x		x	
Carex sp.	x		x	x	x	x		x
Eleocharis sp.	x		x	x	x	x		x

Filipendula ulmaria L.				x	x		x	
Juncus sp.	xx				xx	x		
Ranunculus subg. Batrachium (DC)A.Gray			x					
R. flammula L.								x
R. sceleratus L.	x		x		x			
Tree/shrub macrofossils								
Corylus avellana L.	xcf		x	xx	x	xcf		
Prunus spinosa L.						x		
Rubus sp.			x					
R. sect Glandulosus Wimmer & Grab	x		x	x				x
Sambucus nigra L.			xx		x			x
Other plant macrofossils								
Charcoal <2mm	xxx	x	xx	xx	xx	xxx	xxx	xxx
Charcoal >2mm	x			xx		x		xx
Charcoal >5mm	x							
Waterlogged root/stem	x	xx	xxxx	xx	xxxx	xxxx	xxxx	xxxx
Wood frags<5mm	x	xx	x	xx		x		x
Wood frags>5mm	x			xx	x		x	x
Pteridium aquilinum (L.)Kuhn (stem)	xcf							
Indet.buds		x		x				
Indet.conifer leaf		x						
Indet.leaf/floret frag.		x						
Indet.moss	x			x	x	x		
Indet.seeds	x	x				x		
Indet.twigs								xx
Other remains								
Black porous 'cokey' material		x		x				
Bone				x				
Brick/tile				x		x		
Brown mineral concretions							xxxx	
Eggshell				x				
Fish bone				x				
Waterlogged arthropods	x		x	x	x	x	x	x
Ostracods			x					
Sample volume (litres)	**10ss**	**10ss**	**10ss**	**10ss**	**10**	**10ss**	**10ss**	**10ss**
Volume of flot (litres)	**<0.1**	**<0.1**	**0.2**	**<0.1**	**<0.1**	**<0.1**	**0.2**	**0.4**
% flot sorted	**100%**	**100%**	**50%**	**100%**	**100%**	**100%**	**50%**	**25%**

Table 6: Plant macrofossils and other remains.

6.10 Evaluation of biological remains

by Gary Andrew King and Allan Hall

Introduction

In 2008, Colchester Archaeological Trust Ltd. excavated a nine-metre long and 101.6 cm wide timber drain at the 21 St Peter's Street site within the town's Dutch Quarter. The drain is estimated to have been constructed in the early AD 60s. Because of the presence on the site of some deposits with waterlogged preservation (a very rare phenomenon in Roman Colchester), a 1.5 kg subsample (Context 127) was submitted to the Centre for Human Palaeoecology, University of York for evaluation of bioarchaeological potential, primarily through insect remains.

Methods

The sediment sample was inspected in the laboratory broadly following the procedures of Kenward *et al* (1980;1986) for the recovery of plant and invertebrate macrofossils (three cycles of admixture paraffin, 3 floatations). Plant and invertebrate remains in the resulting residue and washover were recorded by 'scanning' using a low-power binocular microscope. Identification of insect remains was carried out through comparison with material in the reference collection of the former Environmental Archaeology Unit, University of York. Taxonomy and nomenclature for the insects follow Kloet and Hincks (1977). Data were recorded on paper before being transferred to personal computer.

Results

13 Context 127 (organic lowest fill of timber drain; silts sealed by *in situ* timber cover)
14 Sample 6 (1.5kg sieved to 300 microns with paraffin floatation)
15 Moist, light-dark brown, stiff to crumbly, sandy-silt.

The washover yielded some mammalian bone fragments (a charred sheep ulna with coloration suggesting firing temperatures around 700 degrees centigrade, an ungulate scapula, as well as ungulate rib with evidence of butchery), eggshell, and oyster shell. Plant remains in the flot and residue both consisted of 'waterlogged' seeds and fruits in a moderate state of preservation. The flot also contained ample insect remains.

Most of the wild plant taxa recovered, including spike rush (*Eleocharis* sp.), lesser spearwort (*Ranunculus flammula* L.), and *Glyceria* sp., are typical of wet places of various kinds. Orache (*Atriplex* sp.) knotgrass *Polygonum* and docks (*Rumex* sp.) commonly inhabit disturbed ground. There were a few taxa indicative of occupation and here, probably, domestic waste: traces of seeds of fig (*Ficus carica* L.), fruitstone fragments of *Prunus* (sloe, plum, etc.) and nutshell fragments of *Corylus avellana* L. (hazel). Some sclerotia (resting bodies) of the soil-dwelling fungus *Cenococcum* may simply have arrived in imported soil or have formed from fungal mycelia that lived in the deposit at some stage after formation.

The flot contained a relatively small number of insect remains. The fauna were primarily synathropic (defined here as species associated with human occupation). The flot yielded one heavily fragmented chrysomelid (leaf beetle) elytron, potentially representing a non-synanthropic species, although this cannot be conclusively deduced due to the condition of the fossil. Additionally, the presence of *Phyllodrepa ?floralis/salicis* could represent a nearby woodland environment or equally be evidence of a more human-associated habitat through haystack refuse or stable dung (Koch 1989). Given the context, it is also interesting to note the lack of aquatic invertebrates.

A high percentage (84%) of the recovered insect remains consisted of synanthropic taxa, presumably representative of the fauna of nearby buildings. *Ptinus ?fur* and *Tipnus unicolor* are both characteristic of this category. While it has been found to inhabit bird nests, *Ptinus fur* is common in mouldy straw and hay in barns and stables as well as cereal debris (Koch 1989). *Tipnus unicolor* is found to frequent similar environments (Koch 1989) but is typical of older buildings. The recovery of individuals of *Lathridius minutus* group and *Gyrohypnus ?fracticornis* is further evidence to support the presence of mouldy decaying vegetation, particularly straw or hay (Böcher 1988; Koch 1989). Although not necessarily indicative of the presence of hay or straw, *Cercyon analis* has been found in decomposing plant debris and has been recovered from compost heaps and leaf litter (Hansen 1987). Although *Aphodius granarius* has been recorded in rotting vegetation, the dung beetle is common in stable manure heaps and may indicate the presence of foul matter.

While the drain fauna consisted primarily of facultative synanthropes (those forms most commonly found in artificial environments but capable of surviving in nature), 27% of the synanthropic assemblage itself was contributed by strong synanthropes. The single individual of *Sitophilus granarius* is evidence for the presence of cereal grains. *S. granarius* is capable of feeding on damaged as well as undamaged grain, although it has been noted to have difficulty breaching husked kernels. *Cryptolestes*

ferrugineus is regarded as a secondary pest of cereals and is often found in grains that have been worked or damaged. *Palorus ratzeburgi* is a scavenger of very spoiled grain and is known to prey upon other grain pests. Both *C. ferrugineus* and *P. ratzeburgi* are also found in other stored products, including flour, bran meal, and non-cereals such as dried fruit (Salmond 1957; Hunter *et al.* 1973; Freeman 1980). In terms of granary pests, these remains are amongst the oldest Roman age material examined in England. The remains recovered from One Poultry, London, which dates to before the Boudiccan Revolt (Smith 2000), is the only directly comparable material.

Discussion

Pests of stored products

One of the most interesting features of the Roman timber drain at 21 St Peter's Street is the presence of species associated with cereals and other stored products.

Sitophilus granarius, the granary weevil, is a common pest in granaries where both larvae and adults feed on whole cereals (Hoffman 1986). *S. granarius* is considered a major pest of cereals and is noted to be very destructive, resulting in considerable loss of stored grain. In the United Nations Food and Agriculture Organisation's report of 1947, it was suggested that 10% of the world's cereal production was lost to insect attack; five decades ago 5% of the loss was attributed to infestation by the granary weevil (Munro 1966).

Whilst the granary weevil has been known to feed on grains in the early stages of spoilage (Coombs and Woodroffe 1963), the other species present are often considered pests of cereals that have been broken and become wet and mouldy, often as a result of attack by *S. granarius*. Observing the natural succession of the infestation of stored grains, Coombs and Freeman (1955) have considered species such as *Cryptolestes ferrugineus* and *Palorus ratzeburgi* to be secondary pests of stored product cereals.

Although these stored product pests are believed to be able to overwinter successfully in the unheated grain stores of Britain today as a result of the warmer-than-ambient temperatures existing in the internal microhabitats (Solomon and Adamson 1955), the archaeological record indicates that they were absent from Britain prior to the Roman invasion. Buckland (1978) proposes that this pre-Roman absence is due to a combination of minimal importation of grain from the continent during the Iron Age and the storage of grains in pits which would create a sealed carbon dioxide-rich environment inhibiting infestation. The mass importation of cereals by the Roman army and civil administration as well as the use of ventilated aboveground granaries may have enabled the pests to survive and flourish.

Both the pre-Boudican deposits at One Poultry, London, and the sample from 21 St Peter's Street suggest that the species entered Britain within a decade or two of the the Roman invasion. Moreover, having seemingly entered Britain with the Romans, biogeographical mapping *cf* King in press) suggests that the species spread across England along with the Roman legions, entering the Roman Fort at the Millennium site at Carlisle Castle by AD 72/3 (Smith and Tetlow n.d.) and the fort at Ribchester, Lancashire, by AD 71-4 (Large *et al* 1994; Buxton and Howard-Davis 2000). Furthermore, with the Roman departure from Britain, the granary beetles become notably absent from the record until the Norman Conquest.

At a minimum, the presence of the grain pests at the site in question here suggests the mass storage of grains in the area and puts forth the possibility that the cereals may have been imported rather than native.

Origin and deposition of material

Although the recovery of grain pests indicates the storage of grains near the site, they are not necessarily evidence of the timber drain having serviced a granary, as was similarly proposed for the Roman sewer in York (Buckland 1976). Kenward and Hall (1997) have also proposed that the presence of grain pests along with 'hay' fauna, house fauna, and decomposers is characteristic of stable manure, most likely equine. The grains would have served directly as a part of the mammals' diet or, less possibly, the grain pests could have invaded residue grain in straw or chaff that was used for bedding (Kenward forthcoming). Osborne (1983) demonstrated that insect fragments could successfully pass through a human dietary tract without damage; it

seems plausible that the same would hold true for large non-ruminant herbivores.

An indicator group of organisms for stable manure is now recognized (Kenward and Hall 1997). From the invertebrates, stable manure can often be recognised through a combination of grain pests, 'hay' insects, house fauna from the stables, and decomposers often associated with foul matter. Along with the grain pests, the sample from 21 St Peter's Street contained two commonly associated house fauna taxa (*Tipnus unicolor* and *Ptinus ?fur*) and the dung beetle *Aphodius granarius* which is strongly associated with stable manure. It also produced a range of fauna associated with plant debris, particularly decaying hay and straw. This combination of fauna strongly supports the original deposit as stable manure.

While the presence of a stable manure indicator, fauna in the timber drain could be indicative of contemporaneous runoff and redeposition from the stable, the lack of aquatic insects supports the possibility for in-fill or deliberate dumping as appears to be the case for the Roman deep wells at Skeldergate and Bedern in York (Hall *et al* 1980; Kenward *et al* 1986).

Most of the plant remains were taxa likely to have been part of a local weed flora or to have been imported with cut wetland vegetation (as litter for stables?), though with evidence from hazel nut and fig for some material from domestic occupation. In the case of the fig, an exotic origin for the fruit seems highly likely. The lack of evidence for cereals in a deposit containing grain pests is not especially problematic since the routes by which such remains can travel on their way to a forming deposit are complex (Hall and Kenward 1998).

Taxon	**MNI**	**Ecological Code**
Arachnida		
Acarina sp.	1	--
Insecta		
Diptera		
Diptera sp. (pupa)	3	--
Coleoptera		
Cercyon analis (Paykull)	2	rt
Phyllodrepa ?floralis/salicis	1	rt
Gyrohypnus ?fracticornis (Muller)	1	rt
Aleochara sp.	1	u
Aphodius granarius (Linn.)	2	ob-rf
Tipnus unicolor (Piller & Mitterpacher)	1	rd
Ptinus ?fur (Linn.)	2	rd
Cryptolestes ferrugineus (Steph.)	2	g
Lathridius minutus group (Linn.)	1	rd
Palorus ratzeburgi (Wiss.)	4	g
Chrysomelidae sp. indet.	1	--
Sitophilus granarius (Linn.)	1	g
Coleoptera sp.	1	--
Coleoptera (larvae)	1	--
Hemiptera		
Psylloidea sp. (nymph)	1	--

Table 7: Complete list of invertebrate remains recorded from the 'detail' recorded subsample from the Roman timber drain at 21 St Peter's Street, Colchester. Order

and nomenclature follow Kloet and Hincks (1964-77) for insects. Ecological codes used in calculating statistics and minimum number of individuals (MNI) are given (they are explained in Table 8). The remains were of adults unless stated. 'Sp.' indicates that record was probably an additional taxon, 'sp. indet.' that the material may have been of a taxon listed above it.

No 'certain' outdoor taxa (oa) SOA	No OA and probable outdoor taxa (oa+ ob) SOB
No 'certain' outdoor indivs NOA	No OB indivs NOB
No aquatic taxa (w) SW	No RD indivs NRD
No aquatic indivs NW	No 'foul' decomposer taxa (rf) SRF
No damp ground/waterside taxa (d) SD	No RF indivs NRF
No damp D indivs ND	No synanthropic taxa (sf + st + ss) SSA
No strongly plant-associated taxa (p) SP	No synanthropic indivs NSA
No strongly P indivs NP	No facultatively synanthropic taxa SSF
No heathland/moorland taxa (m) SM	No SF indivs NSF
No M indivs NM	No typical synanthropic taxa SST
No wood-associated taxa (l) SL	No ST indivs NST
No L indivs NL	No strongly synanthropic taxa SSS
No decomposer taxa (rt + rd + rf) SRT	No SS indivs NSS
No RT indivs NRT	No uncoded taxa (u) SU
No 'dry' decomposer taxa (rd) SRD	No indivs of grain pests (g) NG

Table 8: Abbreviations for ecological codes used for interpretation of insect remains in text and tables. Lower case codes in parentheses are those assigned to taxa and used to calculate the group values (the codes in capitals). Indivs - individuals (based on MNI); No - number.

Name	Vernacular	Abundance
Eleocharis sp.	Spike rush	2
Ranunculus flammula L.	Lesser spearwort	2
Glyceria sp.	Sweet grass	1
Atriplex sp.	Orache	2
Polgonum	Knotgrass	1
Rumex sp.	Docks	2
Ficus carica L.	Fig	1
Prunus	Sloe, plum, etc	1
Corylus avellana	Hazel	1

Table 9: Complete list of plant remains and some other components of the residue from the subsample of St Peter's Street, Colchester. All material was preserved by anoxic 'waterlogging' unless otherwise indicated. Nomenclature and taxonomic order follow Tutin et al. (1964-80) for vascular plants. Abundance is presented using a four-point semi-quantitative scale from 1—one or a few fragments or individuals (or a very small component of the original sample volume) to 4—abundant remains or a large component of the sample volume.

6.11 Report on the rocks found at 21 St Peter's Street

With identification by Dr Keith Oak

A small collection of rocks deemed of significance were collected during excavation and examined by Dr Keith Oak. Dr Oak identified a limestone nodule (L11 finds number 22) that possibly originated from the Greensand of the Kent area, and a nodule of vein quartz probably from Wales or Scotland. The vein quartz may have been brought down by glacial activity and deposited locally. However, there is a possibility that it was bought in deliberately from these regions or even from Cornwall. The layer of cream/green stone chippings used as aggregate in the road surface (F37 finds number 87) is limestone of an unknown provenance. The limestone found on site would have been imported, possibly by sea from a British

coastal outcrop. Mr Oak also identified flint and septaria nodules that could both have been locally weathered or quarried.

Five nodules of ragstone were also collected, all from medieval/early post-medieval contexts (F7a, F12- 3 nodules, and L11), none of which had any discernable worked edges.

Context	Finds No	Rock Type	Dimensions	Colour	Texture	Possible Provenance	Other
L11	22	Limestone	6.5 x 2.5 x 5cm	Very dark black/green and white grains		Kent?	Possibly part of the Greensand
F12	68	Vein quartz	10 x 9 x 7cm	White, some green		Wales/ Scotland/ Cornwall	Rounded edges
F37	87	Limestone	Ranges from 21cm to 2cm	Buff	Fine grained <1% black specks, occasional small bivalve fossils (5mm)		Bag of fragments, possible masonry debris or aggregate for a road
F15	133	Limestone (possibly septarian nodule)		Dark Grey	Grains 0.5mm		Quite dense, rounded edges, 2 fresh broken surfaces
			Ragstone				
F7a		Ragstone	19 x 13 x 5cm	Grey			Smooth, flat piece
F12	68	Ragstone	7 x 6 x 4cm	Grey			
F12	68	Ragstone	9 x 6 x 3cm	Grey			
F12	68	Ragstone	20 x 16 x 3cm	Grey			
L11	64	Ragstone	8 x 6 x 4cm	Grey			

Table 10: Rocks identified by Keith Oak and recorded ragstone fragments.

Around 200 fragments of septaria were collected from the mortar rich fill of the uncovered section of the wooden drain (F7) and the overlying layer of town wall construction material (L10). These represented the larger nodules in the fill that were subsequently examined for evidence of having been worked. The dimensions were recorded of 31 septaria blocks that had been “squared” presumably with the intention of using them as ashlar for in the town wall. Measurements of maximum dimensions were taken in the field to the nearest 2 cm using a hand-tape.

Width (cm)	Depth (cm)	Height (cm)
12	12	8
22	22	10
22	18	10
15	12	10
15	12	10
15	10	6
12	12	8
22	20	10
24	18	12
16	14	10
13	13	10
24	14	12
14	10	10
22	22	12
12	12	10

12	10	8
22	20	10
10	10	8
30	18	12
20	10	8
16	14	12
20	20	12
20	14	10
16	10	12
14	12	10
8	8	6
10	10	6
20	18	10
14	14	12
16	16	12
18	14	14

Table 11: The dimensions of 'squared' septaria nodules.

6.12 Miscellaneous other finds

This table includes finds not reported on separately above (sections 7.1-7.11)

Find type	Context	Finds number	Qty	Weight (g)	Description
Painted wall plaster	F2	5	1	65.2	White surface with red (terracotta) paint in no discernable pattern. 18cm²
Painted wall plaster	F8	13	1	37.5	Dark coloured surface
Tesserae	F10	37	2	40g	Both have mortar on every surface except one.
Stone tesserae	F10	67	1	13g	Mortar on four surfaces (two that don't are opposing)
Stone tesserae?	F21	80	1	35g	Brown/red flint that could have been a tesserae.
Oyster Shell	L9	4	1	45g	Almost whole
Oyster Shell	F3	2	1	27g	75% complete
Oyster Shell	F5	10	1	31g	Almost whole
Opsig	F5	9	1	30g	
Opsig	L11	32	1	17g	
Wall plaster	F8	13	1	27g	
Wall plaster	L11 SQ13 SP1	56	1	17g	
Slate	F9	16	1	39g	Small piece of slate

Table 12: list of miscellaneous other finds.

A stone Pine cone

A pine cone from a Stone Pine (also known as the Umbrella Pine) was recovered from the waterlogged deposit directly to the west of the Roman drain F7. The Stone Pine (*P.pinea*) is a species of pine found in Southern Europe in the Mediterranean region, and was already widely planted in Roman times. The cone is a broad ovoid 190mm long and 70mm wide and although large in size is not complete.

The Stone Pine has been exploited and cultivated for its edible pine nuts since prehistoric times in the Mediterranean region. In Britain it is generally not warm enough for the trees to produce ripe pine nuts, and as such the pine cone from F7 would most likely have been transported from the Mediterranean to Colchester, almost certainly as a foodstuff. The cone, which takes 36 months to mature, would have been laid in the direct sun forcing it to open so the seeds could be harvested.

Pine cones from the Stone Pine have been trade items since early historic times and the pine nuts were considered by Roman soldiers to be a delicacy. The use of Stone Pine cones and their seeds is referenced in Roman literature including recipes (*Apicius* or *De re coquinaria* 'on the subject of cooking'), ritual purposes and even as an aphrodisiac (Ovid's *Ars Amatoria*).

Remains of the pine cones and their seeds have previously been identified in Roman contexts in Britain. They were included in the grave goods of a cremated Roman female buried outside of the walled cemetery at Great Dover Street in Southwark, London (Makinder 2000). Environmental archaeologists identified hundreds of unopened stone pine, a high-status imported food, suggesting that this was a person of some affluence and standing. Such large quantities of burnt pine cones indicated that they may have been burnt to give off a strong perfume, and the use of stone pine, in particular, may have been a significant part of the religious ceremony (Makinder 2000). Elsewhere in London Stone Pine cones were recovered from Number One Poultry, in the centre of the Roman city, and a pine scale was identified in environmental remains from Suffolk House (Sidwell 2000). In Essex the cone bract and nut of the stone pine were recovered from a Late Roman well at Great Holts Farm, Boreham (Murphy *et al.* 2000). They also appear on British religious sites such as the site of Orton's Pasture, Rocester, Staffordshire where three pits adjacent to a small building in an enclosure interpreted as a shrine or small temple contained Stone Pine nut shells and cone scales. Further Stone Pine remains came from the recuts of the enclosure ditch. (Ferris *et al.* 2000)

Fragments of the Stone Pine cone were identified from the Boudican destruction deposits from the Colchester town centre excavations of the 1970's/80's by Peter Murphy (Murphy 1997), and more recently seven fragments of elongated, smooth surfaced kernels, almost certainly of Stone Pine, were identified by Val Fryer from a late 1st- to 3rd-century deposit excavated at 29-30 Head Street.

7 Conclusions (P Crummy)

Although this was a relatively small site, the investigation produced a series of interesting and significant results covering a range of issues. Some of the conclusions are unexpected and most are problematic in some way.

It was thought before work started on site that the investigation was unlikely to throw up any surprises. The exact position of the town wall across the site had been made clear from work done some years earlier on either side of the site and consequently it was assumed that its remains (where they survived) would lie along the southern edge of the site and under the pavement of the adjacent Northgate Street. The rest of the site (in fact the bulk of it) was extramural and was expected in at least the Roman period to have been a kind of boggy 'no man's land' between the wall and the southern edge of the town ditch about 10 m to the north.

A culvert had been discovered in the wall in 1976 (*CAR* **6**, 817-8). Seven or so other such features have also been recognised in the town (Crummy 2003, 46-7). These culverts take the form of an arched brick-lined opening through the foundation of the wall which was just wide enough to accommodate a wooden drain. Their purpose was to allow surplus/waste water from inside the town to pass through the wall in wooden drains so that it could be discharged into the town ditch beyond. The drains generally lay alongside both sides of the streets with the drainage arranged in such a way that only one of the drains passed through the wall. (Not known how this was achieved.) Apart from where there were gates, the streets terminated at an internal tower on the inside of the wall with a culvert on the left-hand side of it as viewed from the inside of the walled town (Crummy 2003, 46). In the case of no 21 St Peter's Street, it was supposed that the base of the wall passed unbroken across the south boundary of the site and that an internal tower lay immediately behind it (ie further north) with the culvert on its west side. However, the excavation revealed a much more complicated story.

The centre of the site was dominated by part of a Roman street heading northwards

towards the river. The street was flanked by wooden drains, one on the west and two on the east. It is very hard to reconcile these remains with anything other than a street. The thick gravelled metalling was typical of the streets found inside the walled town as was the presence of flanking wooden drains. The width of the street as defined by the drains (ie 9 m (30 *pes Monetalis*)) also matched that of the streets inside the walled town especially at Lion Walk and Culver Street (CAR **6**, 10-14, 397, fig 2.8). The problem then becomes if this was part of a street, what was its relationship to the wall?

Various strands of evidence suggest that the street had been contemporary with the wall but was laid a short while before its construction. Two simple phases emerge (Period 1, Phases 1 and 2).

The presence of three drains seems excessive and usual and suggests that their main function was to channel away unwanted water from a spring directly uphill from the site (in other words from the south). This must be the spring that was later to feed medieval Stockwell.

Period 1, Phase 1 (AD 50-61)
The street consisted of a thin metalled surface. The presence of drains or drainage ditches cannot be established but either or both the drains on the east side could be this early. The street lines up with the Town Period 2 pre-Boudican street grid inside the town (see CAR **6**, 7-15 but with a little adjustment to our street plan to make it fit). (The street cannot be military in origin (ie AD 44-50) because no street could have existed in this position until after the legionary defences were filled in.)

Period 1, Phase 2 (AD 61-65/80)
The street was re-established or relaid soon after the Boudican period. The west drain was laid sometime after AD 62 according to the date acquired dendrochronologically. (Of the samples studied, most sequences ended in the last decades BC with one sample reaching 3AD and one to 15AD. However one sample showed a sequence continuing to AD 53 to indicate a minimum date of AD 62AD after allowing for the minimum likely number of nine sapwood rings.)

Period 2 (AD 65/80 - late 3rd century)
The town wall was built *c* AD 65-80. The drains were all cut through and effectively rendered useless by the trench for the foundation of the new wall. The southernmost plank covering the west drain was removed and the drain was partly filled in with some of mortar and stone used for the construction of the wall. The street continued in use throughout this period. It was re-metalled and repaired on various occasions so that the metalling became much thicker with time (as was normal). Presumably, although no direct evidence was found for its presence, the wall incorporated a gate and this explains the presence of the street. The various exposures of wall point to a single or double arch structure without provision for pedestrians (Fig 18). The water which had previously been conveyed to the ditch or river by the wooden drains was now channelled away in a new drain which passed through the culvert in the wall on the west side of the site.

Period 3 (c AD 275-300)
As happened at Balkerne Lane (CAR **3**, 110-5), the butt ends of the town ditch on either side of the street were joined up and the street effectively became a cul-de-sac. It cannot be determined if the gate was blocked at this times as happened to the Balkerne Gate. Small pits with upright logs in the centre were dug into the street between the redundant gate and the town ditch. Some of these were sealed by a thin layer of metalling showing that they are Roman in origin and late in the sequence of metalling. Their position in relation to the gate and street indicates they post-date the use of both as a ingress and egress into the town. The most likely explanation for the pits is that they were *lilia* - defensive devices containing sharpen posts pointing upwards (Webster 1969; 176). Very few *lilia* have been found in Britain or abroad. The *?lilia* from St Peter's Street are not very firmly dated and there is a small but distinct possibility that they are post-Roman in date and hence not *lilia* at all. This

possibility is made more likely by the fact that they do not appear to have been strung out in a line across the full width of the gate which is what would be expected had they been defensive in purpose. Given their potential archaeological significance, it is proposed that one of the timbers in the ?*lilia* is radiocarbon dated. This should reveal with a high degree of certainty whether or not they belonged to the Roman period and thus if they are likely to have been *lilia*.

Period 4 (post-Roman)
In post-Roman times, the area appears to have been left as open land until it was gradually built over possibly from *c* 1700 with the evolution of Dead Lane, now St Peter's Street.

8 Archive deposition

The evaluation archive, including the site records and finds, will be permanently deposited with Colchester Museums under accession code 2007.124

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11 Glossary

AOD	above Ordnance Survey datum point based on mean sea level at Newlyn, Cornwall
bladelet	little blade
CBCAO	Colchester Borough Council Archaeology Officer
CM	Colchester Museums
EHER	Essex Historic Environment Record, maintained by Essex County Council
feature	an identifiable thing like a pit, a wall, a drain, a floor
IFA	Institute of Field Archaeologists
LBA	Late Bronze Age (circa 1000 BC – 800 BC).
LIA	Late Iron Age, the period from the 2nd century BC to AD 43
medieval	period from AD 1066 to c AD 1500
MBA	Middle Bronze Age (circa 1500 BC – 1000 BC)
MIA	Middle Iron Age (circa the 5th to the 2nd century BC)
modern	period from c 1850 onwards to the present
NGR	National Grid Reference
natural	geological deposit undisturbed by human activity
post-medieval	period from c 1500 to c 1850
Roman	the period from AD 43 to AD 410 approximately
WSI	written scheme of investigation

12 Context list

Context	Description	Context date
F1	Foundation and concrete floor of demolished building.	Modern
F2	Large pit with clay lining that cut L9, located at southern end of evaluation trench.	Post-medieval/Modern
F3	Post-hole (?) containing three short planks of wood arranged like a post. Cut into F9.	Roman
F4	Post-hole observed in section during evaluation phase (Cut by F1)	Roman?
F5	Town ditch? Cuts northern edge of all archaeology.	Roman
F6	N.B full excavation showed this not to be a feature.	
F7	Roman timber drain running NNW-SSE out from the town wall.	Roman
F7a	Small pit/post-hole	Medieval
F8	Small pit/post-hole	Medieval?
F9	Ditch running east to west across the south of the site, just north of projected line of the wall.	Late medieval/post-medieval
F10	Shallow depression, eastern extent of the metalled surface. Could be an erosion hollow filled with dark earth (L11). Probably base of large pit.	Late medieval/post-medieval?
F11	Large Pit. Cut over the location of the town wall at southern extent of site.	Modern
F12	Very Large Pit. Edge of pit forms eastern edge of excavation area. Located in Trench 4 (later abandoned).	Medieval
F13	Post-hole with stone packing.	Medieval/post-medieval?
F14	Pit with stone packing and large pointed timber lying at an angle (pos *lilium*)	Roman
F15	Top layer of metalled surface. Small/medium sized rounded stones set into a mid grey/brown sandy silt matrix. Occasional fragments of Roman brick and tile. Area of exceptional cobbling. (1st widespread layer)	Roman
F16	Small pit/post-hole	Post-medieval
F17	Small pit/post-hole	Post-medieval
F18	Post-hole	Roman?
F19	Cut for modern concrete capping over projected line of town wall.	Modern
F20	Originally thought to be a linear feature. Upper fill of the medieval ditch F44.	Medieval
F21	Pit/large post-hole with small piece of wood in bottom.	Roman
F22	Area of surface repair.	Roman
F23	Layer of metalled surfacing set into extremely compacted soil matrix. Gravel size and compaction between those of F27 and F29 (2nd widespread layer)	Roman
F24	Notably solid area of wall construction material (L9) found in base of F9 SX1.	Roman
F25	Pit containing frequent large pieces of Roman brick/tile.	Roman
F26	Pit	Modern
F27	Layer of metalled surfacing set into extremely compacted soil matrix. Notably smaller gravel than F29 and F27 but more densely packed (3rd widespread layer)	Roman
F28	Post-hole	Medieval?
F29	Layer of metalled surfacing set into extremely compacted soil matrix. Notably larger gravel than F23 and F27 but less densely packed. (4th widespread layer)	Roman
F30	Layer of light yellow/grey metalled surfacing comprised of dense small stones. (5th widespread layer)	Roman

F31/L9	Area of construction surface (L9) nr eastern extent of site	Roman
F32	Layer in surface consisting of brick and tile laid flat and set into a grey sandy silt matrix. Larger fragments and less compact to the west. Patches of mortar set hard. Organic staining on some fragments. (6th widespread layer)	Roman
F33	N.B this feature was identified in the trench through the metalled surface and on widespread stripping was found to be little more than a part of F30.	
F34	N.B this feature was identified in the trench through the metalled surface and on widespread stripping was found to be little more than a part of F32.	
F35	Pit with stone packing and large pointed timber lying at an angle (pos *lilium*)	Roman
F36	Solid area of surface consolidation bound by mortar.	Roman
F37	Greensand layer (thin, dense) within layers of surfacing.	Roman
F38	Mortar layer within layers of metalled surfacing (repair?)	Roman
F39	Pit (?)- soil deposit within layers of surface.	Roman
F40	Layer of consolidation or early surface consisting of large stones and brick and tile.	Roman
F41	Area of probable surface repair.	Roman
F42	Roman timber drain running NNW-SSE out from the town	Roman
F43	Roman timber drain running NNW-SSE out from the town.	Roman
F44	Wide and flat based ditch running E-W across site near adjacent to projected wall line. Cut but F9. Fills of ditch are L13,L14,F20.	Medieval (see L13,L14,F20)
L1	Top soil	Modern
L2	Accumulated soil	Post-medieval/modern
L3	Accumulated soil- dark earth (likely corresponds to L11)	Medieval/post-medieval
L4	Sandy gravel from the metalled surface(?) (loosely correspond to F15?)	Roman
L5	Thin layer of sand (surface tumble/water wash?)	Roman
L6	Sandy gravel layer from metalled surface (roughly equate with F23-F27?)	Roman
L7	Gravel horizons that likely correspond to surface layers (F27-F29?)	Roman
L8	Dark brown silt accumulation. Frequent animal bone. Overlies construction surface. (correspond with L16?)	Roman
L9	Construction layer- mortar layer related to wall construction.	Roman
L10	Construction material (septaria/brick) Located over drain F7.	Roman
L11	Accumulation- Dark earth	Roman to post-medieval
L12	Tile scatter, likely area of repair on F15.	Roman
L13	Highly organic silt accumulation. First silting of medieval ditch F44.	Medieval
L14	Silt accumulation, northern edge of medieval ditch F44. Possibly material tumbled in from gravel surface(??).	Roman
L15	Probable layer of town ditch (F5) fill.	Roman
L16	Layer of dark brown/grey sandy silt with frequent stones within surface stratigraphy (likely corresponds to L8)	Roman
L17	Probable layer of town ditch (F5) fill.	Roman
L18	Layer of light grey/brown silty sand with frequent gravel (not compacted) within surface stratigraphy.	Roman
L19	Layer of sand- probable surface repair.	Roman
L20	Accumulation beneath surface to the east.	Roman
L21	Dark organic rich silt on western side of drain F7.	Roman
L22	Accumulation beneath surface to east (cut by timber drain)	Roman
L23	Accumulation or riverine gravel deposit(?)	Roman
L24	Accumulation in surface layers.	Roman

L25	Sandy gravel that could be natural or possibly related to early surface phase.	Natural or Roman
L26	Deposit of sand and small stones washed from surface.	Roman

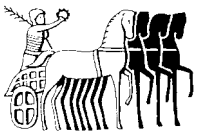

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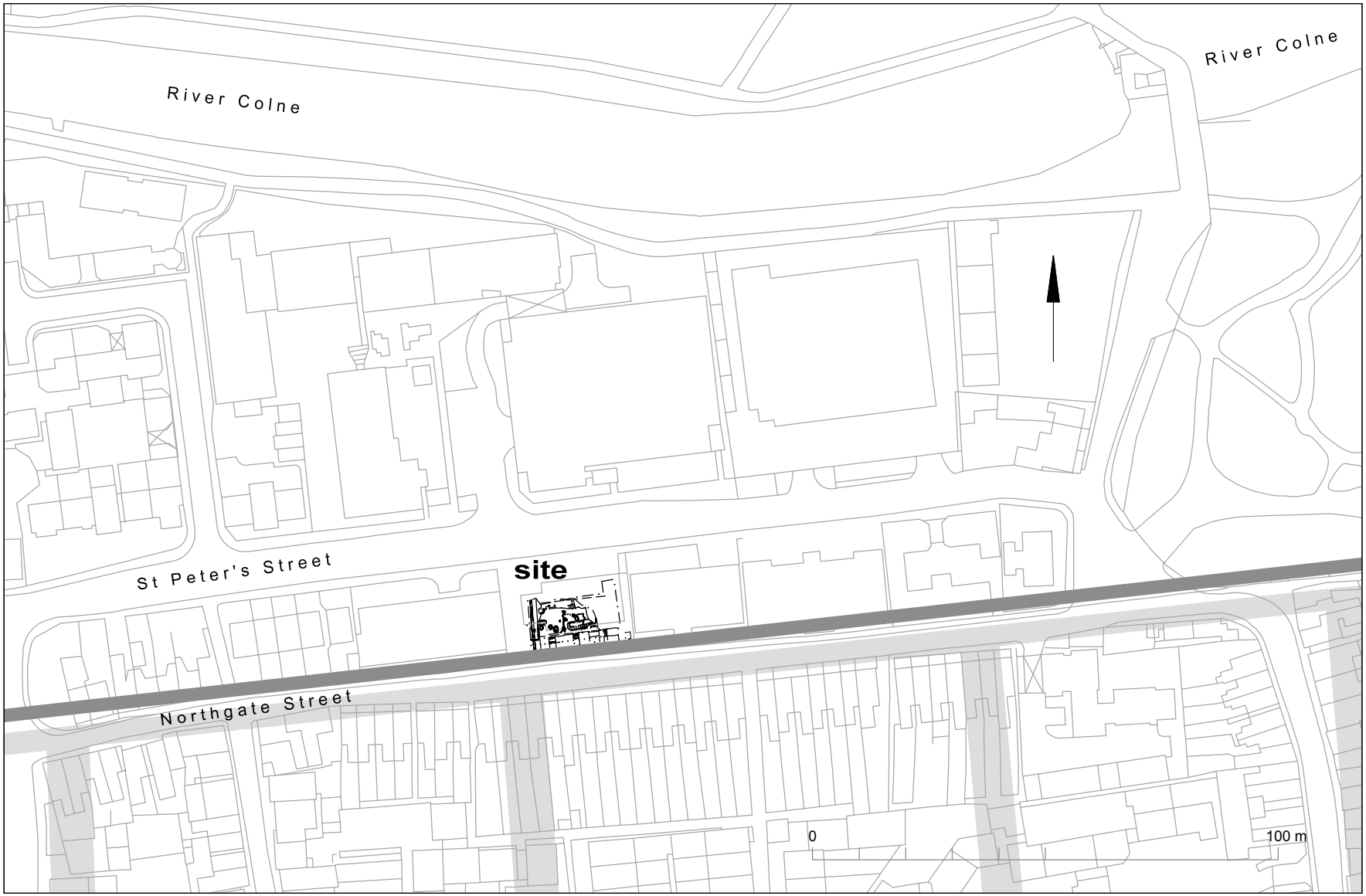
Plate 1. Cleaning the uppermost layer of the road surface (F15).

Plate 2. A probable *lilium*F35).

Plate 3. The Roman wooden drain (F7).

Plate 4. The pine cone from the waterlogged deposit directly to the west of the Roman wooden drain (F7).



projected line of Roman town wall projected Roman street

Fig 1 Site location.

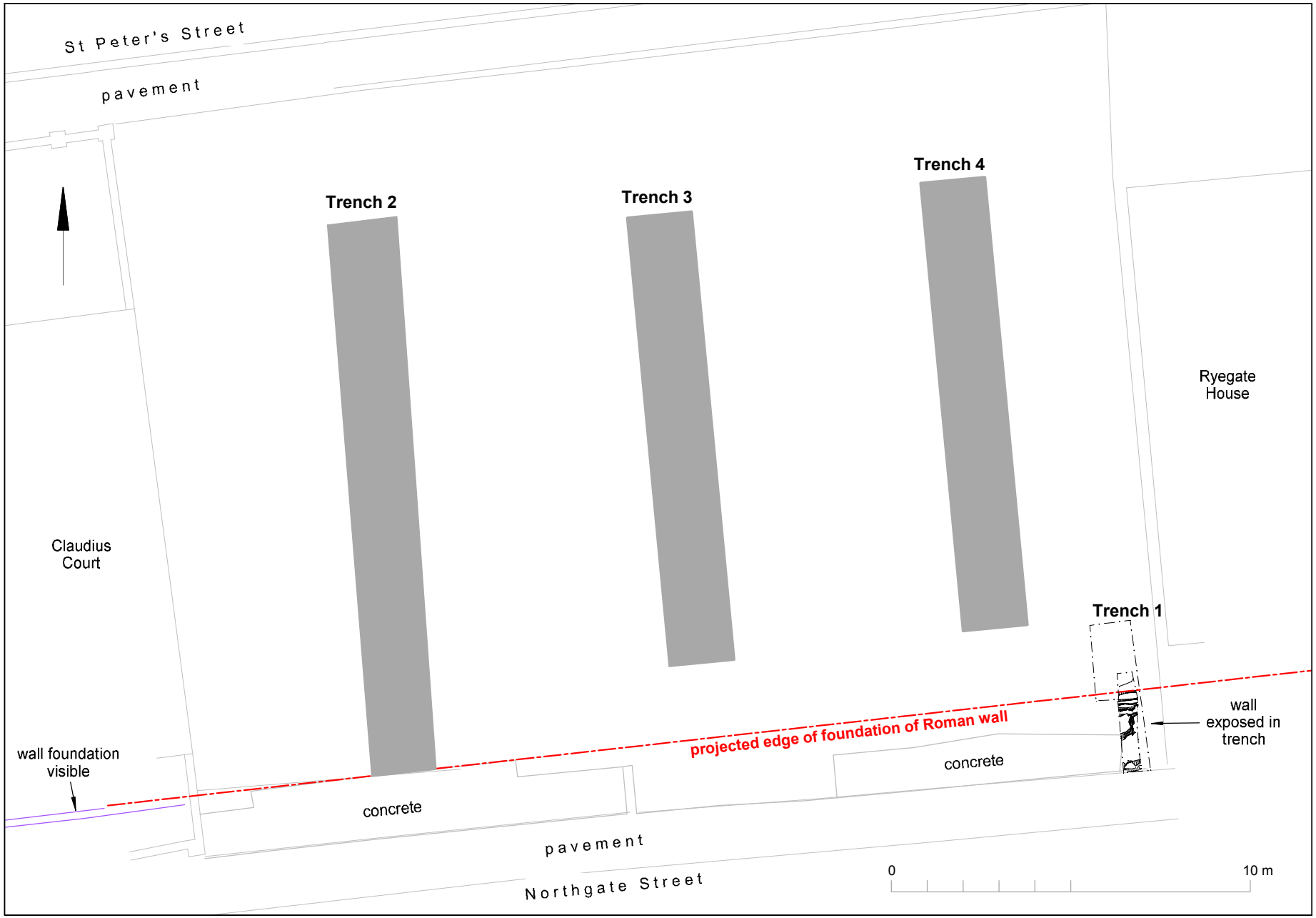


Fig 2 Location of trenches from all three phases of work.

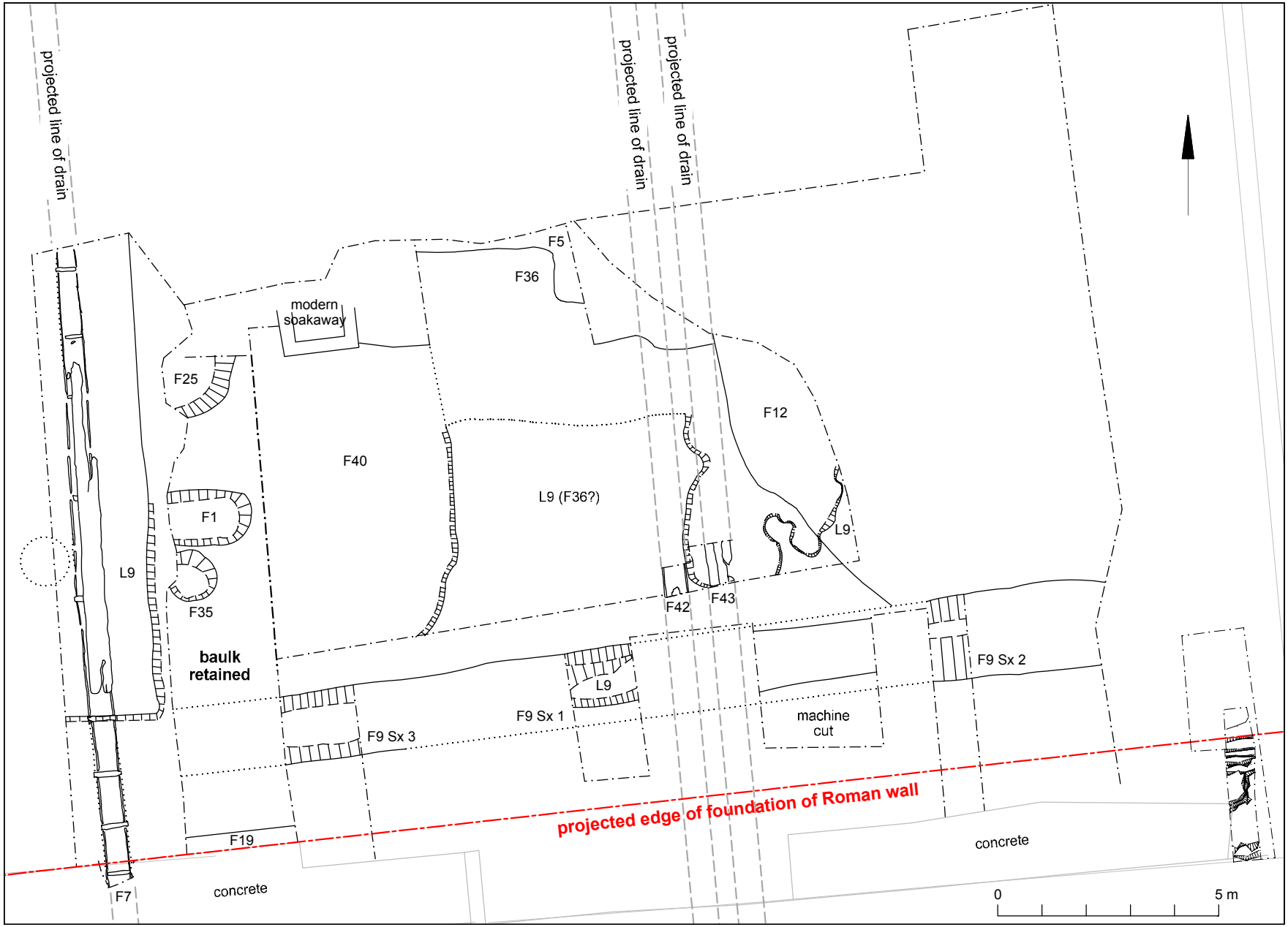


Fig 3 Site plan showing drains and construction/consolidation material following removal of gravel surface.

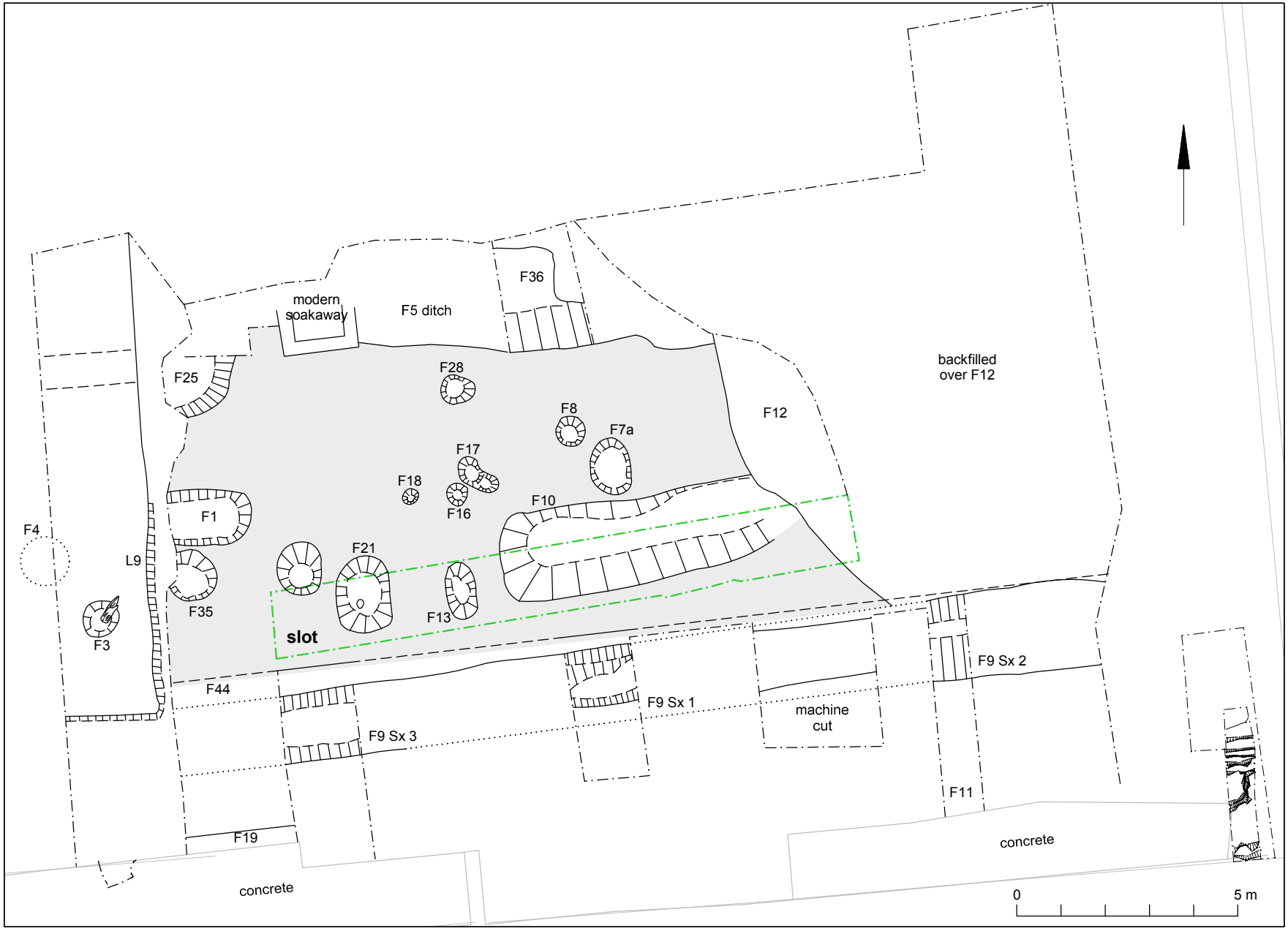


Fig 4 Site plan showing extent of uncovered gravel surface (shaded area) and features cut into the gravel surface.

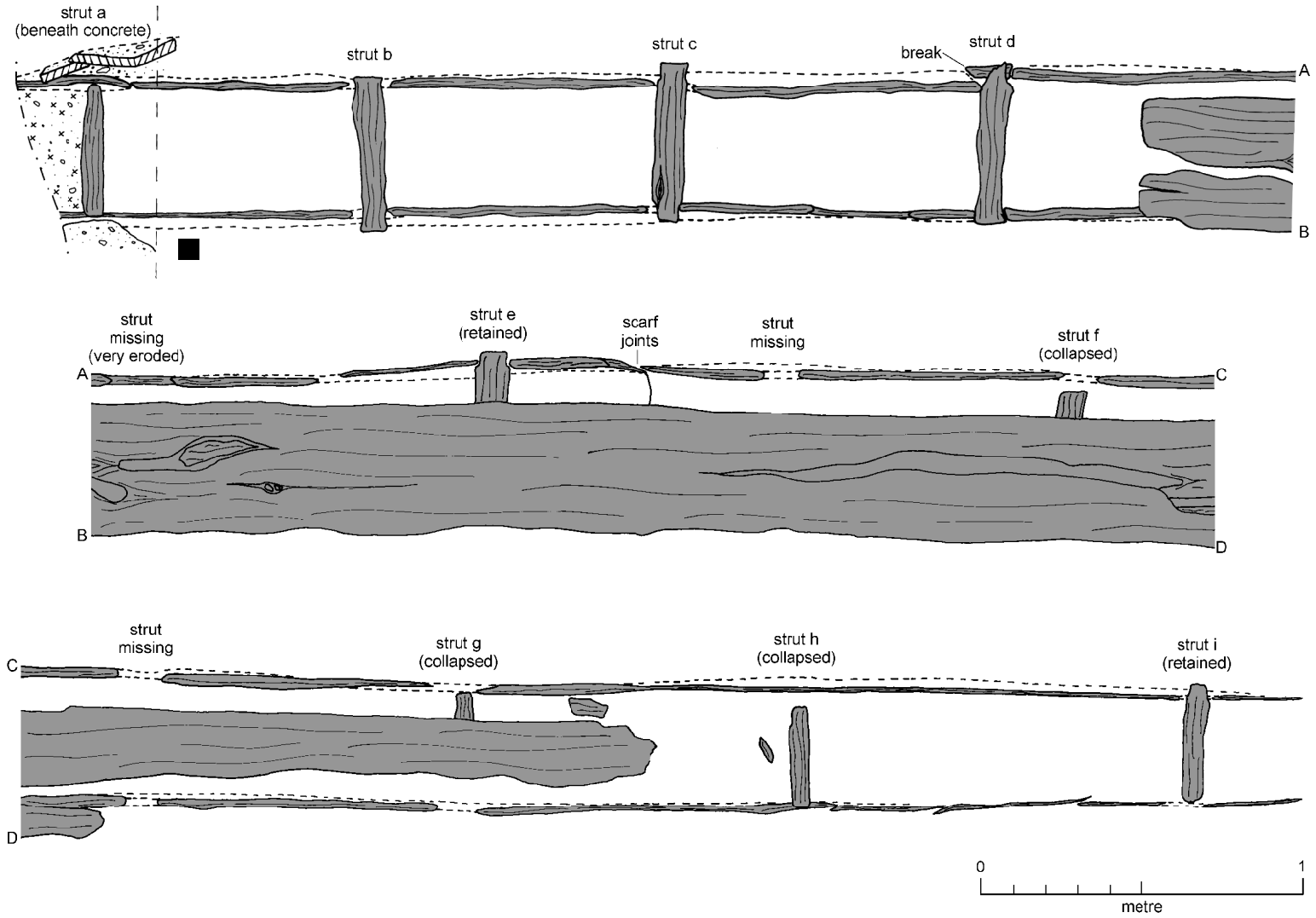


Fig 5 F7: Detailed plan of the Roman timber drain F7.

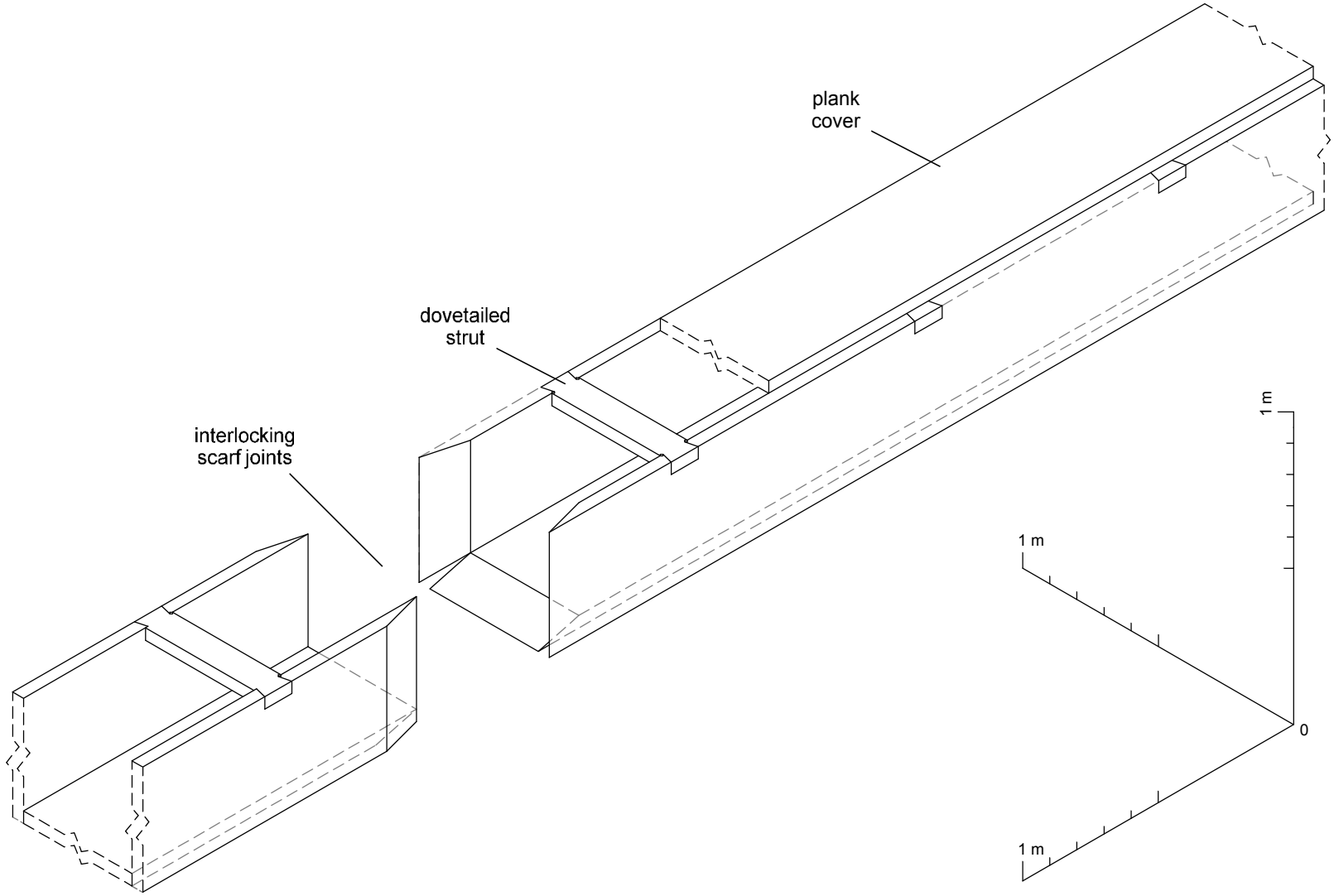


Fig 6 Isometric drawing of the Roman timber drain F7.

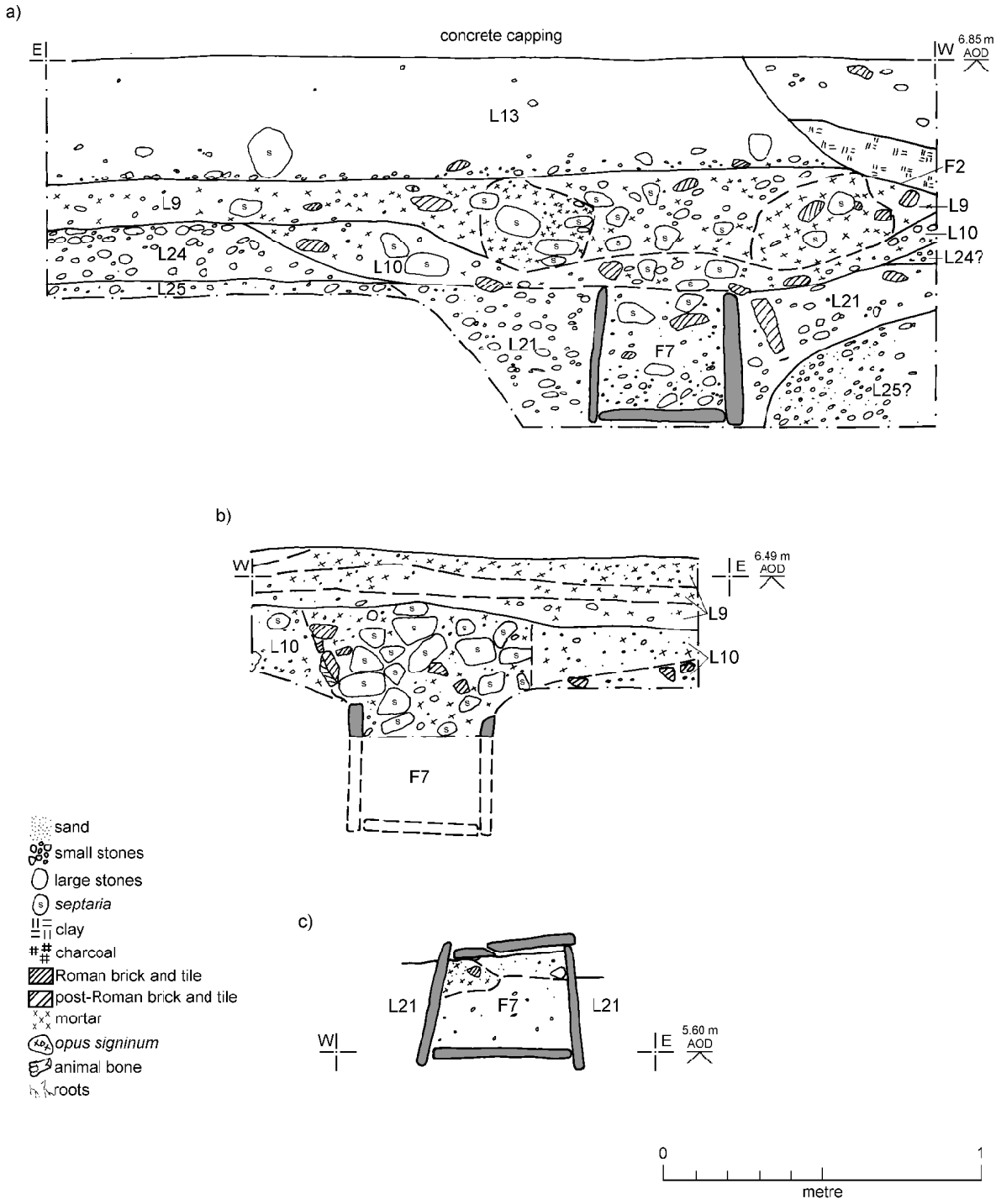
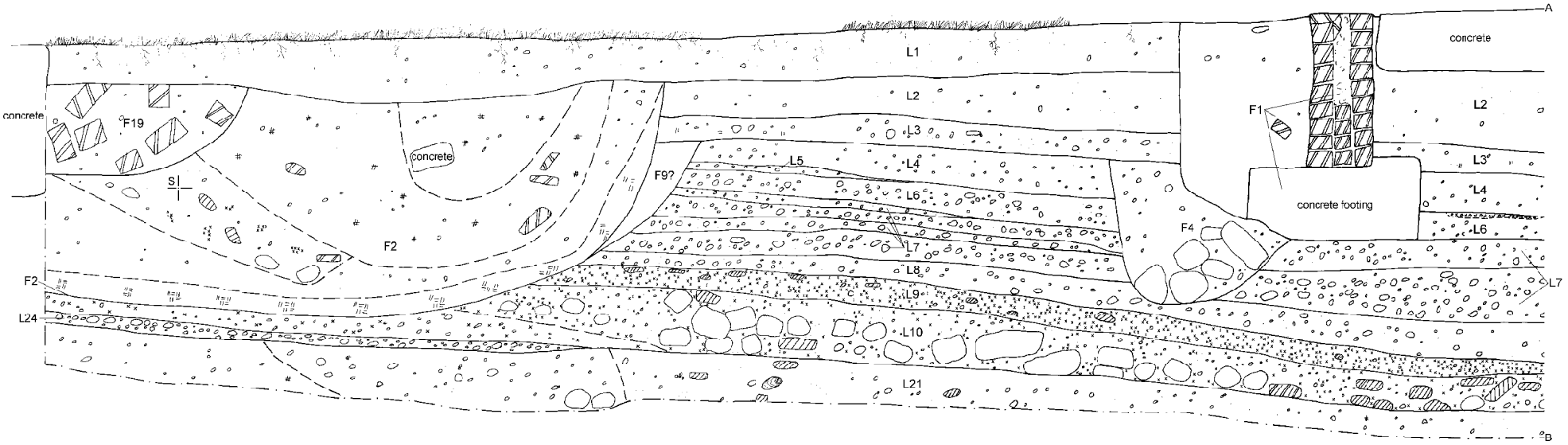
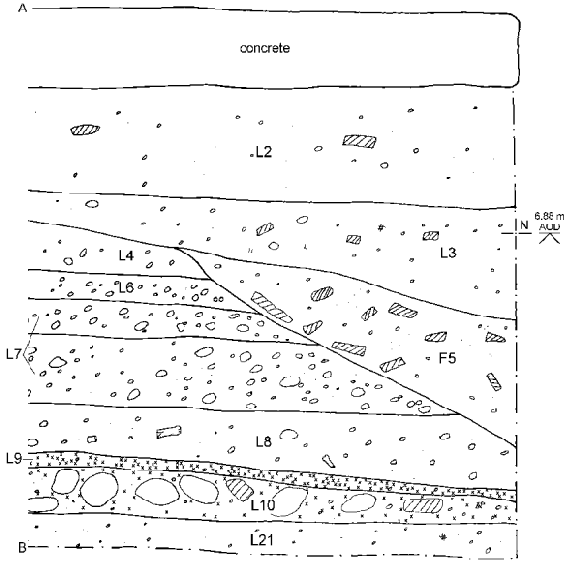


Fig 7 F7: section drawings of the Roman timber drain a) drain and surrounding stratigraphy under concrete capping. b) section through construction layers overlying drain.
c) fill of the drain under the plank cover.





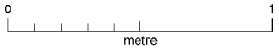


Fig 8 East-facing section showing stratigraphy at the western limit of excavation.

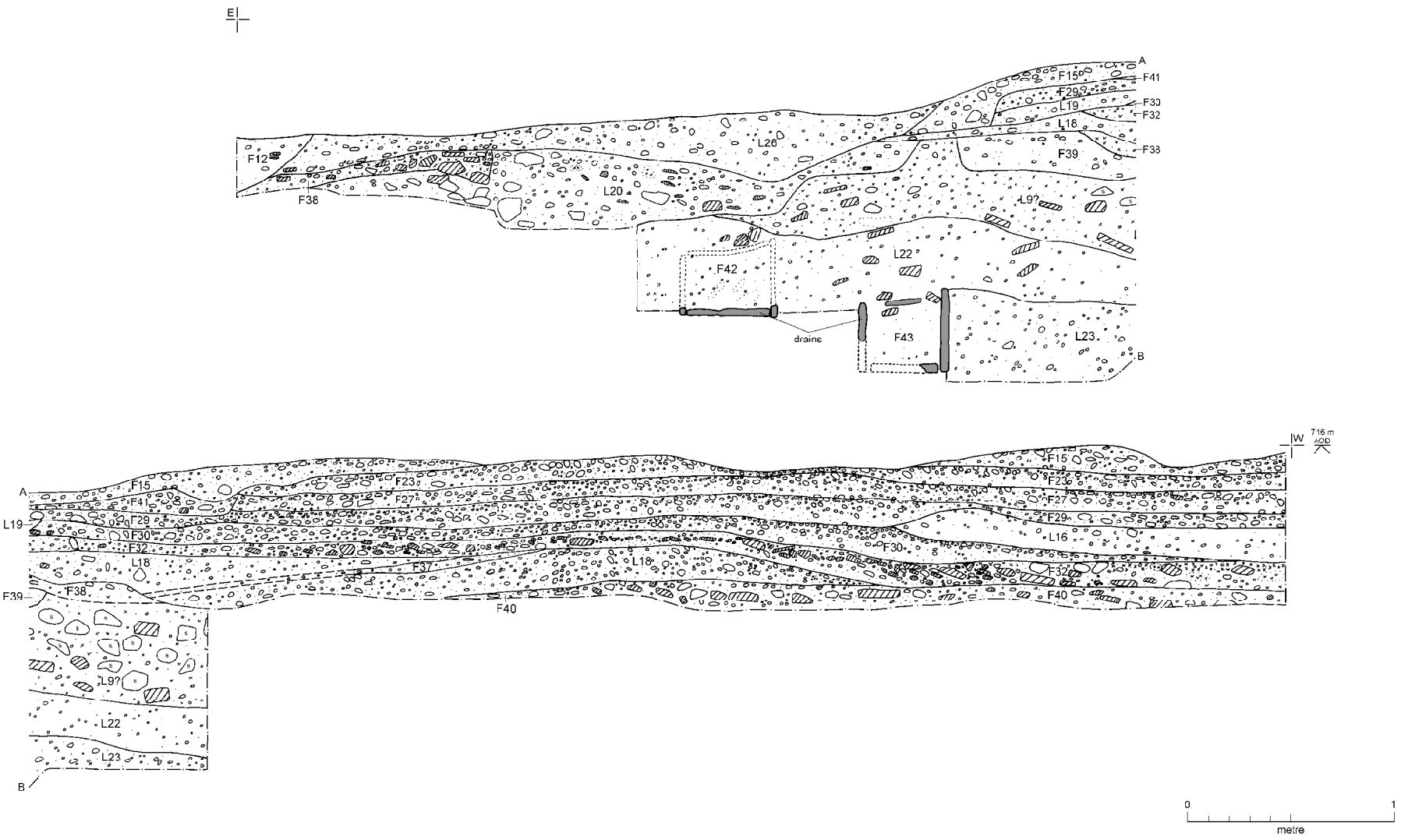


Fig 9 North-facing section showing the gravel surface and the Roman timber drains F42 and F43.

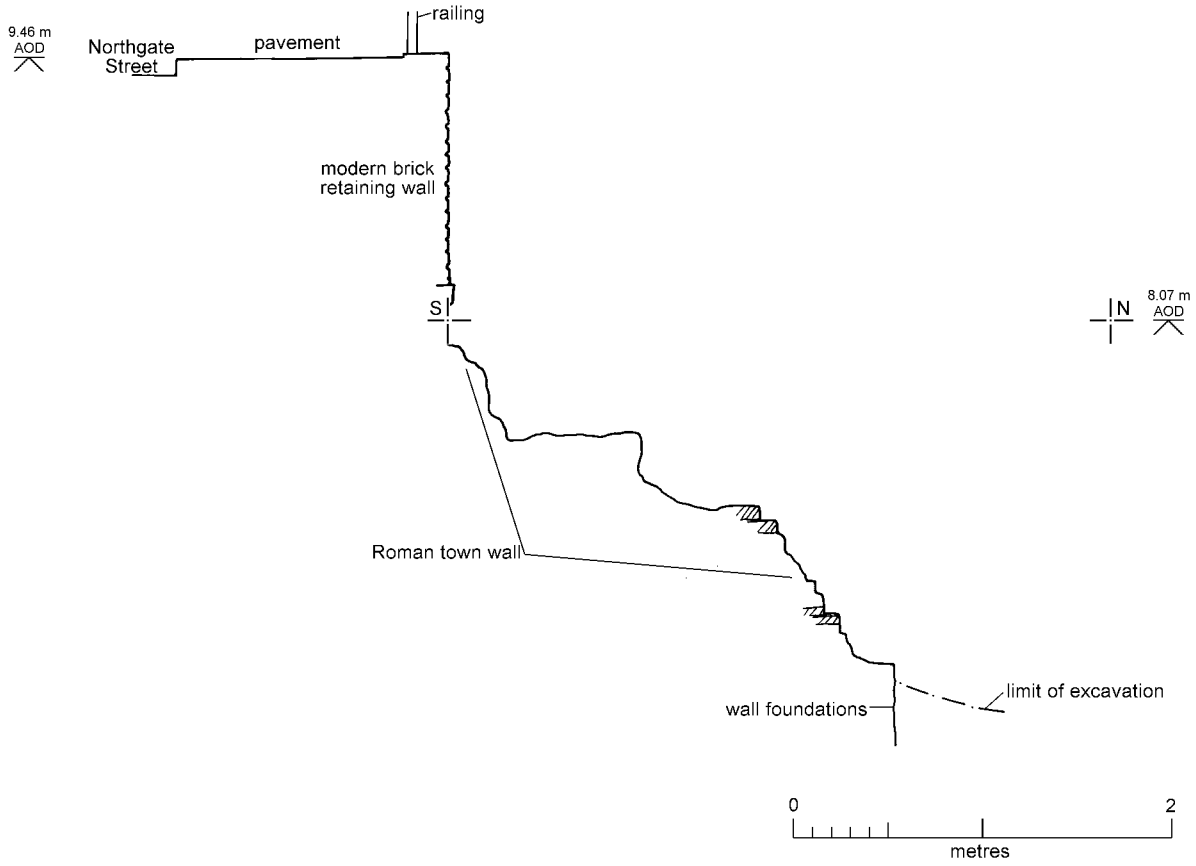


Fig 10 2006 Trench 1: profile of the town wall remains.

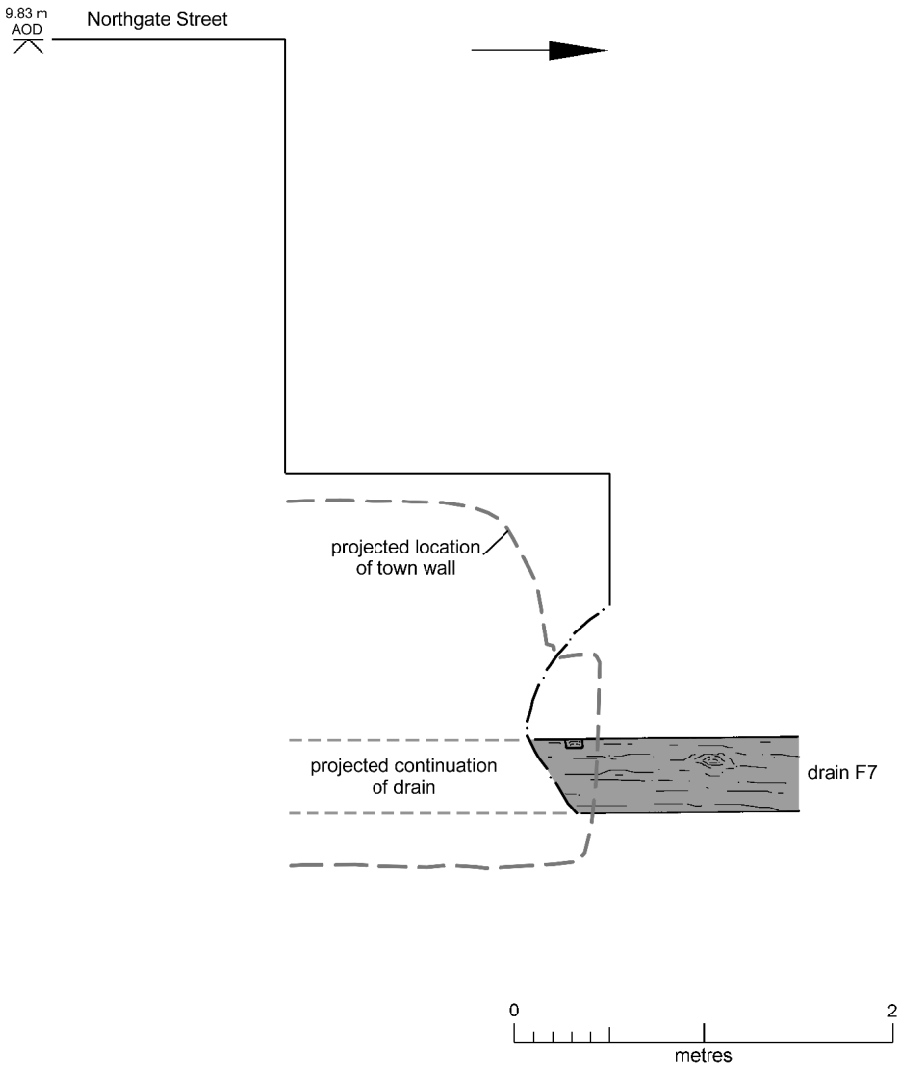


Fig 11 Hypothetical section showing the town wall in relation to the location of the Roman timber drain F7.

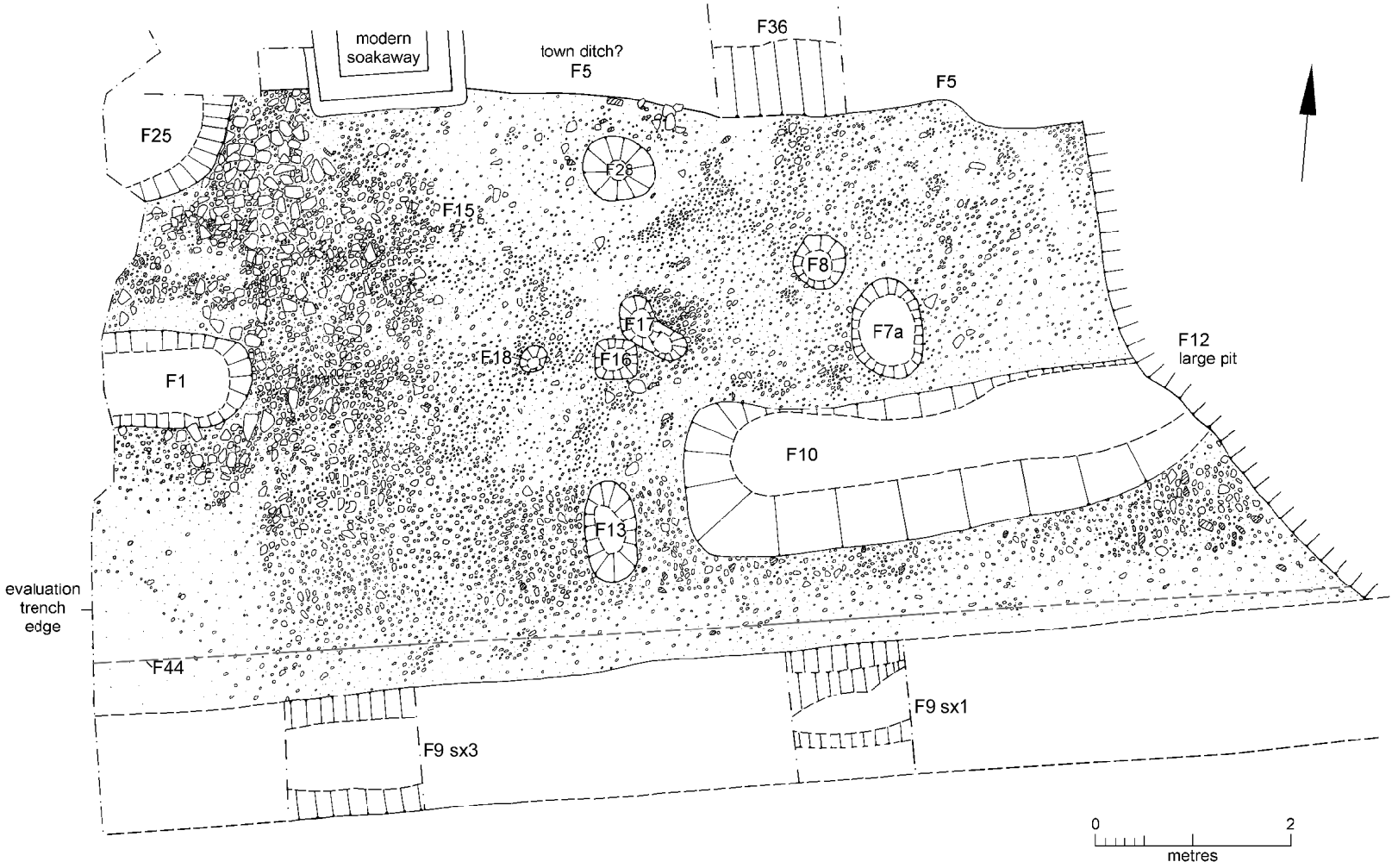


Fig 12 F15 metalled surface: plan.

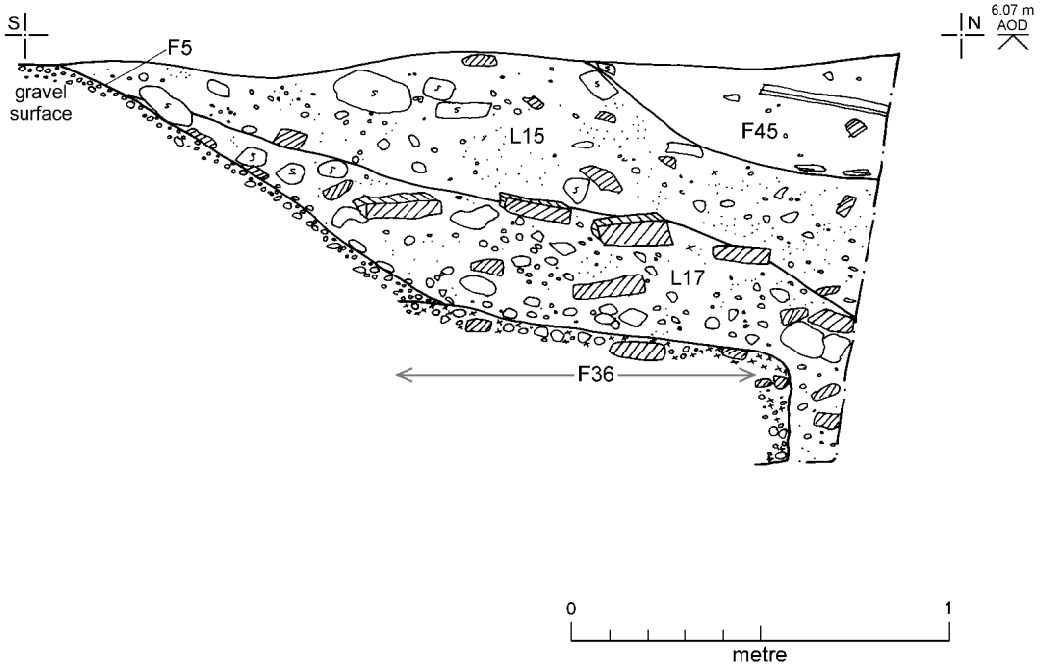


Fig 13 Section through probable town ditch (F5) onto consolidation layer F36.

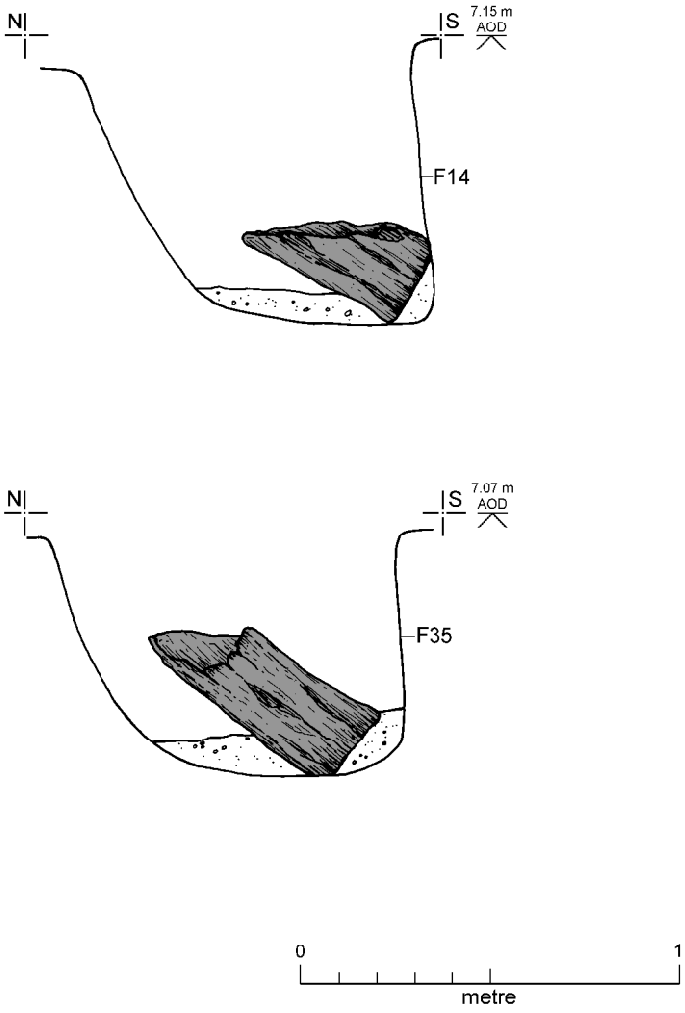


Fig 14 F14 and F35: profiles showing angled timbers.

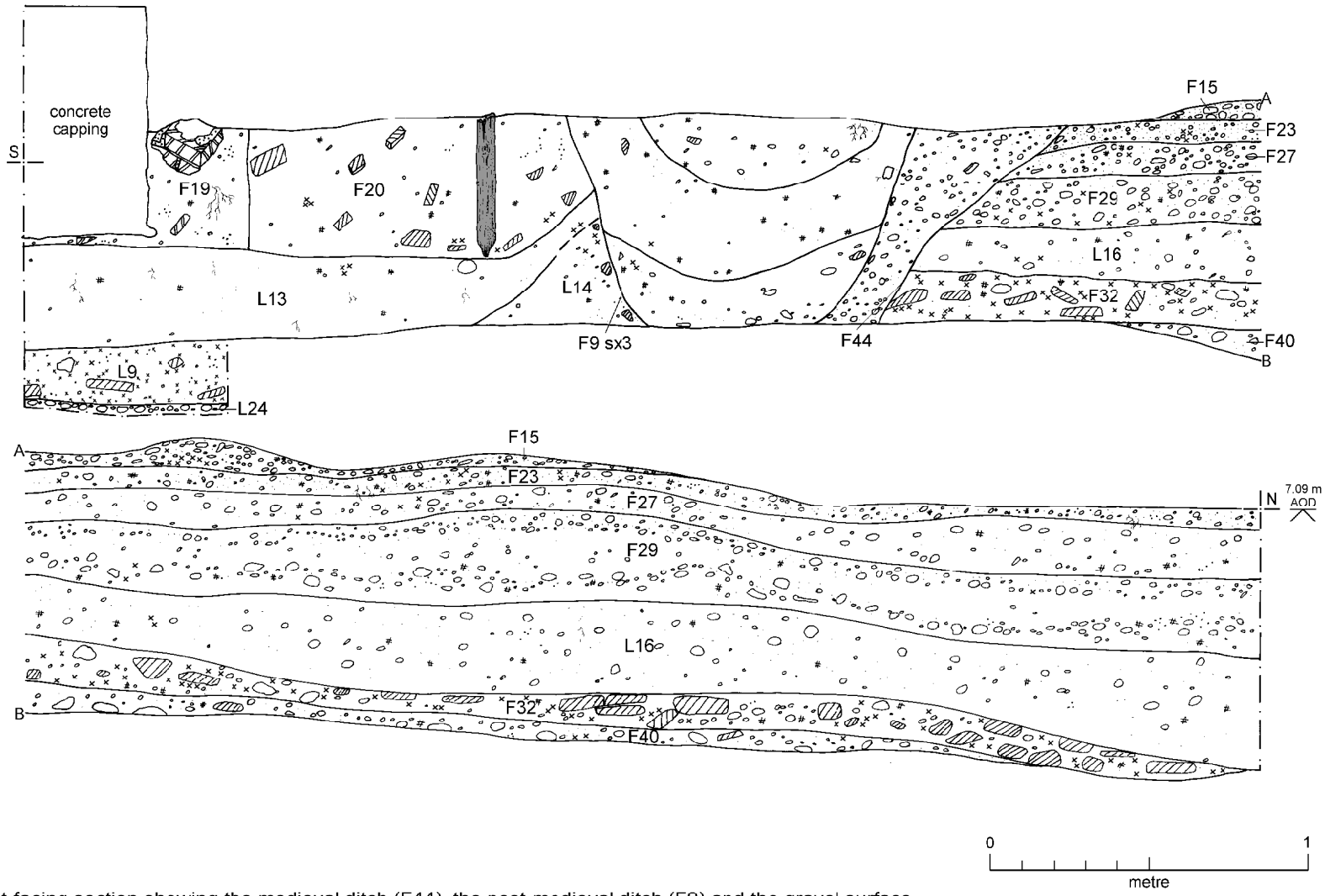


Fig 15 East-facing section showing the medieval ditch (F44), the post-medieval ditch (F9) and the gravel surface.

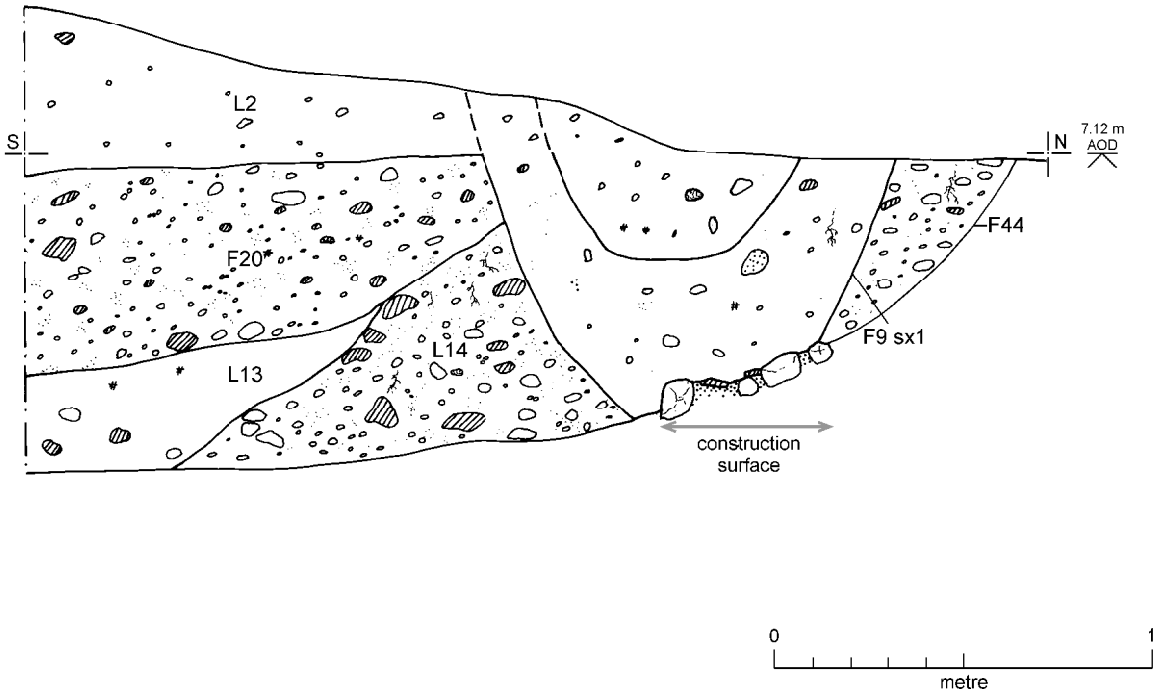


Fig 16 Section through the medieval ditch (F44) and post-medieval ditch (F9 sx1).

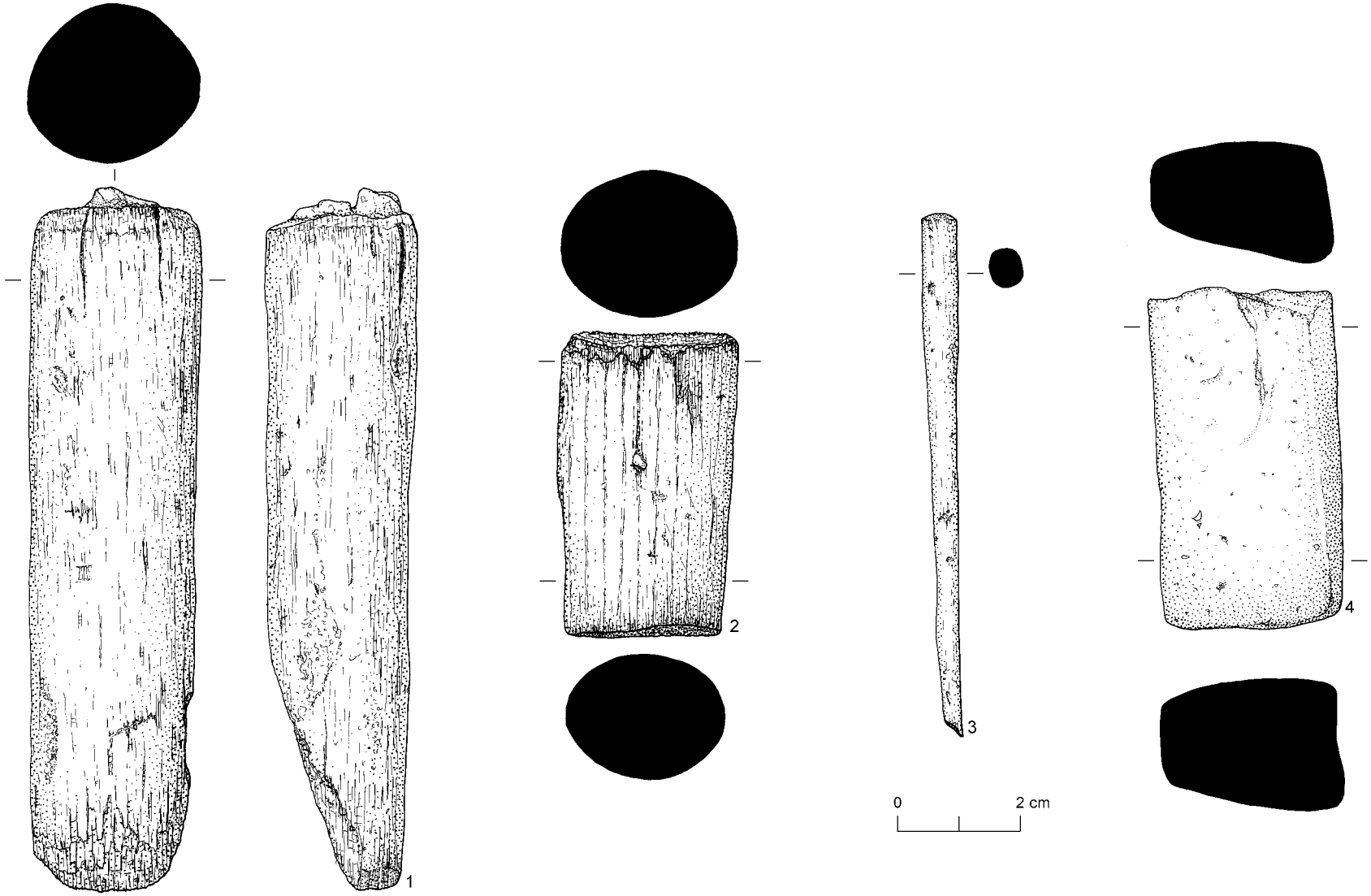


Fig 17 Small finds (scale 1:1).

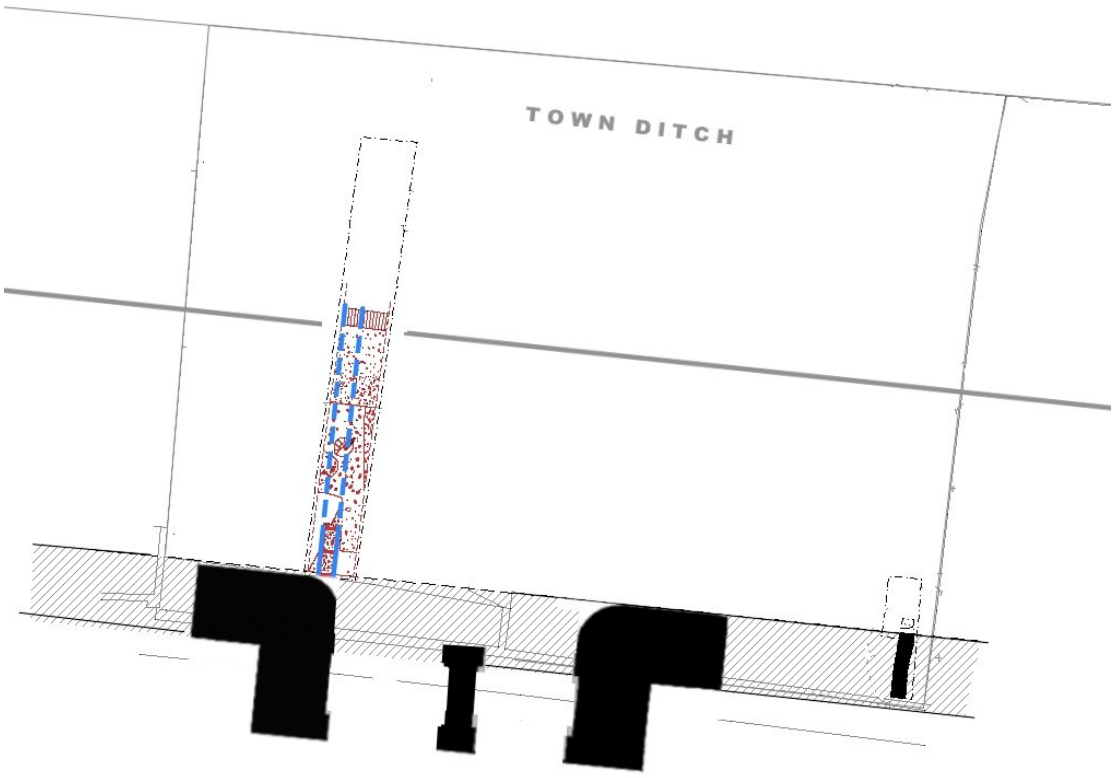


Fig 18 Plan of conjectural Roman gate.