

Roman Pavement, Lincoln

Anglian Water replacement water main

An Archaeological Watching Brief



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SUMMARY

Between 8th February and 30th March 2011 the Cambridge Archaeological Unit carried out an archaeological watching brief on the excavation of a 315m long, 0.4m wide and approx 1m deep open cut trench dug for the purposes of an Anglian Water replacement water main (parallel to the existing pipe) within the left-hand roadway of Roman Pavement, off Greetwell Road, Lincoln. Monitoring of engineering test pits was carried out by the CAU in November 2010 along the line of this route had already suggested that some of this crossed the area of opencast ironstone mining undertaken in the 1880-90s by the Mid-Lincs Ironstone Company at the Monk's Abbey Opencast. It was here between 1883 and 1894 that the remains of a large 3rd-4th century Roman villa (the Greetwell Roman Villa) was discovered during the course of quarrying operations. The villa included a bath house and a number of large mosaic-floored corridor rooms, one of which (at 87m the longest in Britain with the exception of Fishbourne Palace) found along the southern edge, or just beyond the edge, of this former quarry working (either parallel or coincident with the southern E-W bend in this road). The purpose of the current monitoring was to establish whether any of the villa or associated floor levels had survived 19th-century quarrying. At least some survival of this had been suggested by the findings of the Lincoln Archaeology Research Committee in 1945/6 during rapid investigations undertaken whilst laying services for the existing housing on the Monks Tower Estate.

Current archaeological monitoring of Roman Pavement and the crossing of Greetwell Road did not reveal any traces of in situ. Roman floor levels or wall structures, though at the southern end close to the former edge or entrance to the ironstone quarry, broken Roman tile and just one or two tesserae were found within the backfilled quarry fill. These abraded Roman finds were found mixed up with quarried limestone overburden and humic material, the latter perhaps associated with surface clearance carried out in the 1890s following the removal of the excavated villa floors and the quarrying away of the site.

Taking into account the archival evidence, and also the evidence of destruction of the villa at this particular location, it is possible that a small part of the wall foundations and mosaic floors survive within a narrow sub-surface strip (>0.5m deep) located somewhere between the south-eastern end of Roman Pavement, the west end of Tower Drive, and the northernmost end of Jellicoe Avenue.

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Introduction

This archaeological watching brief was carried out between 8th February and the 30th March 2011 as a condition of work associated with the replacement of this water main on Roman Pavement. The schedule of monitoring here was in compliance with the *Lincolnshire County Council Historic Environment Team Archaeological Brief* (September 2010) and the methodologies outlined in the *Lincolnshire Archaeological Handbook* (Section 16).

The 315m long pipeline route lay close to the eastern kerb of Roman Pavement and ran parallel and approx. 3m distant (to the west) of the existing iron water main which lay below the pedestrian pavement. The route for laying the proposed 125 HPPE water pipe ran from a water main junction on the north side of Greetwell Road opposite Roman Pavement (SK 99340 71856) to a junction on the east side of East Liberty at its southernmost end where this meets the southern East-West leg of Roman Pavement (SK 99488 71646). The drop in height along this route was from c. 41m AOD at Greetwell Road to c. 30m AOD at the bottom end of Roman Pavement. The main pipe trench measured 0.34 – 0.38m wide through tarmac, reinforced concrete and stone fill to a depth of approximately 1m (a series of square boxes (0.78 x 0.85m) were also dug at irregular intervals).

Geology

The prominent ridge upon which the old city of Lincoln (and before that the Roman town of *Lindum Colonia*) stands is formed from the south-facing scarp of the shallow northerly dipping outcrop of the Middle Jurassic Lincolnshire Limestone. Here in the south-eastern suburbs of Lincoln below the Greetwell Road, and above and crossing the route of the old LNER railway line at Monk's Abbey, the Lincolnshire Limestone is underlain by a narrow surface outcrop consisting of beds of the Northampton Sand Formation, which here consists (in part) of a limonitic (iron hydroxide-rich) sandy ironstone (BGS 1973). The latter has been extensively quarried, both at outcrop and at shallow depth, and then mined underground at deeper depths to the north, west and east of the area of the Monk's Tower Estate.

Archaeological Background

The location of the Greetwell suburb of Lincoln commands a panoramic view over this section of the Witham Valley, an area of the river known to have been a focus of ritual deposition from the Bronze Age (Jones *et al.* 2003; *Current Archaeology* 2004).

Of key importance to the present investigation is the documented evidence for finds of Roman archaeology along the top and sides of this ridge several miles to the east of the centre of Roman Lincoln (Jones *et al.* 2003). Foremost amongst these finds were those relating to the discovery of a large and important 2nd-4th century villa (the Greetwell Roman villa) which first came to light in 1884 during the course of ironstone mining carried out within the Monk's Abbey Opencast, just to the south of Greetwell Road.

In addition to the two published accounts referred to above, a bibliography compiled by Andrew White (former Keeper of the Lincoln City Museum) in 1980 lists another 17 references to finds of Roman coins, pot, buildings and mosaics at the site known as the Greetwell Fields Roman villa dating from 1884 to 1976. The original reference within the *Archaeological Journal* of 1884 gives an account of this discovery in August 1884 which was provided by a Dr. O’Neill. A well 7 ft in diameter, two walls, the remains of tessellated pavements, pottery, and some large flat red-tile floors were found during the sinking of a new ‘mineshaft’ in Greetwell Fields (Monk’s Abbey Opencast). Further investigations resulted in the discovery of the outlines of several apartments alongside a course of steps leading down to a bath house containing a square bath some 4 feet deep and evidence for surrounding walls with the traces of painted wall plaster.

This same discovery was reported on in more detail in the *Lincoln and Nottinghamshire Architectural Society Reports* of 1893. William O’Neill refers to finds of tesserae an inch and-a-half square made of red, blue and black coloured brick and white stone. There were also small white tesserae about three quarters-of-an-inch square which were made of a hard white concrete. Interestingly, it appears that some of these tesserae pavements were torn up fairly soon after being revealed. O’Neill commented further on the large red floor tiles (fifteen inches by ten-and-a-half inches square with a chequered pattern on them – some of them of superior quality with fine flutings on them) and the basement bathroom of the villa with its white (china clay) tessellated pavement plus a dado made of tesserae surrounding the bottom of the wall of this bath house. The plaster walls had been painted in red, yellow, green, blue and black (see Figure 2) and included a number of images, amongst which was a swallow.

When the Lincolnshire Iron Ore Company ceased to work the Greetwell Fields ironstone quarries, the Mid-Lincolnshire Ironstone became its successor. Under the management of Mr. B. Ramsden the old quarries (including the Monk’s Abbey Opencast) began to be re-worked, and as a result further discoveries were made in 1890. In 1891 a map of the most recently excavated discoveries was executed by Ramsden with an appended article by the Rev. E. Venables (see pictorial plan in Figure 2). The totality of these remains comprised the floor of one isolated small compartment, the floors of four connected small apartments (each 30 x 10 ft in area), and three long apartments referred to as ‘corridors’. The arrangement of the rooms and corridors of this southern surviving (or excavated) range of the villa can be seen in Figures 2, 3 and 5. One of the four rooms was floored in ‘concrete’, whilst the floors of the other three were decorated with white and red tesserae arranged in stripes. From this room, eastwards, ran the south tessellated (red and white check mosaic) corridor, and northwards from both west and east ends ran two other tessellated corridors (forming three sides of a square); a western corridor (white and red stripes with an interior ‘Grecian’ or ‘key-pattern’ design mosaic), and a beautifully elaborate patterned eastern corridor (see mosaic detail in Figure 2). Against the inside of the southern corridor was the finely decorated floor of another apartment. The mosaics showed some evidence for contemporary repair.

The quarry workmen during Ramsden’s excavation commented upon the perfect drainage of the site; for instance, the villa foundations had been built on layers consisting of three different kinds of concrete, the rooms and bath house being on different levels, with evidence of pipes and good sanitation. It appears from the layout

of the floors and access arrangements that the entrance to the villa was from the south, from the direction of Monk's Road. Indeed, O'Neills eye-witness account suggests that there was a contemporary track from the villa which descended the slope (perhaps heading towards what could have been the Roman road east from Lincoln). This now removed track appeared to correspond with that used by the quarry to cart ore down to Monk's Lane. This same track can be seen on the 1:2000 1888 Ordnance Survey map (see Figure 3). Interestingly, he also comments upon his discovery of a small patch of Roman pavement (tesserae) against the edge of this same track just a few yards inside of the hedge on Monk's Lane (Road). From the villa itself finds included animal bone, Roman pottery, some very fine glass vessels, as well as a range of Roman coins. Some human remains found immediately outside of the villa suggest there may have been associated burials.

Upwards of 350 Roman coins from the general area of Greetwell Fields are held within the collections of the Lincoln City Museum. Many of these coins have been collected over the years as a result of workmen building houses and roads, and perhaps also from residents recovering isolated coins whilst digging these their gardens; most are poorly preserved, and the findspots, though probably from the villa, cannot be provenanced with any certainty. Only 104 coins have sufficient provenance to be useful in analysis (Higginbottom 1979). Of these, no more than nine can be assigned to the first and second centuries AD. The third century group contains some coins of Severus Alexander, but by far the largest group (approx 80%) are 4th-century and date from AD 312-354 (this includes 36 *Fel Temp Reparatio* issues). On numismatic evidence alone, it would seem that the site was abandoned around AD 400.

When Jellicoe Avenue and the Monk's Tower Housing Estate were constructed further remains were found, yet the recording of these in relation to existing streets or else to former villa discoveries wasn't (or else couldn't) be undertaken. This 'rescue excavation' investigation was undertaken in 1945/6 by volunteers at the behest of the Lincoln Archaeological Research Committee (see ARC report 1946). A series of trial holes were dug initially as part of this investigation. These showed that the field had been thoroughly excavated except for a narrow strip on the southern boundary, probably the original entrance to the ironstone quarry working. This could not be examined given that it was a public right-of-way to the Mainwaring Allotments. However, matters changed when sewer trenches were excavated westwards from the existing Monk's Tower Estate (Tower Drive, Tower Avenue and Tower Crescent). Traces of the main east-west mosaic corridor were found along with the top of a vat-shaped structure with a lead pipe found at the top of Jellicoe Avenue. A group of rooms were identified just to the west of this, and apparently to the north of the corridor, one with a chequered red and white tesserae pavement, suggesting some survival of the southern range post- ironstone quarrying.

One of the most interesting drawings in Ramsden's book on the Greetwell Roman Villa is that of an Early Anglo-Saxon handmade pottery vessel (Myers 1946). This find represents the only survival of such early remains from the city of Lincoln, implying some sort of minimal re-occupation or else other activity on the site of this 4th century villa, possibly even a burial associated with this former pagan site (Jones 2004). The Medieval monastic cell of St. Mary was later established close to the river a few hundred metres to the southwest of the villa. This site may also have had

Anglo-Saxon origins. The stone-built Monk's Tower was constructed on the high ground just to the south of Greetwell Road and to the west of Allenby Road in the Medieval – post-Medieval period; however, nothing survives of this today except in the names of the nearby estate roads (Tower Gardens, Tower Crescent, Tower Avenue and Tower Drive).

Underground and opencast mining for ironstone took place here from 1873 to 1886 in an area extending from the County Hospital to Allenby Road. These operations were carried out by the Mid-Lincs Ironstone Company in order to exploit the Northampton Sand Ironstone bed needed for the particular steel making process developed at Scunthorpe Steelworks. The ironstone was removed manually (by levering out the bed with crowbars and with picks and shovels) and then transported downslope by narrow gauge (2'6") tramway, under Monk's Road to the railway at Monk's Abbey sidings (see historic photo in Figure 4). Horse power may have been used on the gentler inclines from the underground adits (tunnels) along the contours of the hill, with a rope system utilising gravity on the steeper descent and ascent (self-acting incline). This tramway can be seen on the 1920 Ordnance Survey 1:2000 map crossing beneath Greetwell Road to the east of Monk's Tower, whilst another mine adit emerges from beneath the junction of Allenby Road and Greetwell Road to link up downslope of this point with the surface incline from the Ironstone Quarries to the north, joining the LNER railway at Monk's Abbey sidings. The mines south of Greetwell Road (such as the Monk's Abbey Opencast and the Monk's Abbey Mine) were all worked out by 1896, thus operations then moved east of Allenby Road and north of Greetwell Road, finally ending in 1939.

An examination of the Ordnance survey maps from 1888 and 1930 indicate the beginnings in 1888 of opencast ironstone workings within the area just to the north and west of what is now Jellicoe Road and to the south of the east-west turn in what is now Roman Pavement. The entrance to this pit was met by a short incline which led down to the trackway which then ran down to the railway (later this was to be known as Monk's Road). The depiction of this then small quarry area follows the discovery here in 1884 of the south-western extremity of the villa within the entrance to the mine. However, by 1890 it appears that the opencast working face of this quarry had extended almost to Jellicoe Road. The short-lived nature of this operation is attested by the apparent backfill and completed reclamation of this opencast area which is suggested by the 1905 map. In fact, the corner of a fenced and tree-lined field now sits above what was once the eastern half of the quarry in the 1890s. Only the cutting for the short incline from the Ironstone Pit to Monk's Road survives. Even so, at this date there was still no urban development of these easternmost outskirts of Lincoln. Stables had replaced the former gasometer and works, but otherwise the only settlement is at Monk's Tower, the buildings of which still stand. Three locational crosses for the 'AD 1893' discovery are shown on both the 1905 and the 1930 map.

Unfortunately, all of these locations are incorrect. Even the westernmost findspot shown is at the very least 50m too far to the east. The first part of the Tower Estate was built sometime between 1905 and 1930. Within the area of the Monk's Lane Stables terrace houses have been built along Ellesmere Avenue, Sherbrooke Street and Bathurst Street, with larger houses on Jellicoe Avenue to the west; however, the siting of the latter road still avoids the now largely overgrown traces of the original cutting and incline from the former Monk's Abbey Opencast at its north end.

Interestingly, the 1930s map shows a new opencast (quarry) on the north side of Greetwell Road, just opposite Monk's Tower. On the map of the Greetwell Mines and Quarries produced by Stewart Squires this quarry was shown as the Greetwell Opencast dug for limestone (1920-1933), but on the OS map it is referred to as an ironstone quarry.

It seems probable that the north-eastern portion of the housing estate within the area of Monk's Tower (Tower Gardens, Tower Crescent, Tower Avenue and Tower Drive) was constructed sometime between 1930 and 1945, when the field to the west of this was developed, and it must have been around the same time that the remains of Monk's Tower was pulled down. The Lincoln Archaeology Research Committee was busy monitoring the digging of sewer trenches westwards from here during the winter of 1945, thus it would seem that the roads and houses along hillside Avenue, Roman Pavement and East Liberty were built shortly afterwards. At the time the WSW-ENE orientated path from the south end of Roman Pavement westwards to the Mainwaring Allotments was still in use, and was not disturbed. This path survives today, and has not been altered.

Methodology

An archaeological watching-brief was carried out on a daily basis throughout the digging of the 315m long pipeline. The road surface (concrete and asphalt) was sawn up by a road-cutting machine, then this was lifted and the trench dug with a small tracked 360° machine digger. The c. 1m deep section through the cut ground was monitored at approx. 5m intervals, these being measured by tape from the starting point of the trench commencing at the man-hole on the northwest corner of Roman Pavement with East Liberty. Whilst in quarry-disturbed ground, the stratigraphy of these sub-surface layers was recorded by means of simple measured sketch-sections with identifiable similar horizons indicated in each. Re-deposited Roman tile and pottery was collected and recorded as regards depth found, horizon and distance along the pipeline route from the start. The whole of this trench route was examined from inside the trench. Digital colour photographs were taken periodically of these trench sections and their contextual surroundings along the route. Wherever pottery and tile was recovered the base and sides of the trench were then metal detected. The dumped spoil and dumper truck loads were also visually examined for finds and metal detected.

Results

Some 67 sections along the pipeline route were logged. All of these sections were recorded through road make-up and quarry spoil, hence there was no identifiable *in situ*. archaeology present. The full record of these simple stratigraphic logs is found in the appendix to this report. However, some typical sections with recognisable horizons through the road make-up, garden soil, and underlying quarry backfill are included here.

Section A (2.3m east of original start of trench) (see Figure 6)

0-3cms (Horizon A) road tarmac
3-22cms (Horizon B) concrete raft with iron reinforcement
22-34cms (Horizon C) rubble: loose tarmac fragments, limestone and brick
34-54cms (Horizon E) re-deposited quarry spoil: limestone + ironstone in clay
54-60cms (Horizon D) compact dark silt
60-105cms (Horizon J) with Roman tile
105-110 cms (Horizon F) clay-rich quarry spoil: a mid-brown clay/silt with limestone

Section I (1m west)

(0-10 cms) (Horizon A)
(10-20 cms) (Horizon B)
(20-43 cms) (Horizon C)
(43-57cms) (Horizon D) garden soil: dark grey-green silt + humic + snails
(57-70cms) (Horizon E)
(70-90cms) (Horizon F)
(90-95cms) (Horizon G) quarry spoil: compact layer broken limestone + Roman tile
(100-105cms) (Horizon H) compact light grey-brown clay

Section 2 (30m)

0-10cms (Horizon A)
10-23cms (Horizon B)
23-48cms (Horizon C)
48-56cms (Horizon D)
56-64cms (Horizon E)
64-95cms (Horizon I) grey sandy silt + Roman tessera +tile - mix earthy quarry spoil
95-100cms (Horizon G)

Section 22 (100m)

0-5cms (Horizon A)
5-24cms (Horizon B)
24-39cms (Horizon C)
39-59cms (Horizon D)
59-104cms (Horizon F): limestone quarry waste in yellowish clay

Section 25 (112.5m)

0-5cms (Horizon A)
5-23cms (Horizon B)
23-34cms (Horizon C)
34-97cms (Horizon K): mixed limestone quarry waste with clay and humic lenses

Section 41 (200.8m)

0-3cms (Horizon A)
3-24cms (Horizon B)
24-46cms (Horizon C)
46-62cms (Horizon D) sherd of 18th-19thC GRE
62-95cms (Horizon F)

Section 60 (287.8m)

0-3cms (Horizon A)
3-23cms (Horizon B)
23-34cms (Horizon C)
34-45cms (Horizon D) hard grey-brown mud with redeposited Roman tile @ 284m
45-96cms (Horizon F) large flat-lying limestone slabs in base of backfill section

Section 64b (311.50m) section beneath middle of Greetwell Road

0-6cms (Horizon A)
6-24cms (Horizons B+C)
24-64cms: made-up ground composed of tightly packed limestone quarry waste
64-69cms plastic pipe
69-80cms (Horizon F)

N.B. 19th-20th century china, coarse pot and brick fragments have been recorded from Horizon I (garden soil). Roman tile has also been recorded from Horizon I, but mostly this has come from Horizons G, F & K (the earthy-clay rich backfilled quarry spoil).

Most significant were the occurrences of re-deposited Roman tile. The areas from which tile were recovered are quite specific, suggesting the proximity of these to pre-existing floor levels and also to walls of the Roman villa. However, the degree of abrasion present on them suggests that all of these tile pieces had been moved (to a greater or lesser extent from their origin) and redeposited. The main concentrations are as follows.

2.3m E: tile + small fragment of samian pot (286g) (Figure 7)

1.4m E: tile + tegula roof tile (356g) (Figure 7)

0 m: tile (150g)

30m W: tile (51g)

32m W: tegula tile (43g)

34m W: tile (17g)
35.5m W: tile (50g)
39.5m W: tile (129g)
40.5m W: combed box flue tile + tile (177g) (Figure 7)
41.5m W: tile (77g)
42.5m W: tile (22g)
44.6m W: tile (26g)
48m W: tile (22g)
50m W: tegula tile (148g)
60m W: tile (12g)
68.5m W: tile (8g)
69m W: tile (38g)
284.6m W: tile (56g)

This distribution (1666g of tile) suggests a slightly greater concentrations of less abraded material occurring within the sections 0 - 3m to the east (790g) and 39 – 41m to the west (383g) of the trench start point.

Discussion

Perhaps the most important outcome of this Anglian Water pipeline watching brief carried out at Roman Pavement is that it now fairly conclusively defines the area destroyed by ironstone quarrying activity during the late 1880s – early 1890s. This removes, to some extent, any ambiguity over the possible location of the 1945 trenches of the Lincoln Archaeology Research Committee on Roman Pavement. Nothing on or north of the road (and most likely also northwards along East Liberty) survives, the probable edge of the quarry (thus possible partial survival of the villa tesserae floors and wall foundations in this area) most likely corresponds to the southernmost leg of Roman Pavement near to where this joins the top of Jellicoe Avenue and Tower Crescent. The LARC report in 1945 suggests that the quarry entrance, thus the limit to quarrying, corresponds with the public foot path which lies to the south of the gardens of Roman Pavement, and runs westwards from its junction with Hillside Avenue. However, the location of these 1945 trial trenches along the sewer pipes, just to the north of Jellicoe Avenue, would appear to suggest that the eastern end of the long east-west pavement (A), and at least some of the rooms to the north and west of this (B) had survived 19th-century quarrying operations. With this in mind, any future work in this area should be alert to the possible survival of remains beneath Nos.1-7 and 2-4 Tower Crescent and Nos. 55-57 Roman Pavement, and perhaps also beneath the road surface (of Roman Pavement) to the west and south of this point. Equally there is an outside chance of some survival of the Roman Bath Annexe (C) beneath Nos. 82-84 Roman Pavement.

The current investigation would seem to imply that the westernmost north-south corridor of this southern range of the villa has all been quarried away. The footprint of this is just within the area covered by the eastern end of the pipeline trench (Figure 3), and still within the area underlain by quarry backfill. However, there seems little doubt from the earthy nature of this limestone spoil, and also the abundant presence of less abraded Roman tile, that here we are close to the edge of the quarry at this point.

It is possible to surmise from the abundance of much fresher looking tile found within the pipeline trench close to its eastern end at the junction of Roman Pavement and

East Liberty that this might reflect the former close proximity of the westernmost tessellated north-south corridor which crosses the line of the road at this point. The problem with this interpretation, of course, is the lack of evidence for the recovery of loose tesserae. Only two or three certain examples of red or white tessera pieces were recovered from the whole of the pipeline watching brief. Similarly, the occurrence of redeposited Roman tile along the whole length of the north side of this east-west leg of Roman Pavement (facing the Convenio Store), and a concentration of this at around 40m west of the road junction (i.e. the junction between Roman Pavement and East Liberty), cannot easily be explained, other than to reinforce the idea that this lies within the general proximity of the rooms at the south-western end of this range of the villa. The backfilling of the entrance to the quarry in the 1890s will undoubtedly have dispersed any remains of the floor, walls and discarded roof tiles following the scraping back of the soil lying above the rock outcrop. Clearly there was a limit to the range of this dispersal, as suggested by the sudden cut-off point in the recovery of tile where the road bends round again to the north. This suggests the absence of any further Roman buildings immediately to the north and west of this point. The only other recovery of tile was a single fragment which came from the very top of Roman Pavement (at 284m), immediately to the south of the junction with Greetwell Road. It is very unlikely that this find is of any great significance. Indeed, there was no evidence from the pipeline section which cut through the foundations and make-up of this modern road of an earlier Roman usage of this ridge route eastwards from Lincoln. It makes much more sense therefore that a road ran directly westwards from the villa towards Roman Lincoln, either at this, or at a lower level along the ridge.

Interest in the Greetwell Roman Villa has increased in recent years following David Neal's re-examination of Ramsden's excellent drawings of the mosaic pavements, the reticulated design of which he suggested would require the presence of imported mosaicists (Neal 2002). A re-assessment of the scale of this villa compared to other British examples from the same period only serves to emphasize its importance. For example, the length of the mosaic of the main east-west corridor (the remains of which was identified at the south-eastern end of Roman Pavement in 1945), at 87m, is as long as any in Britain with the exception of Fishbourne Palace. This long corridor would have afforded a panoramic view over the Witham Valley, a status suggesting the residence of an important and wealthy individual during the late 3rd – 4th century, perhaps even that of the late Roman provincial governor (Jones 2003).

The importance of some of these large villa sites, and the potential for the continuing survival of remains which are now buried under modern urban landscapes has recently been highlighted, as in the case of the Southwell Roman Villa in Nottinghamshire (*British Archaeology* July/August 2011). In the case of the Greetwell villa, it seems likely that a small part of it does still survive within a narrow sub-surface strip (>0.5m deep) somewhere between the south-eastern end of Roman Pavement, the west end of Tower Drive, and the northernmost end of Jellicoe Avenue (see Figure 5 – historic map sequence).

What we can say with some certainty is that the southern range of this villa was exposed during ironstone mining in the 1880s, and at the time it was fairly carefully recorded, but that the majority of it was then destroyed during the continued working of the quarry (Monk's Abbey Opencast) in the 1890s. Both Ramsden's recording and Graham Webster's LARC excavations carried out during the winter of 1945 are in

some ways reminiscent of the beginnings of rescue archaeology, and to this we should at least be thankful, given what we now know of the full extent of this loss.

Conclusions

No surviving archaeology exists along the route cut by the Anglian Water pipeline trench. The redeposited Roman tile recovered from the southern and eastern end of this trench (just to the south of the shops on Roman Pavement) indicate the former presence in this area of moderately high status Roman buildings with tiled roofs and hypocaust. The lack of tesserae (mosaic fragments) here can in part be explained by the fact that the main E-W mosaic corridor of the villa (after which the road was named) was probably located c.5-10m south of this end of the pipeline, at the south-eastern end of this road, and beneath the houses to the south. However, the monitoring of the pipeline excavation has helped to confirm the extent of ironstone mining southwards, as well northwards as far as Greetwell Road; an area of destruction which effectively eliminates any chances of survival of the villa or other Roman buildings in this direction. Nevertheless, the recovery of a very small amount of redeposited Roman tile close up to Greetwell Road remains a useful indicator of former Roman activity above the villa, and along the top of the ridge.

It seems likely that a small part of it does still survive within a narrow sub-surface strip (>0.5m deep) somewhere between the south-eastern end of Roman Pavement, the west end of Tower Drive, and the northernmost end of Jellicoe Avenue.

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Illustrations

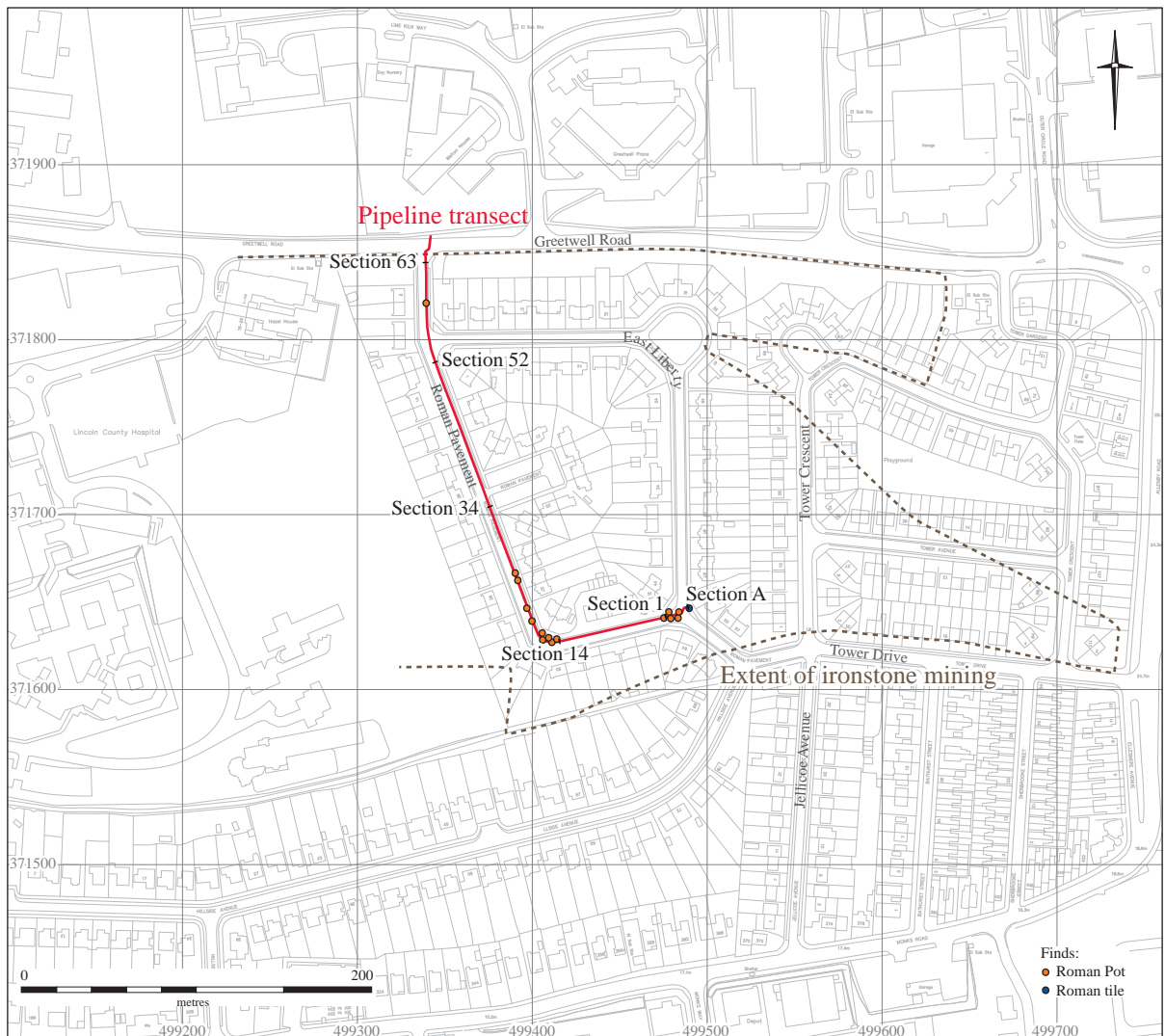


Figure 1. Location map

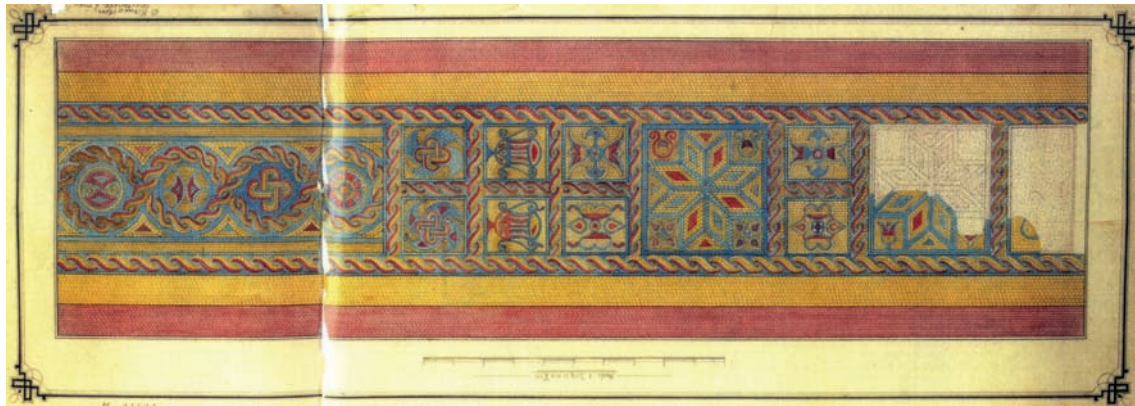
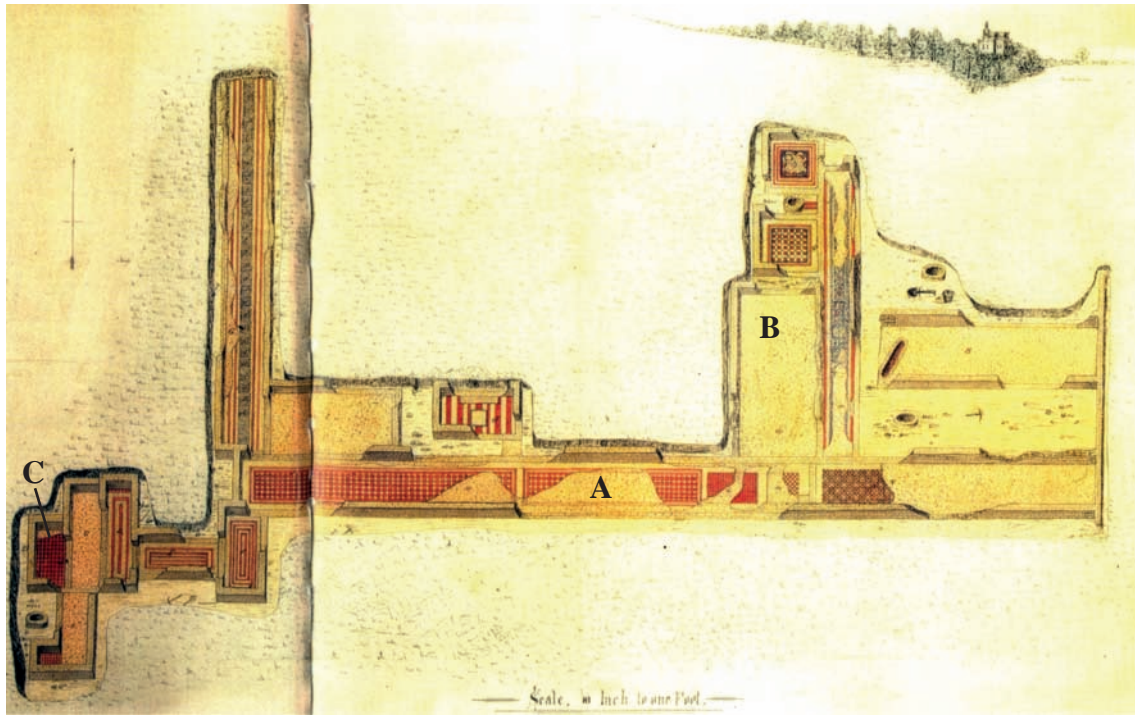


Figure 2. Plan of Greetwell Roman villa showing areas A-C referred to in the text (top left), mosaic pavement (bottom left), and painted wall plaster (above). (After Ramsden 1891; in Lincoln City Museum).



A



B



C

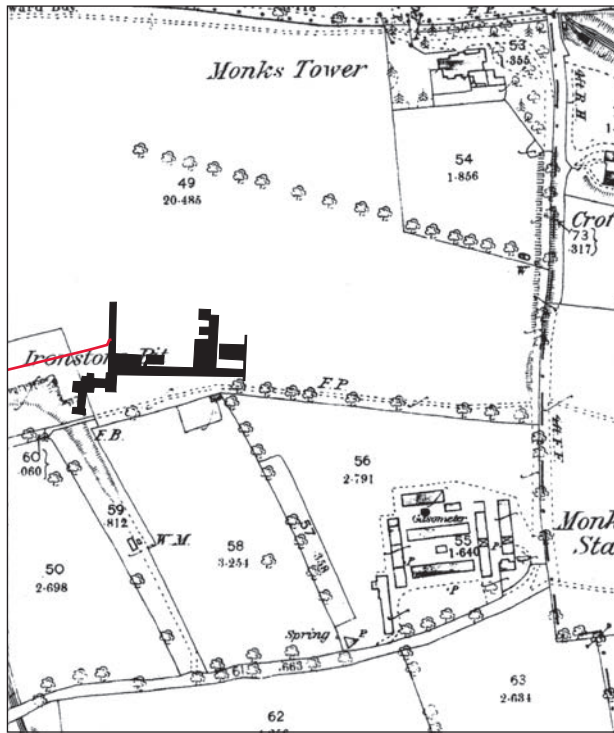


D

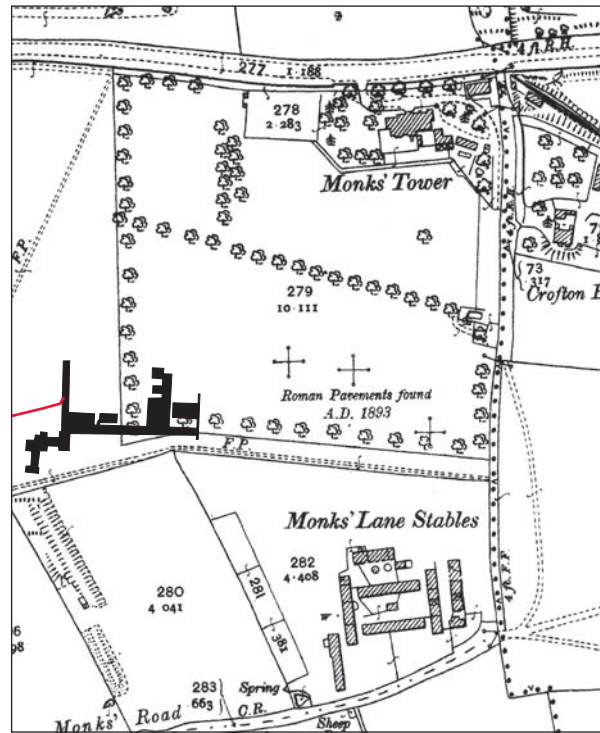
Figure 4. A) Typical trench profile of backfill quarry waste, B) Start of trench (Section 1) Roman Pavement, C) Trench at southern (lower) end of Roman Pavement, D) Trench on Roman Pavement up to Greetwell Road.



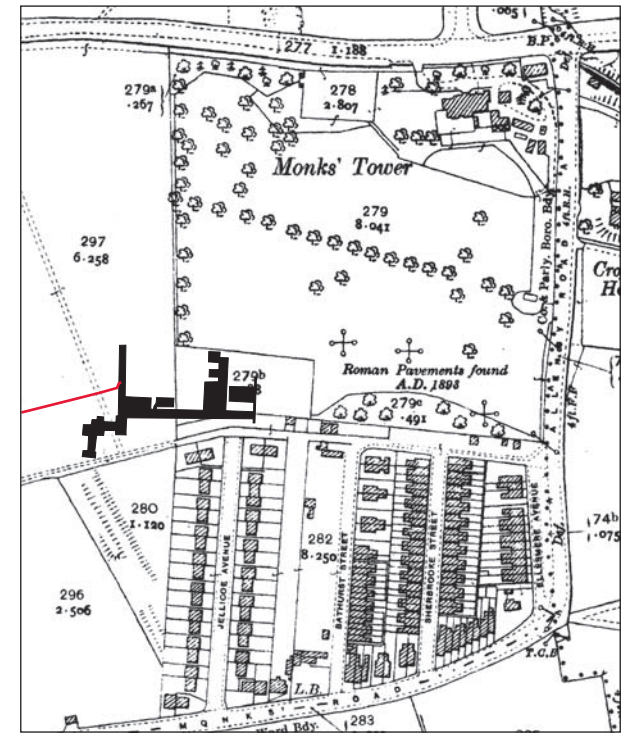
Figure 5. Old photo *c.*1920s showing horse-drawn tramways transporting ironstone from the Greetwell Ironstone Mines at the Monks Abbey Sidings, Allenby Estate. (Maurice Hodson - Lincoln City Museum archives).



1888



1905



1930

Figure 6. Historic map sequence showing Greetwell Roman Villa and southeast section of the pipeline route.

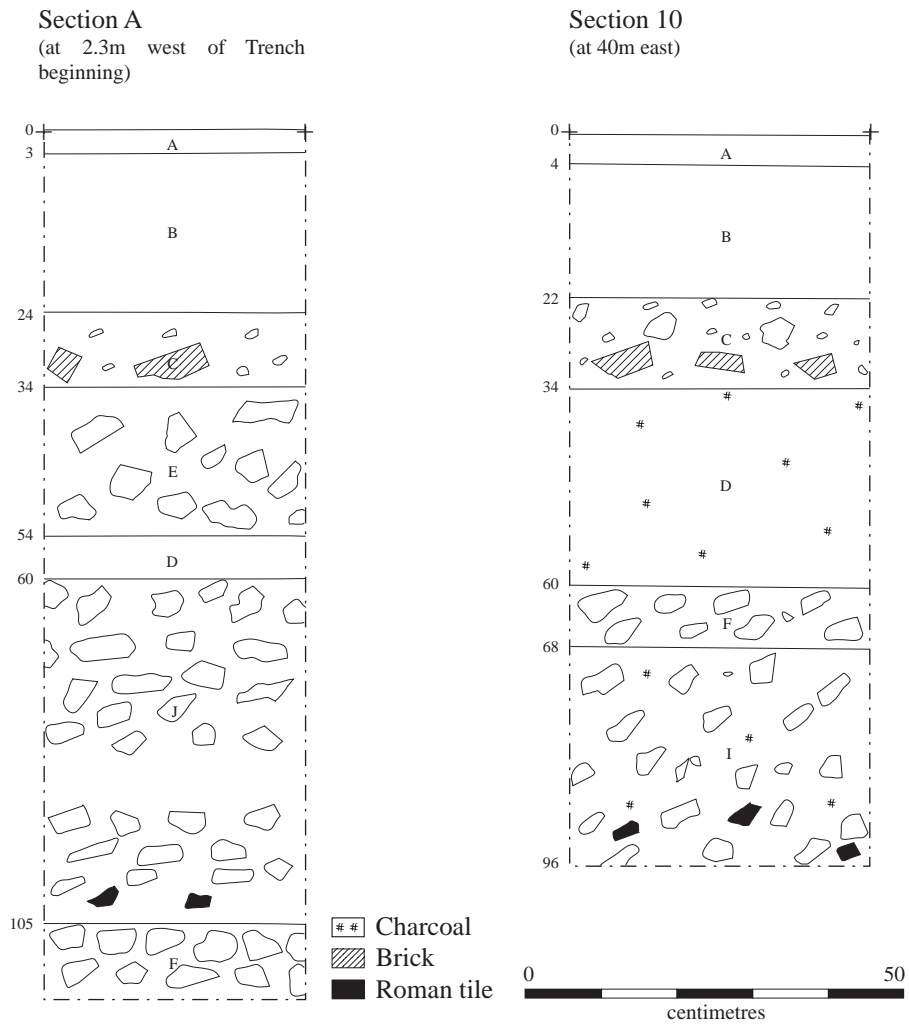


Figure 7. Sections through garden soil and quarry backfill along Anglian Water Pipeline route on Roman Pavement.

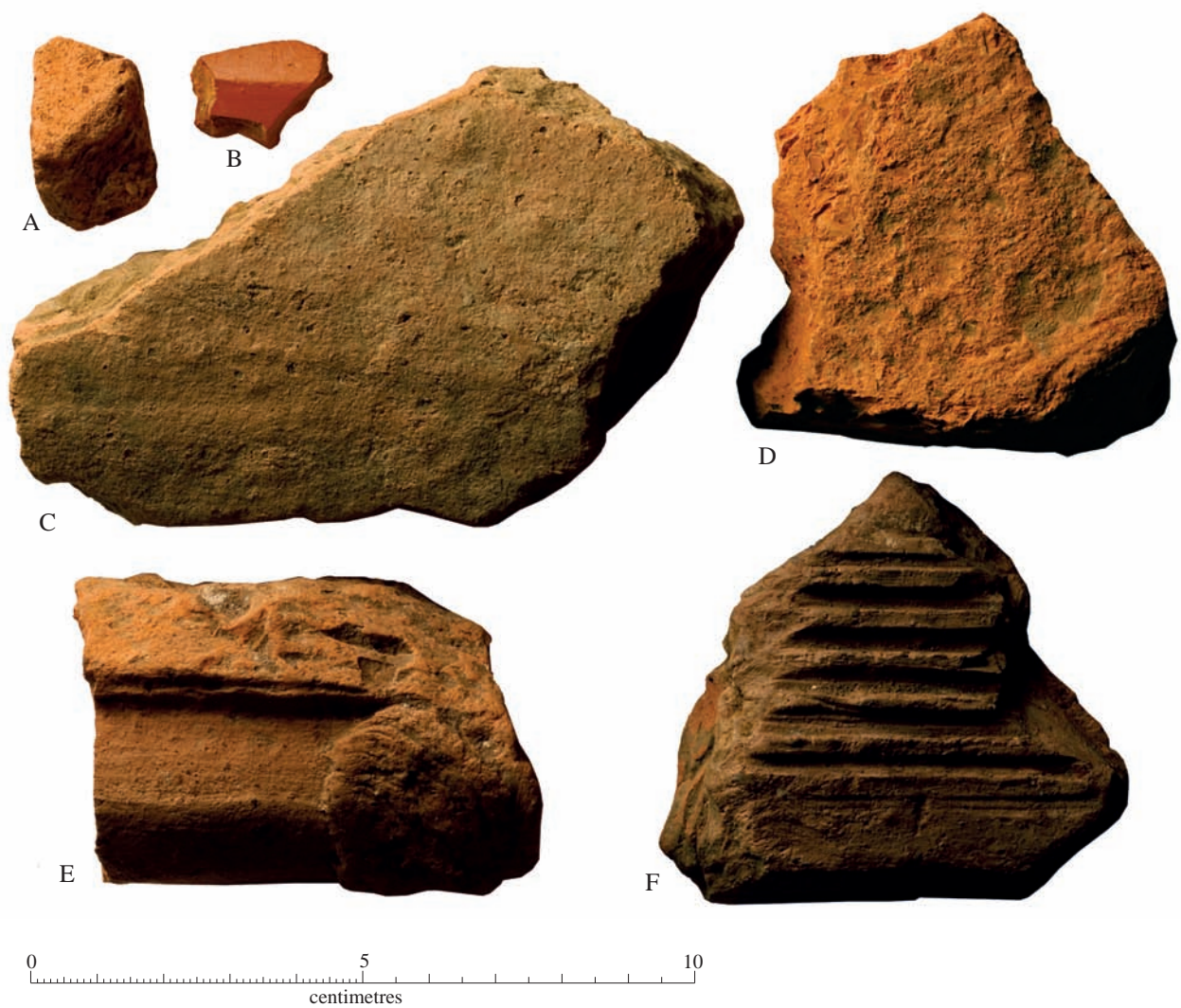


Figure 8. Roman tile and pottery recovered from pipeline trench sections. A = Tessera [LCNCC 2010.160 <6>]; B = Samian pottery fragment [LCNCC 2010.160 <3>]; C - E = Tile including tegula roof tile [C and D - LCNCC2010.160 <10>, E - LCNCC 2010.160 <1>]; F = fragment of combed box-flue tile [LCNCC 2010.160 <8>].

APPENDIX 1

Specialist Reports

Roman Tile (Katie Anderson)

A small quantity of Roman tile weighing 1666g was examined from the watching brief. All of the material was analysed and details of fabric and form were recorded. The majority of the assemblage comprised small, fragmented and abraded pieces of tile, with a mean weight of 36.5g. Only five forms were identified, comprising three tegula roof tiles, one combed box-flue tile and a possible tesserae piece. The nature of the excavation limits our understanding of the tile assemblage. However, even this small quantity of material suggests the likelihood that there was a Roman building(s) in the vicinity.

Roman Pottery (Katie Anderson)

A single Central Gaulish Samian sherd was recovered, weighing 1g. The form could not be identified, however the fabric dates the sherd to the 2nd-3rd century AD.

APPENDIX 2

Recorded Pipeline Sections

Section A (@ 2.3m east of original start of trench)

0-3cms (Horizon A) road tarmac
3-22cms (Horizon B) concrete raft with iron reinforcement
22-34cms (Horizon C) rubble: loose tarmac fragments, limestone and brick
34-54cms (Horizon E) re-deposited quarry spoil: limestone + ironstone in clay
54-60cms (Horizon D) compact dark silt
60-105cms (Horizon J) with Roman tile
105-110 cms (Horizon F) clay-rich quarry spoil: a mid-brown clay/silt with limestone

Section 1 (@ 1m west)

(0-10 cms) (Horizon A)
(10-20 cms) (Horizon B)
(20-43 cms) (Horizon C)
(43-57cms) (Horizon D) garden soil: dark grey-green silt + humic + snails
(57-70cms) (Horizon E)
(70-90cms) (Horizon F)
(90-95cms) (Horizon G) quarry spoil: compact layer broken limestone + Roman tile
(100-105cms) (Horizon H) compact light grey-brown clay

Section 2 (@ 30m)

0-10cms (Horizon A)
10-23cms (Horizon B)
23-48cms (Horizon C)
48-56cms (Horizon D)
56-64cms (Horizon E)
64-95cms (Horizon I) grey sandy silt + Roman tessara +tile - mix earthy quarry spoil
95-100cms (Horizon G)

Section 3 (@5.3m)

0-10cms (Horizon A)
10-20cms (Horizon B)
20-45cms (Horizon C)
45-57cm (Horizon D)
50-60cms (Horizon E)
60-80cms (Horizon F)
80-130cms (Horizon G) incl. larger blocks of limestone (>20cm diam.)
130-135cms (Horizon H) slopes downward

Section 4 (@10m)

0-10cms (Horizon A)
10-20cms (Horizon B)
20-40cms (Horizon C)
40-60cms (Horizon E)

60-63cms (Horizon D) NB 19thC white porcelain
63-85cms (Horizon F)
85-107cms (Horizon G)
107-110cms (Horizon H) slopes downward

Section 5 (@ 15m)

0-10cms (Horizon A)
10-22cms (Horizon B)
22-45cms (Horizon C)
45-57cms (Horizon E)
70-92cms (Horizon F)

Section 6 (@20m)

0-9cms (Horizon A)
9-22cms (Horizon B)
22-40cms (Horizon C)
40-60cms (Horizon E)
60-71cms (Horizon F)
71-95cms (Horizon G)

Section 7 (@ 25m)

0-12cms (Horizon A)
12-24cms (Horizon B)
24-44cms (Horizon C)
44-50cms (Horizon D)
50-68cms (Horizon I) brown-grey sandy silt with ash + charcoal and weathered Roman tile
68-95cms (Horizon G)

Section 8 (@ 30m)

0-12cms (Horizon A)
12-23cms (Horizon B)
23-48cms (Horizon C)
48-56cms (Horizon D)
56-64cms (Horizon E)
64-95cms (Horizon I) Roman tessara
95-100cms (Horizon G)

Section 9 (@ 35m)

0-5cms (Horizon A)
5-26cms (Horizon B)
26-46cms (Horizon C)
46-54cms (Horizon D)
54-63cms (Horizon E)
63-86cms (Horizon F)
86-94cms (Horizon I) weathered Roman tile

Section 10 (@ 40m)

0-5cms (Horizon A)
5-22cms (Horizon B)
22-34cms (Horizon C)
34-60cms (Horizon D)
60-68cms (Horizon F)
68-96cms (Horizon I) more clay/silt and oxidised/weathered, weathered limestone spoil, Roman tile

Section 11 (@44m)

0-4cms (Horizon A)
 4-26cms (Horizon B)
 26-38cms (Horizon C)
 38-58cms (Horizon D)
 58-70cms (Horizon F)
 70-92cms (Horizon I) weathered limestone + Roman tile

Section 11a (@50.5m) driveway of Premier Convenio Store

0-4cms (Horizon A)
 4-26cms (Horizon B)
 26-38cms (Horizon C)
 38-57cms (Horizon D)
 57-92cms (Horizon F)

Section 12 (@53m)

0-5cms (Horizon A)
 5-22cms (Horizon B)
 22-38cms (Horizon C)
 38-65cms (Horizon D) contains modern? wood
 65-92cms (Horizon F) change: much cleaner and larger lumps of lmstn quarry waste + NO Roman tile!
 92-95cms (Horizon H) thick yellow-brown clay with humic (soil) in places

Section 13 (@ 57.5m)

0-5cms (Horizon A)
 5-22cms (Horizon B)
 22-34cms (Horizon C)
 34-62cms (Horizon D)
 62-85cms (Horizon F) large blocky limestone spoil

Section 13a (@ 62m)

0-5cms (Horizon A)
 5-24cms (Horizon B)
 24-35cms (Horizon C)
 35-51cms (Horizon D)
 51-82cms (Horizon F) limestone spoil

Section 14 (@ 64m)

0-5cms (Horizon A)
 5-23cms (Horizon B)
 23-40cms (Horizon C)
 40-46cms limestone rubble
 46-65cms (Horizon D)
 65-83cms (Horizon F)
 83-93cms (Horizon G)

Section 15 (@ 67.5m)

0-8cms (Horizon A)
 8-28cms (Horizon B)
 28-42cms (Horizon C)
 42-45cms (Horizon D)
 45-62cms (Horizon F)
 62-77cms (Horizon I) contains humic material with occ abraded pieces of Roman tile

Section 16 (@ 70m)

0-5cms (Horizon A)
 5-29cms (Horizon B)
 29-32cms (Horizon D)
 32-92cms (Horizon I) incl burnt rock but no Roman tile

Section 17 (@75.5m)

0-11cms (Horizon A)
 11-28cms (Horizon B)
 28-54cms (Horizon C)
 54-100cms (Horizon F) no Roman tile

Section 18 (@ 80m)

0-6cms (Horizon A)
 6-26cms (Horizon B)
 26-50cms (Horizon C)
 50-67cms (Horizon D) contains wood
 67-98cms (Horizon F)

Section 19 (@ 85m)

0-6cms (Horizon A)
 6-24cms (Horizon B)
 24-48cms (Horizon C)
 48-54cms (Horizon D)
 54-92cms (Horizon F)
 92-100cms collapse

Section 20 (@ 90.5m)

0-5cms (Horizon A)
 5-25cms (Horizon B)
 25-43cms (Horizon C)
 43-52cms (Horizon J) weathered limestone fragments (as quarry waste) in a brown soil
 52-68cms (Horizon D)
 68-80cms (Horizon F)
 80-100cms (Horizon I) mixed limestone waste + soil
 100-110cms large limestone blocks

Section 21 (@ 94.5m)

0-7cms (Horizon A)
 7-22cms (Horizon B)
 22-44cms (Horizon C)
 44-50cms (Horizon J)
 50-68cms (Horizon D)
 68-75cms (Horizon I)
 75-95cms (Horizon G)

Section 22 (@ 100m)

0-5cms (Horizon A)
 5-24cms (Horizon B)
 24-39cms (Horizon C)
 39-59cms (Horizon D)
 59-104cms (Horizon F): limestone quarry waste in yellowish clay

Section 23 (@ 102m)

0-5cms (Horizon A)
5-18cms (Horizon B)
18-32cms (Horizon C)
32-38cms (Horizon J)
38-60cms (Horizon D)
60-96cms (Horizon F)

Section 24 (@ 107.5m)

0-4cms (Horizon A)
4-18cms (Horizon B)
18-27cms (Horizon C)
27-32cms (Horizon J)
32-45cms (Horizon D)
45-100cms (Horizon F)

Section 25 (@112.5m)

0-5cms (Horizon A)
5-23cms (Horizon B)
23-34cms (Horizon C)
34-97cms (Horizon K): mixed limestone
quarry waste with clay and humic lenses

Section 26 (@117.5m)

0-3cms (Horizon A)
3-23cms (Horizon B)
23-27cms (Horizon C)
27-35cms (Horizon D) brown humic
35-100cms (Horizon K) quarry waste mixed
with humic material, surface of weathering at
40cms
100-110cms (Horizon F)

Section 27 (@120.8m)

0-3cms (Horizon A)
3-21cms (Horizon C)
21-31cms (Horizon D)
31-42cms (Horizon D)
42-95cms (Horizon K)
95-100cms (Horizon F)

Section 28 (@125.8m)

0-6cms (Horizon A)
6-25cms (Horizon B)
25-31cms (Horizon C)
31-41cms (Horizon J)
41-55cms (Horizon D)
55-75cms (Horizon K)
75-100cms (Horizon F)

Section 29 (@130.8m)

0-3cms (Horizon A)
3-22cms (Horizon B)
22-28cms (Horizon C)
28-37cms (Horizon J)
37-50cms (Horizon D)
50-97cms (Horizon K)

Section 30 (@135.8m)

0-4cms (Horizon A)
4-21cms (Horizon B)
21-37cms (Horizon C)
37-42cms (Horizon J)
42-93cms (Horizon K)

Section 31 (@140.8m)

0-3cms (Horizon A)
3-20cms (Horizon B)
20-33cms (Horizon C)
33-50cms (Horizon D)
50-100cms (Horizon F)

Section 32 (@145.8m)

0-2cms (Horizon A)
2-22cms (Horizon B)
22-32cms (Horizon C)
32-41cms (Horizon D)
41-96cms (Horizon F)

Section 33 (@150.8m)

0-2cms (Horizon A)
2-14cms (Horizon B)
14-29cms (Horizon C)
29-52cms (Horizon D)
52-104cms (Horizon F)

Section 34 (@155.8m)

0-2cms (Horizon A)
2-19cms (Horizon B)
19-36cms (Horizon C)
36-46cms (Horizon D)
46-92cms (Horizon F)

Section 35 (@160.8m)

0-2cms (Horizon A)
2-24cms (Horizon B)
24-40cms (Horizon C)
40-50cms (Horizon D)
50-95cms (Horizon F)

Section 36 (@163.3m)

0-2cms (Horizon A)
2-27cms (Horizon B)
27-67cms (Horizon C)
67-93cms (Horizon D)
93-98cmc (Horizon F)

Section 37 (@165.8m)

0-2cms (Horizon A)
2-23cms (Horizon B)
23-40cms (Horizon C)
40-85cms (Horizon K) muddy mix
85-100cms (Horizon F)

Section 38 (@170.8m)

0-4cms (Horizon A)
4-24cms (Horizon B)
24-46cms (Horizon C)
46-96cms (Horizon F)

Section 39 (@172.8m)

0-4cms (Horizon A)
4-20cms (Horizon B)
20-34cms (Horizon C)
34-42cms (Horizon D)
42-88cms (Horizon F)

Section 40 (@175.8cms)

NOT INSPECTED

Section 41 (@180.8m)

0-3cms (Horizon A)
3-24cms (Horizon B)
24-46cms (Horizon C)
46-62cms (Horizon D) sherd of 18th-19thC
GRE
62-95cms (Horizon F)

Section 42 (@185.8m)

0-4cms (Horizon A)
4-22cms (Horizon B)
22-43cms (Horizon C)
43-48cms (Horizon D)
48-98cms (Horizon F)

Section 43 (@190.8m)

0-4cms (Horizon A)
4-22cms (Horizon B)
22-50cms (Horizon C)
50-59cms (Horizon D)
59-98cms (Horizon F)

Section 44 (@195.8m)

0-3cms (Horizon A)
3-20cms (Horizon B)
20-50cms (Horizon C)
50-60cms (Horizon D)
60-100cms (Horizon F)

Section 45 (@200.8m)

0-4cms (Horizon A)
4-24cms (Horizon B)
24-46cms (Horizon C)
46-62cms (Horizon D)
62-95cms (Horizon F)

Section 46 (@205.8m)

0-3cms (Horizon A)
3-22cms (Horizon B)
22-42cms (Horizon C)
42-49cms (Horizon J)
49-64cms (Horizon D)
64-94cms (Horizon F)

Section 47 (@210.8m)

0-5cms (Horizon A)
5-20cms (Horizon B)
20-47cms (Horizon C)
47-60cms (Horizon D)
60-100cms (Horizon F)

Section 48 (@215.8m)

0-3cms (Horizon A)
3-20cms (Horizon B)
20-36cms (Horizon C)
36-38cms (Horizon D)
38-93cms (Horizon F)

Section 49 (@220.8m)

0-5cms (Horizon A)
5-20cms (Horizon B)
20-32cms (Horizon C)
32-43cms (Horizon D)
43-106cms (Horizon F)

Section 50 (@225.8m)

0-3cms (Horizon A)
3-19cms (Horizon B)
19-36cms (Horizon C)
36-39cms (Horizon D)
39-93cms (Horizon F)

Section 51 (@230.8m)

0-3cms (Horizon A)
3-22cms (Horizon B)
22-33cms (Horizon C)
33-46cms (Horizon D)
46-94cms (Horizon F)

Section 52 (@235.8m)

0-2cms (Horizon A)
2-18cms (Horizon B)
18-25cms (Horizon C)
25-37cms (Horizon D)
37-65cms (Horizon F)
65-90cms (Horizon L) contains large slabs of
limestone up to 0.75m diameter

Section 53 (@252.8m)

0-3cms (Horizon A)
3-20cms (Horizon B)
20-43cms (Horizon C)
43-57cms (Horizon D)
57-92cms (Horizon F)

Section 54 (@257.8m)

0-2cms (Horizon A)
2-23cms (Horizon B)
23-54cms (Horizon C)
54-65cms (Horizon D)
65-90cms (Horizon F)

Section 55 (@262.8m)

0-3cms (Horizon A)
 3-23cms (Horizon B)
 23-42cms (Horizon C)
 42-71cms (Horizon J)
 71-76cms (Horizon D)
 76-90cms (Horizon F)

Section 56 (@267.8m)

0-4cms (Horizon A)
 4-20cms (Horizon B)
 20-73cms (Horizon C)
 73-95cms (Horizon J)

Section 57 (@272.8m)

0-3cms (Horizon A)
 3-24cms (Horizon B)
 24-62cms (Horizon C)
 62-83cms (Horizon J)
 83-95cms (Horizon F)

Section 58 (277.8m)

0-4cms (Horizon A)
 4-23cms (Horizon B)
 23-64cms (Horizon C)
 64-73cms (Horizon J)
 73-95cms (Horizon F)

Section 59 (@282.8m)

0-5cms (Horizon A)
 5-21cms (Horizon B)
 21-43cms (Horizon C)
 43-55cms (Horizon J-D)
 55-87cms (Horizon F) large blocks of limestone (quarry waste)

Section 60 (@287.8m)

0-3cms (Horizon A)
 3-23cms (Horizon B)
 23-34cms (Horizon C)
 34-45cms (Horizon D) hard grey-brown mud with redeposited Roman tile @ 284m
 45-96cms (Horizon F) large flat-lying limestone slabs in base of backfill section

Section 61 (@292.8m)

0-6cms (Horizon A)
 6-22cms (Horizon B)
 22-31cms (Horizon C)
 31-87cms (Horizon F) densely packed weathered spoil

Section 62 (@297.8m)

0-5cms (Horizon A)
 5-26cms (Horizon B)
 26-42cms (Horizon C)
 46-50cms (Horizon F)
 50-75cms (Horizon M) tightly packed limestone (quarry waste) in matrix of decomposed limestone

Section 63 (@302.8m)

0-9cms (Horizon A)
 9-29cms (Horizon B)
 29-43cms (Horizon C)
 43-80cms (Horizon N) mid-brown/ grey sandy silt lens (waterlain)
 43-75cms (Horizon O) yellow clay with small round broken-up limestone (100-150mm diameter) –prob quarry spoil

Section 64 (@311.50m)

NOT INSPECTED under Greetwell Road

Section 64b (@311.50m) section beneath middle of Greetwell Road

0-6cms (Horizon A)
 6-24cms (Horizons B+C)
 24-64cms: made-up ground composed of tightly packed limestone quarry waste
 64-69cms plastic pipe
 69-80cms (Horizon F)

Section 65 (@314.7m – end of pipeline)

0-6cms (Horizon A)
 6-16cms (Horizon B)
 16-33cms (Horizon C)
 33-50cms NATURAL reddish sub-soil with weathered limestone scree (i.e. beyond quarry edge)
 50cms Base of trench

APPENDIX 3

Photographic register

[LCNCC 2010.160]

IMG-1335	Section 1 at E end trench (trench profile) Roman Pavement
IMG-1336	Ditto
IMG-1337	Ditto
IMG-1338	photo taken 1m from E end Roman Pavement along trench
IMG-1339	Trench along lower end Roman Pavement with Convenio Store
IMG-1340	lower end Roman Pavement with houses and shop
IMG-1341	View along trench at lower end Roman Pavement
IMG-1342	Detail along floor of trench –lower end
IMG-1343	Detail of trench section in front of Convenio Store
IMG-1344	Ditto
IMG-1345	Ditto
IMG-1346	Detail of trench section – lower end of Roman Pavement
IMG-1347	Ditto
IMG-1351	Trench in front of Convenio Store + utilities van
IMG-1352	Ditto
IMG-1353	Detail of trench section at 4.4m along Roman Pavement
IMG-1354	Ditto
IMG-1355	Detail of trench section at c. 44m
IMG-1356	View of trench at c.44m
IMG-1357	Detail of trench section at c.67.5m
IMG-1358	View of trench at c. 67.5m
IMG-1359	Detail of trench section at c.67.5m
IMG-1360	View of trench at bottom of Roman Pavement @ approx. 90m
IMG-1361	Ditto
IMG-1362	Ditto
IMG-1371	View of trench uphill from between 90-93m
IMG-1372	Detailed view (in foreground) from between 90-93m
IMG-1373	Distant view from same place
IMG-1374	Detail of v.coarse rock layer in quarry waste backfill @ 254m
IMG-1375	Ditto
IMG-1436	View of trench with pipe at top of RP nr Greetwell Road (@303m)
IMG-1437	Detail of pipe at same location
IMG-1438	Detail of base of section within trench with burnt material @304m
IMG-1439	Pipe cavity drilled under Greetwell Road opp Roman Pavement
IMG-1440	Ditto
IMG-1441	Natural subsoil/rock at the very end of trench (@314m): quarry edge

APPENDIX 4

Finds catalogue

[LCNCC 2010.160]

<1>	x1	95g	Tile	Horizon G	Section 1	1.4m East
<2>	x2	254g	Tile	Horizon J		1.4m East
<3>	x1	2g	Samian	Horizon J	Section A	2.3m East
<4>	x2	203g	Tile	Horizon J	Section A	2.3m East
<5>	x2	51g	Tile	Horizon I	Section 2	30m West
<6>	x1	8g	Tessara	Horizon I	Section 2	30m West
<7>	x1	117g	Tile			39.5m West
<8>	x2	177g	Tile			40.5m West
<9>	x1	77g	Tile			41.5m West
<10>	x1	148g	Tile	Horizon G		50m West
<11>	x1	22g	Tile	Horizon D	Section 60	284m West

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Project details

Project name	Roman Pavement Lincoln
Short description of the project	<p>Between 8th February and 30th March 2011 the Cambridge Archaeological Unit carried out an archaeological watching brief on the excavation of a 315m long, 0.4m wide and approx 1m deep open cut trench dug for the purposes of an Anglian Water replacement water main (parallel to the existing pipe) within the left-hand roadway of Roman Pavement, off Greetwell Road, Lincoln.</p> <p>During opencast ironstone mining undertaken in the 1880-90s by the Mid-Lincs Ironstone Company the remains of a large 3rd-4th century Roman villa (the Greetwell Roman Villa) was uncovered. This included a bath house and a number of large mosaic-floored corridor rooms, one of which (at 87m the longest in Britain with the exception of Fishbourne Palace) was found along the southern edge of this former quarry working. The purpose of the current monitoring was to establish whether any of the villa or associated floor levels had survived 19th-century quarrying. At least some survival of this is suggested by the investigations of the Lincoln Archaeology Research Committee undertaken in 1945/6 during the laying of services for the future housing on the Monks Tower Estate. The current archaeological monitoring did not reveal any traces of in situ Roman floor levels or of wall structures along this pipeline transect, though at the southern end close to the former entrance to the ironstone quarry, broken Roman tile and tesserae were found within the backfilled quarry fill. These may be associated with surface clearance carried out in the 1890s following the removal of the excavated villa floors and the quarrying away of the site. Taking into account the archival evidence, and also the evidence of destruction of the villa at this particular location, it seems possible that traces of the wall foundations and mosaic floors survive within a narrow sub-surface strip (>0.5m deep) between the south-eastern end of Roman Pavement, the west end of Tower Drive, and the northernmost end of Jellicoe Avenue.</p>
Project dates	Start: 08-02-2011 End: 30-03-2011
Previous/future work	No / No

Any associated project reference codes	RPL11 - Sitecode
Any associated project reference codes	LCNCC: 2010.160 - HER event no.
Type of project	Field evaluation
Site status	None
Current Land use	Residential 1 - General Residential
Monument type	VILLA Roman
Monument type	QUARRY Post Medieval
Significant Finds	POTTERY Roman
Significant Finds	ROOF TILE Roman
Significant Finds	HYPOCAUST TILE Roman
Significant Finds	TESSARA Roman
Methods & techniques	'Visual Inspection'
Development type	Pipelines/cables (e.g. gas, electric, telephone, TV cable, water, sewage, drainage etc.)
Prompt	Direction from Local Planning Authority - PPG16
Position in the planning process	After full determination (eg. As a condition)

Project location

Country	England
Site location	LINCOLNSHIRE LINCOLN LINCOLN Roman Pavement, Greetwell Road, Lincoln
Postcode	LN5
Study area	315.00 Square metres
Site coordinates	SK 99347 71826 53.23388888889 -0.511388888889 53 14 02 N 000 30 41 W Line
Site coordinates	SK 99499 71644 53.23222222222 -0.509166666667 53 13 56 N 000 30 33 W Line
Height OD / Depth	Min: 30.00m Max: 41.00m

Project creators

Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	Robin Standing
Project director/manager	Robin Standing
Project supervisor	Simon Timberlake
Type of sponsor/funding body	Water Authority/Company

Name of sponsor/
funding body Anglian Water

Project archives

Physical Archive recipient	Lincs County Council
Physical Archive ID	RPL11
Physical Contents	'Ceramics'
Digital Archive recipient	Lincs County Council
Digital Archive ID	RPL11
Digital Contents	'Ceramics','Stratigraphic','Survey'
Digital Media available	'Images raster / digital photography','Survey'
Paper Archive recipient	Lincs County Council
Paper Archive ID	RPL11
Paper Contents	'Ceramics','Stratigraphic','Survey'
Paper Media available	'Drawing','Map','Notebook - Excavation',' Research',' General Notes','Photograph','Plan','Report','Section','Survey ','Unspecified Archive'

Project bibliography

1

Publication type	Grey literature (unpublished document/manuscript)
Title	Roman Pavement, Lincoln Anglian Water replacement water main
Author(s)/Editor(s)	Timberlake, S.
Other bibliographic details	Report no. 1018
Date	2011
Issuer or publisher	Cambridge Archaeological Unit
Place of issue or publication	University of Cambridge
Description	19pp typescript bound report with 7 colour illustrations, appenix and refs. Also in .pdf format.

Entered by	Dr Simon Timberlake (st410@cam.ac.uk)
Entered on	9 August 2011

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