YORKSHIRE ARCHAEOLOGY TODAY

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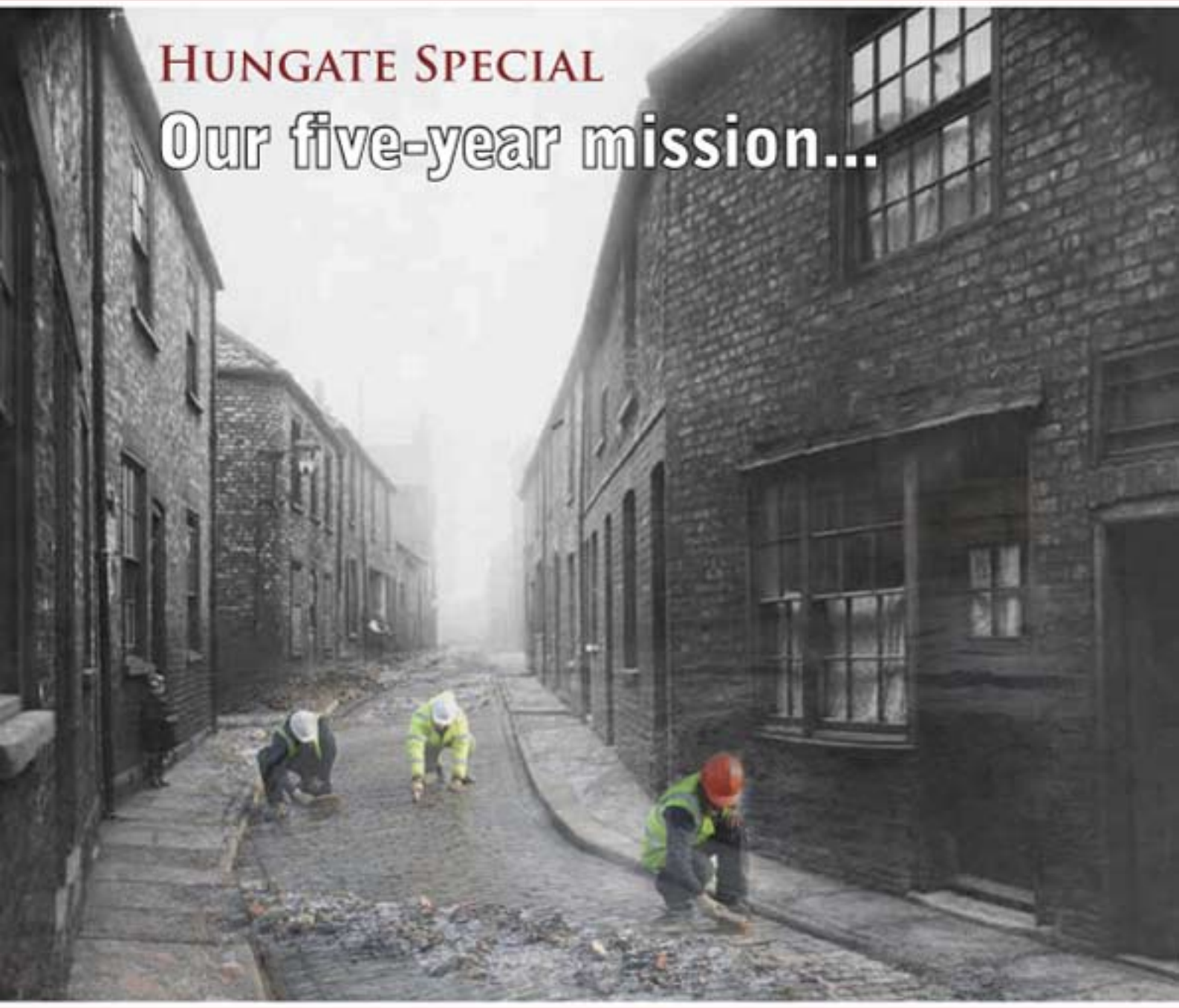


HUNGATE SPECIAL

Our five-year mission...

Inside:

Hungate – YAT's largest excavation for 25 years
Seal of an Horologiarius
Burials and Buildings in Silver Street

YORK ARCHAEOLOGICAL TRUST

Great Expectations for the Hungate Excavation

The Hungate excavation: seven years in pre-production, five years in production and a further two years in post-production. The Hungate excavation has its own financiers, its executives, its own director, its producers, its technical staff, its actors, a potential cast of 1000s and possibly even its own villains, here and there. Sounds more like a Hollywood blockbuster than a large-scale urban excavation!

Above: View of the Hungate excavations looking south-east from Stonebow

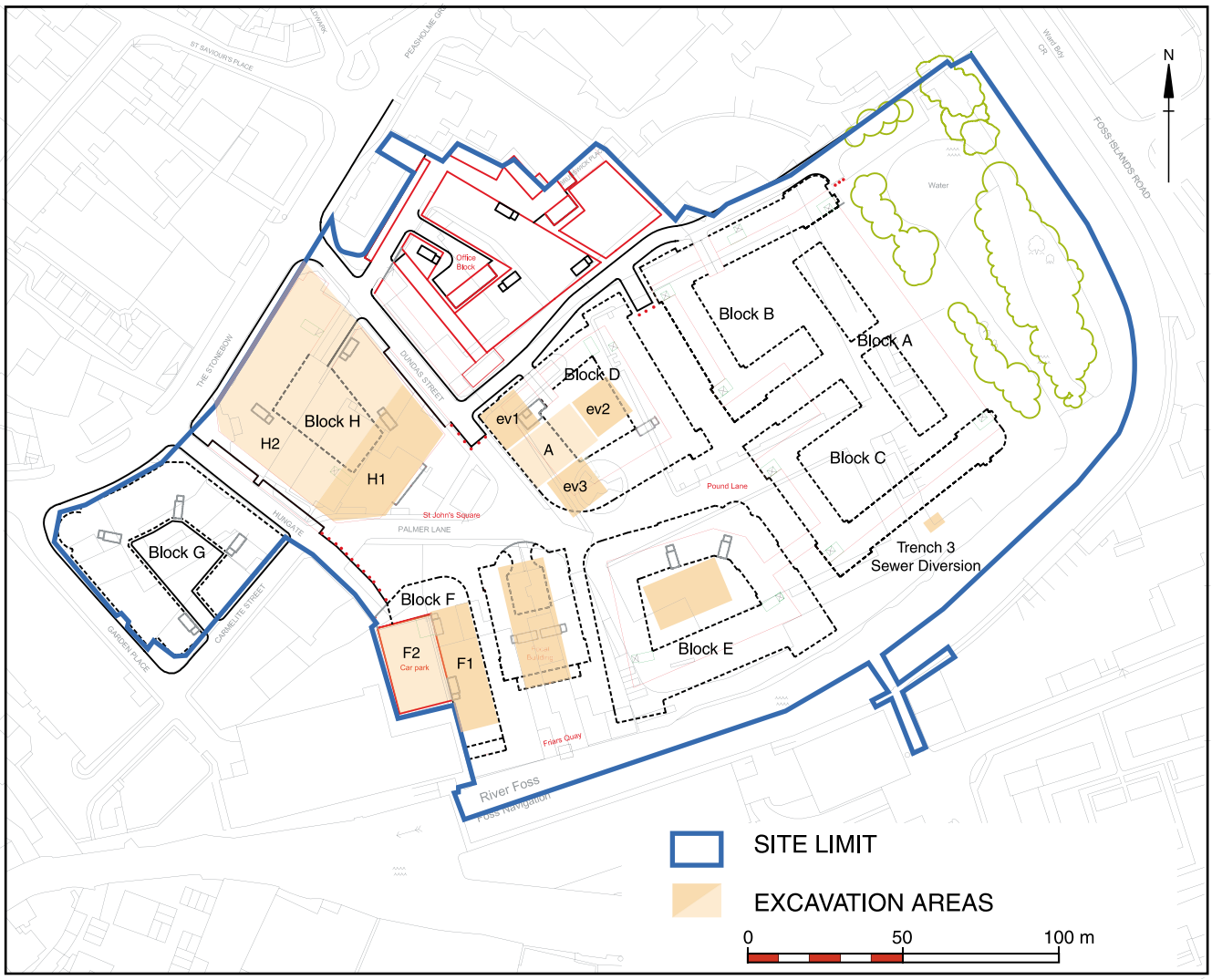
Peter Connelly

So why the film analogy? Well, the Hungate excavations are the largest in York for 25 years and during the intervening quarter of a century the profile of archaeology has changed considerably. The rise of popular TV programmes such as *Time Team*, the proliferation of archaeology/history documentaries and TV channels, the growth in archaeology magazines, the number of archaeologists that pop up on the silver screen and in computer games and, of course, instant access to archaeological information through the internet have all fuelled the demand for participation, access to and educational involvement in archaeology. Thus the levels of expectation for an excavation such as Hungate can be huge and more immediately important to people than the next all-action summer smash blockbuster. It is time for the Hungate excavations to meet these expectations.

The Script

The excavations are financed by Hungate (York) Regeneration Ltd as part of the urban regeneration of the Hungate area, and are being carried out as a scheme of archaeological mitigation due to the below-ground implications that the new development may have on the archaeology of the area. As the development has six phases of construction, five of which should be in place by 2012, the Hungate excavations will take place over the next five years, with the work in the Block H area to be completed by 2011. The Block H area will take up to five years to excavate as all of the archaeology has to be removed prior to the start of the building development, upwards of 2.5m deep in stratigraphy in places, and it has to be completed by the end of 2011 as the Block H area is the final phase of the development.

For the archaeological works in the other development areas, some is on-going (the Block D Evaluation), some will start shortly (the 'Focal Building' and Block F area) and one area is about to be completed (Blocks A, B and C). All of this work is overseen by John Oxley, the City Archaeologist for City of York Council. The script has been set.



Excavation areas within the development blocks

The Opening Scenes

Elsewhere in this magazine you will find an article on the Block E excavations that were carried out from January to March this year, an article about what has been found so far on the Block H excavations that started in January, articles on the artefacts that have been recovered from the excavations, and an article on the Community Archaeology aspect of the project.

But what about that part of the site that is covered by Blocks A, B and C, the first phase of development at Hungate? In mid-November 2006 the first element of the archaeological works started along the River Foss within the south-eastern limits of the first phase development, where a new sewer was constructed for the redevelopment. The pipe for the sewer was tunnelled and was at such a depth that it did not disturb any of the archaeology; however, five new manholes had to be created and each of these was excavated under archaeological conditions. Four of the five manhole trenches revealed that this land had been considerably raised in the early to mid 20th century to alleviate the flood risk to the area and these considerable make-up layers sealed the soils that belonged to former playing fields, gardens and orchards.

However, the third of the manhole trenches revealed considerable medieval archaeology at a depth of c.3m below the present ground surface (top of facing page). This archaeology appeared to suggest that some form of managed tongue of land protruded into the King's Pool or, at least, ran parallel to the River Foss during the Middle Ages. The strip of land was maintained by the construction of wooden planked revetments over, quite probably, a number of centuries; these appeared to have been replaced

Work in progress in Trench 3

eventually by a wicker structure along the southern edge which probably helped with consolidation and drainage (below right). This strip of land was probably built and maintained between one thousand and seven hundred years ago. After carefully removing this medieval archaeology a cobble surface was revealed, which may be Roman in date.

As for the rest of the Blocks A, B and C development area, this has been covered by archaeological watching briefs and limited hand excavation. This lower level of archaeological intervention was due to the fact that the subsequent building will hardly impinge on in situ archaeological deposits because of the substantial raising of the land in the middle of the 20th century. This work has revealed that the former topography of the landscape declined significantly to the east of Dundas Street towards open land that encapsulated playing fields, gardens, orchards, open land and even marsh land that was titled "liable to floods" on the maps of the early 20th century.

A Cast of Thousands

The other key components in the Hungate excavations are public participation and education. Elsewhere in this magazine you can read about the community archaeology and outreach programmes that have already been implemented as part of the excavations but here is a good place to summarise what YAT has done and what it has planned.

In conjunction with Jon Kenny, Greater York Community Archaeologist, the northern segment of the Block H area is being excavated as part of a community archaeology programme with tremendous input from Hungate Community Trust. This area has also witnessed the participation of young people involved in the York Youth Offending Team programme getting to grips with the archaeology in a pilot scheme designed to make archaeology accessible to all. Further schemes of participation and outreach will be added in the coming months which will include school groups, further volunteers, community groups and charitable groups.

Training is also a paramount factor in the excavations and Hungate excavations will host YAT's successful and highly regarded *Archaeology Live* training school during the summer of 2007 and, we hope, for many years to come (see the Block H article for further details). *Archaeology Live* is open to all, from those with no archaeological experience whatsoever to those studying archaeology at university and those in archaeology who are looking for different experiences. In addition to this the Hungate excavations will host training schools for archaeology

Bryan Antoni cleaning medieval wicker revetment

undergraduate students, archaeology taster days, archaeology work placements, mentoring schemes and themed courses inspired by the discoveries.

And then of course there is the access for people who want to come and see the excavations or to find out what has been uncovered so far. Within the Block H excavation area a public walkway has been provided by Hungate (York) Regeneration Ltd which will allow everyone to tour around the excavations and see what the archaeologists are uncovering on a daily basis. These site tours start on 28 May 2007 and will run, we hope, for the next five years. The tour will start at DIG, the Trust's hands-on archaeology experience based in St Saviour's church in St Saviourgate, then continue down the short surviving length of Hungate, to the excavation site itself, where there will be a tour of Block H and finally a visit to the Hungate excavation HQ where people can see what happens behind the scenes of the excavation.

In conjunction with the Hungate tours the excavations will host free open days across the year. The first open day took place on Saturday 5 May and was extremely successful, with 530 people coming to see the dig in the five hours that it was open to the public. The next open day will be on 14 July 2007, the first day of National Archaeology Week.

For those who can't make it down to the site, want to know more about what the archaeologists are uncovering or want to know how to get involved, the days and times of tours, or education programmes there is always the internet. Our Dig Hungate web site, at www.dighungate.com, houses all the information about all the different aspects of the excavation. This website will also hold downloadable versions of all the reports that will be produced during the five years of the excavation, updates of the finds that we are discovering and short films of various different parts of the dig.

And with a mention of films I have now come full circle. A cast of thousands makes a blockbuster movie, and a broad spectrum of the public getting involved with and visiting the Hungate dig will make this excavation.

Peter A. Connelly
Project Director Hungate Excavations
May 2007

Visitors attending the first Open Day on 5th May 2007

Evidence of Child Labour revealed in York!

Shock! Horror! Our Hungate undercover reporter reveals …'Evidence has been discovered in York of the practice of using children as young as seven or eight for unhealthy and dangerous tasks, often working 10 to 12 hour days.'

Fortunately this evidence dates to the 1840s rather than the present day and has emerged during excavations of Victorian levels at Hungate. Amongst the finds is a small child's plate, just 85mm wide, with the alphabet moulded into the base. This is known as a muffin plate and would have been a charming gift for a small child to help with learning letters – but it conceals a darker story.

In 1840 the House of Commons commissioned Samuel Scriven to enquire into the employment of small children in the potteries, and the consequent risks to their health. These large establishments were springing up around Stoke-on-Trent and also in West Yorkshire to supply pottery for the growing urban populations.

Some of the children who worked in the potteries were interviewed during this commission and told how they worked from six o'clock in the morning until six o'clock at night with a half hour for breakfast and an hour for dinner. Some went to Sunday school but few could read and write; twelve hour days gave little time for education. The children worked in groups under a supervisor; the premises were described as 'small unventilated rooms, hot, close, and uncomfortable to work in.' Small girls in particular worked as painters, each holding a brush loaded with a different coloured paint which they would dab on the plates as they were passed to them before firing. This little plate from Hungate has a garlanded border around the edge on which crude dabs of paint have been added inexpertly and erratically and is most probably the work of a child.

Ailsa Mainman

Archaeology on Block H

On January 10th at the turn of the new millennium I began my first commercial excavation working as an excavation assistant with York Archaeological Trust. It was not long after I had completed my MA and was only the second commercial project I had ever worked on, so understandably I was a little nervous. My nerves were not eased when I found out that I would be working in a trench that was 3m by 3m at the top and was going to go as deep as 6m below ground level. With the help and patient teaching that I received from my supervisor, Bryan Antoni, as well as Jane McComish who was running the project, I was able to contribute to the excavation and learn a huge amount about digging at the same time. The hole was one of the many evaluation trenches which were being excavated as part of the investigations at Hungate, York.

Above: Demolition prior to start of excavation

It seems strange looking back over seven years of archaeology that I have now returned to Hungate, where I started with York Archaeological Trust. This time we are recording the archaeology prior to the construction of the new development over the Hungate site, and this time I am there as a field officer, responsible for the excavations being conducted in Block H as well as the Archaeology

Toby Kendall

Live! training excavation. It is amazing to think just how much things can change in such a short period of time, and that we now find ourselves trying to find out how things have changed over a large swathe of the Hungate area during the past two thousand years.

Work began on Block H at the tail end of 2006, with the first tasks being linked with the monitoring of demolition across the area. This would seem to be a relatively easy task, but with the added complication of lots of different buildings and surfaces across the site, it ended up being a learning process for the demolition team and the archaeologists.

Once the demolition and stripping of the standing structures was completed it was then time to use a 360° digger working under the instruction of the archaeologists to strip all the layers of material that had been laid across the site since the demolition of the slums in the late 1930s. As there was a significant amount to be removed this had to be completed in a number of separate phases; at one point we had a fantastic observation point across the site from the top of a spoil heap.

The Archaeology of Block H1

The initial focus of the excavation in Block H is the southernmost 20m wide strip, Block H1. This is because we know that the medieval church St John's in-the-Marsh was located close to here, and we need to find out the full extent of the burial ground that surrounded it so that it is not disturbed by the building work in this area.

Alistair (left) and Danny (right) lay out the Block H1 plan

As soon as the stripping was completed in the southern area, in January 2007, we moved the digging team in and began by removing any obviously modern features that were not possible to excavate using the mechanical digger. This took a couple of weeks to complete and the hard work helped the team remove any evidence of overindulgence during the holiday season.

Once the area had been cleaned up by the archaeologists it was clear that there was far better preservation of the 18th and 19th century buildings than we had anticipated. It was very easy to see the layout of different walls, buildings, yards and surfaces that matched the historical maps from 1852 and 1907. It is even possible to match the remains with individual property numbers on the 1907 map, and we will be able to link this with the historical records of the people who lived and worked there.

Arran removing part of a 19th-century well

Rather than just start digging into the archaeology straight away we decided to draw everything that was visible at this point as it would help with our recording when it came to digging the features. Using survey points from around the site we set out a 5m grid which matches the Ordnance Survey grid across the country. We then planned the whole area at a scale of 1:20, as we would for recording the archaeology when it was excavated. The weather didn't really help us with this as it was very cold and wet, but the

team did fantastically well and created an amazing drawing which helped us start the recording process even though it was too wet to do any digging safely.

We started digging and recording in earnest at the start of March 2007, and although the weather has tried to hinder us with a combination of ice, sleet, snow, wind, rain and sunshine, we have made very good progress. The evaluation trenches that we excavated during 2000 and 2002 had given us a series of little windows into the site, but it is only just now that we are getting a true picture of the archaeology which is present. What is really good to see is that the information we gathered and subsequent conclusions we made about the area during the evaluations have proven to be very accurate. There is also a very good correlation between the archaeology in Block H and what has been revealed during evaluation in Block D and the excavation in Block E.

Since March 2007 we have been excavating a series of archaeological features which appear to date from the 18th century onwards. All of these walls, pits, floors, and structures are cut into a deep 'horticultural' soil which continues beyond the extent of Block H and was most probably formed by deliberate episodes of land management in the late medieval or early post-medieval period. Even though we are digging archaeology which is virtually all post-medieval in date it has not stopped us recovering finds which date from as far back as the Roman period.

We have found that the eastern end of the site was dominated by a series of pits linked with gardening; these large rectangular cuts for 'lazy beds' or 'deep beds' intrude well into the medieval archaeology below. These large pits contained relatively little in the way of artefacts as they would have been used to dig manure into the soil. In the extreme northeast corner of Block H1 a small complex of activity included a possible 'saw pit', a brick-lined well and an intriguing apsidal (round-ended) brick, clay and sand built feature which we think may have been used for bending timber.

Moving to the central and western end of Block H1 we encountered a series of building remains, in the form of foundations and yards which were made of cobbles or brick pavers. At the moment we are unpicking the complex way in which these structures developed over time. It can be concluded at this early stage of the work that there were major property boundaries in existence before the buildings were constructed, and it appears that the buildings were inserted between these boundaries. Even the drainage system that ran across the site respects the boundaries; the earlier culvert which ran east-west across the area had been replaced by a later ceramic pipe.

The foundations we have excavated across Block H1 often showed signs of sinking, subsiding, and subsequent repairs. In one place a wall foundation has been reinforced on at least two separate occasions. The movement of these foundations may be linked with the fluctuation of the water table in this area, and the flooding which occurred on a regular basis. A more exciting theory is that they have moved because a series of deep, organic-rich pits and archaeological deposits had been slowly rotting and sinking, taking the later walls and foundations with them. Whatever the case it is very interesting archaeology and bodes well for future discoveries.

The Archaeology of Block H2

We have barely had chance to start looking at what has been going on in the rest of Block H, the H2 area, and it is only through the work of the Greater York Community

Alistair (left) and Arran (right) clean a 19th-century brick surface

Archaeologist, Jon Kenny, and his team from the Hungate Community Trust and the young people involved in the Youth Offending Programme, that we can see what is visible now.

At the northern end of the trench the archaeology is dominated by the remains of the buildings which were demolished during the late 1930s. The preservation is even better than that in Block H1, and it is here that the work has been concentrated. Anybody who has seen the site will best remember Haver Lane which runs along the southern part of this section.

The southern extents of Block H2 are not so well preserved and terracing for the MOD Territorial Army buildings removed huge amounts of the archaeology. The natural slope down to the west means that the eastern side of the remains have been most disturbed.

Archaeology Live! 2007

Preparations have begun for the latest and most ambitious Archaeology Live! season to date. The training excavation, which has been running since 2001 and has taken place in various locations around the city,including St Leonard's Hospital, St Mary's Abbey and St Saviour's church, will be hosted by the Hungate Block H excavations for the next few years. It is a shame there is no obvious St. Hungate to carry on the theme.

The size of the project has been expanded to include up to 30 trainees and will be able to make use of the fantastic resources available at the Hungate HQ just across the road from the site. We will be teaching the techniques involved in field archaeology and the first stages of the processes that happen to the finds from the site whilst exploring the history of this fascinating part of the city.

Looking west along a 19th-century drain culvert

Pam excavating a 19th-century feature

Bookings are coming in from York, Yorkshire, the UK, in fact the whole world, as people clearly want to be involved with such an exciting training school. If you are interested in coming we have a discount in place for Friends of YAT, just go to the www.dighungate.com web pages and follow the links for training, or alternatively email me at trainingdig@yorkarchaeology.co.uk.

In addition to the training excavation we are providing one-on-one mentoring courses for a really in-depth introduction to fieldwork. We have also already lined up special training sessions with the Community Archaeologist and a group of students from the University of Bradford – all links which we are looking to build on and expand over the coming years.

So if you are visiting York at any point over the next 5 years make sure you come and see what we are doing on Hungate Block H. If you cannot make it in person just keep following the articles in Yorkshire Archaeology Today and the web pages to see what we have uncovered in recent weeks.

Toby Kendall

At last a miracle cure has been discovered!

'Should be found on every dressing table…' So recommended Dr Giles Robert, the inventor of the Poor Man's Friend in 1790. Excavations at Hungate have produced part of one of these famous ointment jars which dates to the late 19th century, proving a continued faith in this cure-all ointment.

The recipe for this invaluable remedy for 'piles, cuts, burns, leg ulcers and gout' had remained a mystery until an envelope marked 'private' was discovered in Dr. Robert's old shop in Bridport in 1970, following the sale of the premises; it contained the instructions for producing a vat of the salve which was then sold in small jars like the one shown here.

In 2003 the Bridport Museum acquired the recipe; it demands 50lb of Waterford lard, which was to be cut into pieces and steamed with 6lbs of beeswax and strained through cheesecloth. Other ingredients included calamel, sugar of lead, zinc and lavender. A dermatologist at St Andrew's hospital in London said the ointment would have had beneficial effects for conditions such as eczema, mild infections and headaches.

The example found at Hungate, shown here together with the reverse of a similar jar loaned from a private collection, was found in a layer of levelling material on the site, together with other late 19th-century pottery and glass. The other side reads 'Prepared only by Beach and Barnicott, Successors to the late Dr Robert, Bridport.' The ointment continued in production until the 1960s.

The plate and the ointment jar, together with other finds from the site are now on display in DIG.

Ailsa Mainman

GETTING INVOLVED!

Volunteers, Community Archaeology and Young Offenders at Haver Lane, Hungate.

Until recently a car showroom and garage (more latterly Windsor's Shoes) on Stonebow stood over the site of Haver Lane. When that modern building was removed it quickly became apparent that below it there is preserved a portion of the Victorian and early 20th-century buildings on either side of Haver Lane, which ran parallel to the modern Stonebow and connected Hungate with Peasholme Green and Dundas Street.

The volunteer team on Haver Lane

The Haver Lane area of the Hungate redevelopment site will be the last to be developed, and so it made the ideal starting point for a volunteer team from the local community to excavate in detail. The volunteer team at Hungate has grown over the last few months and we anticipate it growing still more. The first members were all part of the Hungate Community Trust, a few had some archaeological experience already, and others were complete beginners. With the help of the Greater York Community Archaeology Project, supported by the Heritage Lottery Fund, the team from Hungate Community Trust started work in light snow on 13th March.

Below: Jon Kenny (in white hardhat) with members of the volunteer team and York Young Offenders Team

What was expected in the Haver Lane area?

Previous evaluation excavation nearby suggested that the team will find Victorian material and below that will trace the history of the site right back to Roman deposits. The team was not prepared, however, for the excellent preservation of some of the Victorian house plans and roads. The image of archaeologists removing overburden from Haver Lane, overlaid on to the 1930s image of the street, has become an icon for the excavation. The houses and streets of the Haver Lane area have been cut through in some places by a recent drainage system and foundations, but some houses are in particularly good condition.

A look at the maps of the Haver Lane area tell us to look out for a hay merchants, an adult school and a number of houses typical of the area. These include back to backs, the very worst and smallest house types in the area, and two up/two downs, a more up-market type of house. A look at the Seebohm Rowntree report into the poverty of this area, compiled in 1901, and subsequent health and compulsory purchase documents, tell us about the poor quality of the houses in the area.

Revealing the Victorian house outlines

The first task undertaken by the volunteer team has been the definition of the building outlines and roads. The team has been really excited by the state of preservation of some of the building floor levels. In particular they have revealed the quarry tile floors in the kitchen or parlour of Number 7 Haver Lane. Quarry tiles are a luxury item compared to the brick and thin concrete floors found elsewhere, yet this house was derelict many years before it was demolished. This house stood on the corner of Haver Lane and St John's Place and can be seen on the photograph of Haver Lane. If one looks carefully at the photograph of Haver Lane it

is possible to see that one of the houses is boarded up. This house, on the far side of the junction with St John's Place (on the left of the street), is 7 Haver Lane. It seems that the house stood empty for many years because the owner could not be established.

After 7 Haver Lane had been exposed ready for recording the team moved on to remove the overburden from St John's Place. St John's Place is a narrow side street and the team were equally surprised and excited to find that the street is also well preserved and well engineered, with a proper tar macadam surface and stone gutters, all still in situ. Some aspects revealed by the archaeology of the Haver Lane area also show a well engineered road system that seems at odds with the poor reputation of the area. Other evidence such as the floors, thin walls and small rooms, support the definition of the area as one of York's poorer areas.

On the opposite side of Haver Lane from Number 7 the team looked for the outline of some of the poorest houses in Hungate, a group of back to backs (numbers 4 & 6 Haver Lane) that only had two single rooms, one upstairs and one down. The outline of these houses has been damaged by the later insertion of drains and a very recent 'rest room' facility in the shop or garage. The floor levels have also been masked (or destroyed) by layers that seem to relate to the period between the demolition of the houses in the 1930s and the building of the garage in the 1950s.

The process of removing the overburden from the houses on Haver Lane is an excellent opportunity for the inexperienced members of the volunteer team, who will then record the remains before any excavation begins.

Working with the Youth Offending Team on Haver Lane

Amongst the volunteers who have worked on site have been four young people under court orders from the York Youth Offending Team. These young people have been issued with court orders that require them to carry out a contract of work to reduce the risk of re-offending. The young people who came to the Hungate Excavation responded well

Haver Lane in the 1930s

to being involved in excavating Haver Lane; they made the start on revealing 4 & 6 Haver Lane, identifying the wall footings and a very poorly made up concrete floor.

Work with the Youth Offending Team has been a positive example of what can be achieved by partnership (between the Youth Offending Team, the York Archaeological Trust and the Greater York Community Archaeology Project), enthusiasm, and a fascinating archaeological site that is just starting to reveal itself.

Bringing together the volunteer team

The volunteer team at Hungate continues to grow, especially following the very successful Open Day held on 5th May. Anyone who lives locally and can afford to give time regularly to the project is welcome to join. They should contact Jon Kenny, the Community Archaeologist with the Greater York Community Archaeology Project to get an application form; Jon can be contacted by 'phone on 01904 663020 or by email at jkenny@yorkarchaeology.co.uk. There is likely to be plenty of work for the volunteer team over the next five years, both working on the excavation of the Haver Lane area and helping with looking at documentary evidence. Don't miss this opportunity to get involved!

Jon Kenny
Community Archaeologist
Greater York Community Archaeology Project

Scratching the surface of Early Modern York:

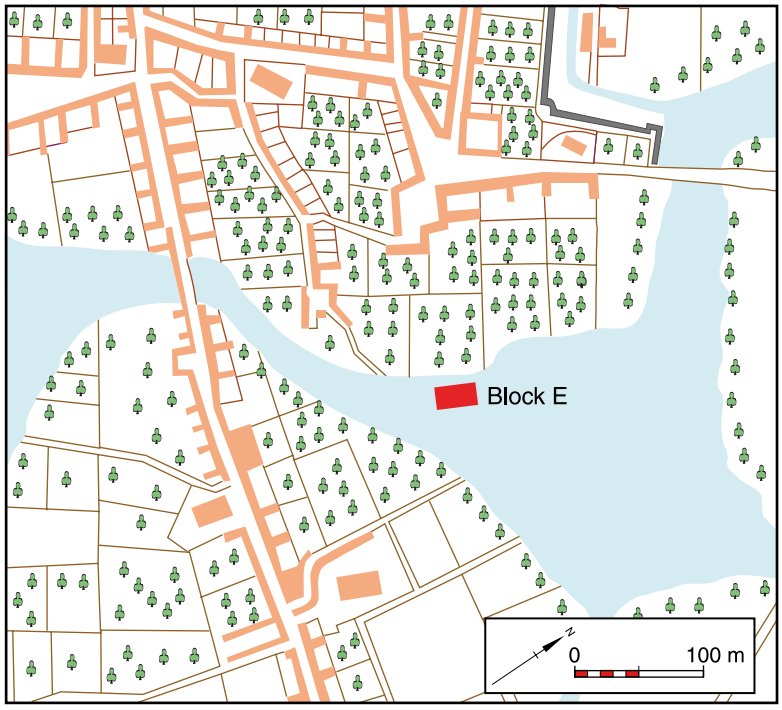
the Block E excavation, Hungate

Kurt Hunter-Mann

The excavation in Block E of the Hungate development project took place during January to March 2007. The aim of the excavation was to investigate and record the archaeological features that would be affected by the construction of a basement car park in the middle of this housing block. The trench was situated in a low-lying area barely 20m north of the River Foss, 20 m south of Palmer Lane and some 150m south-east of The Stonebow. Although these groundworks were barely 1.5m deep, it was expected that they would encounter evidence for 19th/early 20th century housing, an aspect of York's archaeology that has been previously overlooked. It was also hoped that information regarding the post-medieval use of the site would be unearthed.

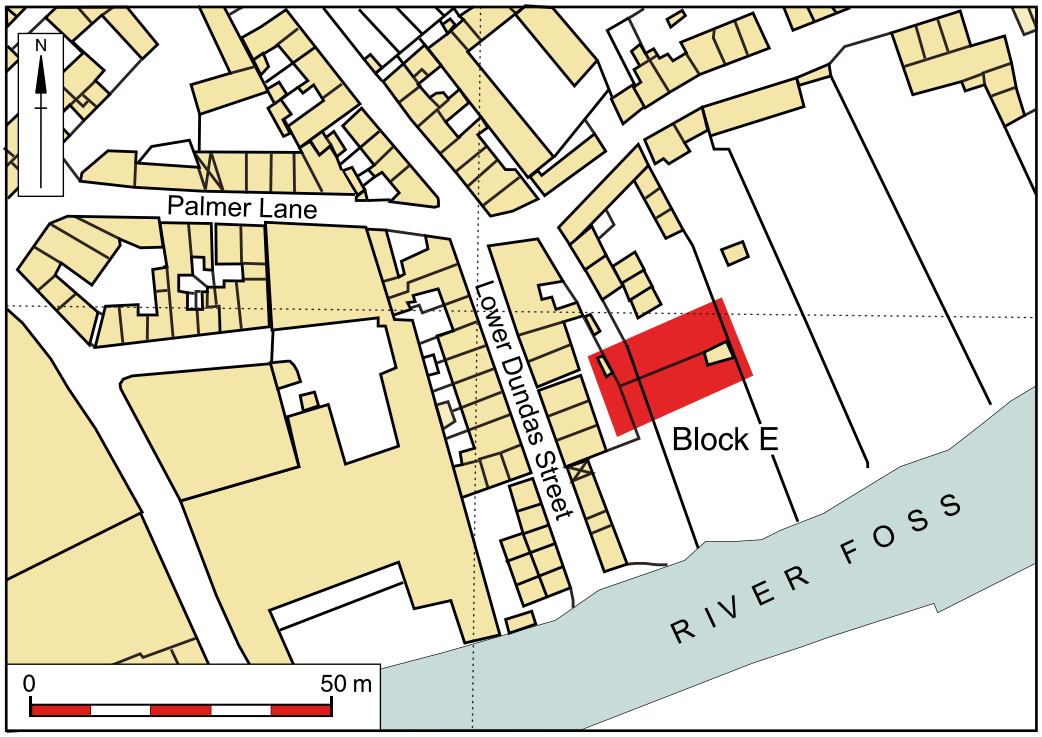
It was assumed that the 19th/early 20th century housing would lie towards the top of the trench, beneath the remains of an industrial unit that stood on the site prior to the current development. Indeed, there was a fear that the construction of this industrial building could have removed all remains of the housing. However, it soon became clear that the housing was overlain by levelling deposits over 1m thick, which presumably had been laid down prior to the construction of the industrial unit in order to reduce the risk of flooding from the River Foss immediately to the south. The 19th/early 20th century levels had been preserved beneath the levelling deposits, and after the removal of the levelling by machine the careful archaeological investigation within the trench could begin.

Below: Approximate position of Block E excavation in relation to the 1685 plan of York by Richards



The earliest deposits encountered were a sequence of silty clays at around 5.5-7.2m AOD (Above Ordnance Datum). They are interpreted as alluvial deposits, and are probably late medieval (15th-16th century) in date. Such deposits would appear to have lain within the King's Pool, a lake that was formed soon after the Norman Conquest when the River Foss was dammed to provide water defences for York castle. The fact that a pit was dug within this sequence indicates that this area was marginal land alongside the King's Pool during late medieval times, sometimes inundated but sometimes dry (or dry-ish) land. There is cartographic evidence that the King's Pool survived as a body of water until around 1700 (left).

Overlying the alluvial deposits was a thick layer of charcoal-rich silty clay loam, which raised the ground level up to around 7.7m OD. This levelling appears to represent reclamation of the formerly marginal land from the King's Pool, and is thought to date to the 16th/17th centuries. It was cut by a probable drainage ditch. Above the levelling was a layer interpreted as a soil, dating to the late 17th/early 18th centuries. It was cut by several narrow parallel trenches, which could have been small lazy beds or bedding trenches and suggest some form of



Plan of Block E in relation to the 1909 Ordnance Survey map

horticultural activity. Maps show this part of York occupied by allotments or gardens during the 18th century. Another layer of soil subsequently developed over the horticultural features during the early 19th century, and was in turn cut by large, irregular pits containing much mortar and rubble. These pits may have been garden features; maps of the time show this area as part of gardens to the rear of houses fronting onto Palmer Lane.

The next change in land use was indicated by a layer of rubble that sealed the garden soil. Overlying or cut into the rubble were pits, post holes, cindery and mortar layers, a ceramic drain and a brick and stone culvert. These features, dating to the later 19th century, point to increased occupation in the vicinity. One possible explanation is that the houses along Palmer Lane had been turned over to multiple tenancies and now had more functional, intensively used back yards instead of aesthetically pleasing gardens. This downwards trend continued around the turn of the century, with the properties delineated and subdivided by substantial brick walls. The yards were generally surfaced with cindery material, with small areas of brick hard standing; rubbish pits and the occasional animal burial (probably of pets) also point to ever more intensive occupation, although these yards at least had not been infilled with more housing. This layout compares well with the 1909 Ordnance Survey map (above).

The finds reflect the decline in fortunes of the area, with high-quality pottery in the 17th/18th centuries followed by mass-produced finds in the 19th/early 20th centuries. There were large assemblages of ceramic and glass alcohol containers and drinking vessels. It is not yet certain whether this material represents high levels of alcohol consumption in the houses or the disposal of

A pit within a brick floor under excavation

Vertical view of the toilet block. The brick wall (bottom) is thought to be the back wall of Dundas Court

rubbish from the public houses nearby, but it does suggest that alcohol consumption in the area was high.

The most evocative feature found was a toilet block, which can be identified from documentary evidence as a block that lay within Dundas Court, a yard off Lower Dundas Street. The toilets had originated as a rectangular, stone-lined cess pit, probably when Dundas Court was built around the middle of the 19th century. The cess pit was replaced around the turn of the century by the toilet block, which comprised five closets or cubicles that fed into a ceramic drain. The flush was provided by two tanks, one at each end, which were fed by surface water in the courtyard and presumably by hand poured (not piped) bath water and other slop water from the houses; when full, the tanks tipped over automatically into the drain. This system was an improvement on the preceding cess pit, but York City Council reports and sanitation textbooks of the time condemned it as unsanitary; the waste matter would pile up between flushes, particularly during dry weather. To make matters worse, the toilets served 11 households, perhaps as many as 50 people. It is likely that there had originally been 5 houses fronting onto Lower Dundas Street, using a 5-cubicle cess pit in the back yard. However the houses were then subdivided into 10 back-to-backs, probably around the time the tipper flush toilets were added – and an eleventh house was given access to the toilet block for good measure. Dundas Court came into being because the yard was now the front for five houses; it is also worth noting that the occupants of the six houses in Lower Dundas Street with access to the toilets now had to make a much longer trip to use them. Nevertheless, the system remained in use until the housing was cleared away in the 1930s.

Detail of the toilet tipper flush

The Block E excavation has provided some fascinating glimpses of the changing land use at Hungate since medieval times, and of the living conditions of the residents as the area degenerated into slums during the later 19th and early 20th centuries. These are but two of the many archaeological aspects of the area that will be investigated as the Hungate development progresses.

Kurt Hunter-Mann

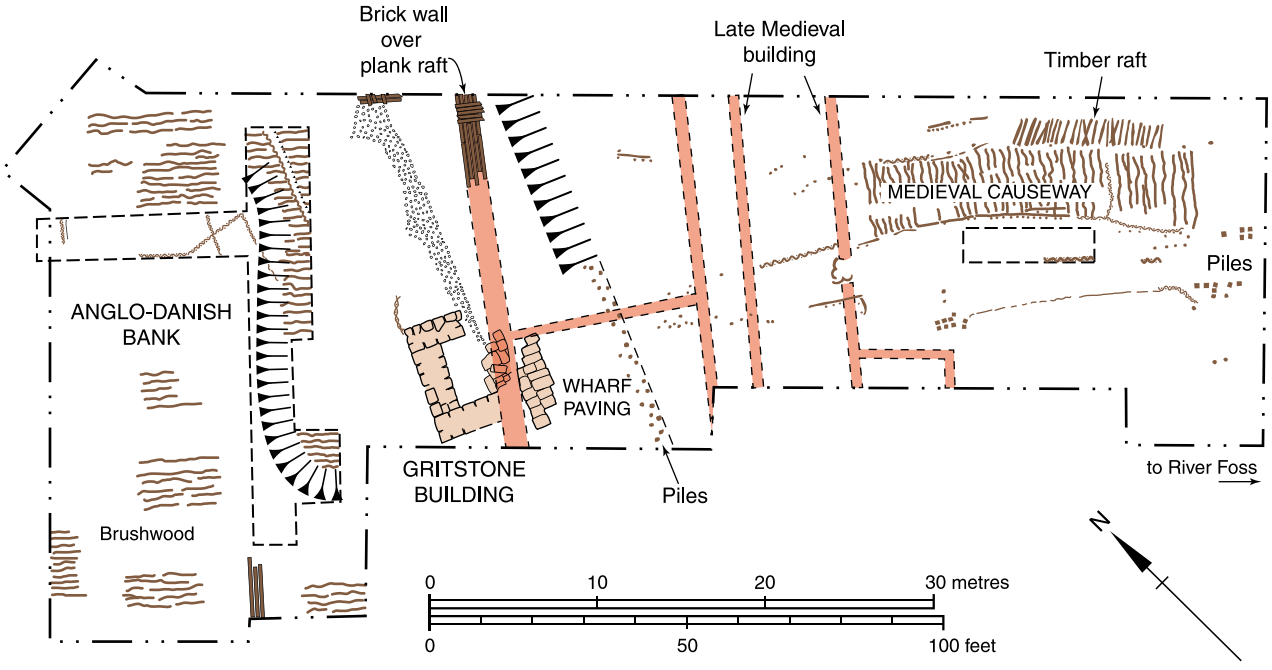
Excavations in Hungate 1950-51: what did they really find?

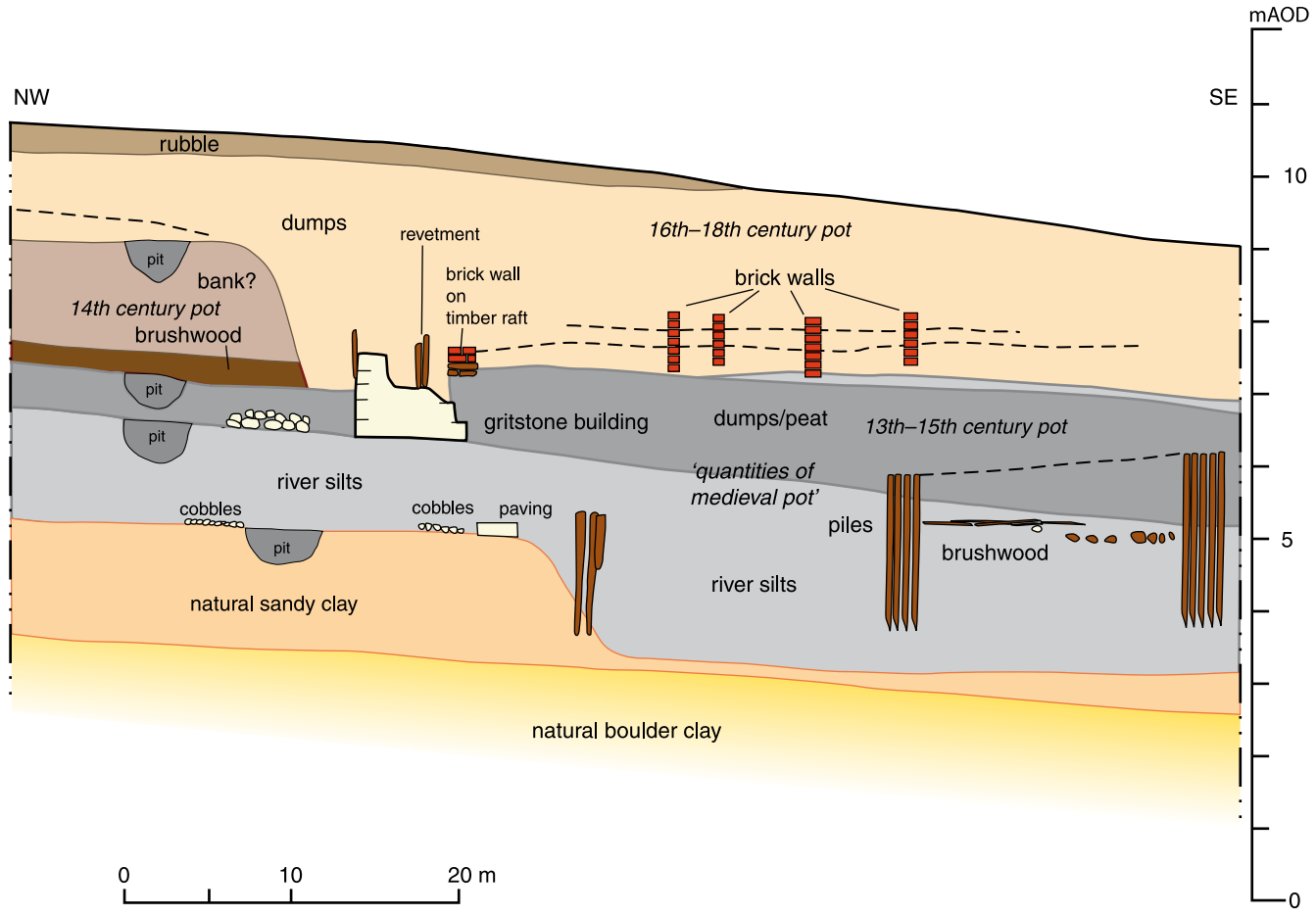
Archaeological investigation of Hungate, as part of a massive redevelopment between Stonebow and the River Foss, is now under way. This is an opportune moment, therefore, to look back at the 1950-1 excavations that were undertaken before the building of the Telephone Exchange which still stands at Garden Place, immediately south-west of the current development. The Telephone Exchange site, excavated by Katherine Richardson and others, produced a great deal of information on the early River Foss and land use along part of its western bank since Roman times. Such a large and complex site was difficult to record in detail without the recording techniques and the resources used nowadays, but a basic plan of the site was obtained (below) and a Roman wharf, an 'Anglo-Danish' bank and a medieval quay were all referred to in the report on the discoveries, published in *The Archaeological Journal* in 1959.

Above: Katharine Richardson on the Hungate site, c. 1951

However, these interpretations need to be reconsidered in the light of more recent archaeological discoveries in the area; to aid this task, a composite section of the site has

Below: Plan of the area excavated by Richardson in the early 1950s (after Richardson 1959)





Composite south-west facing section through the 1950-1 excavation (the vertical scale is exaggerated)

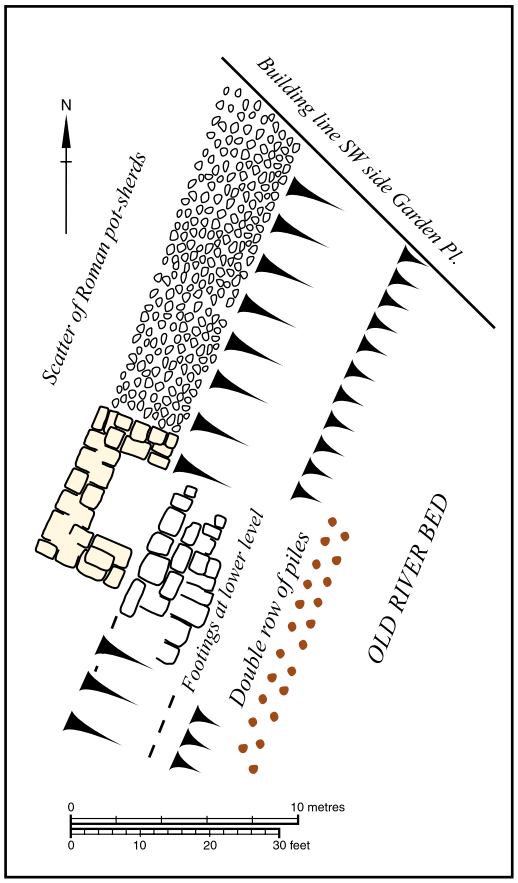
been compiled to give a depth perspective to the published data (above).

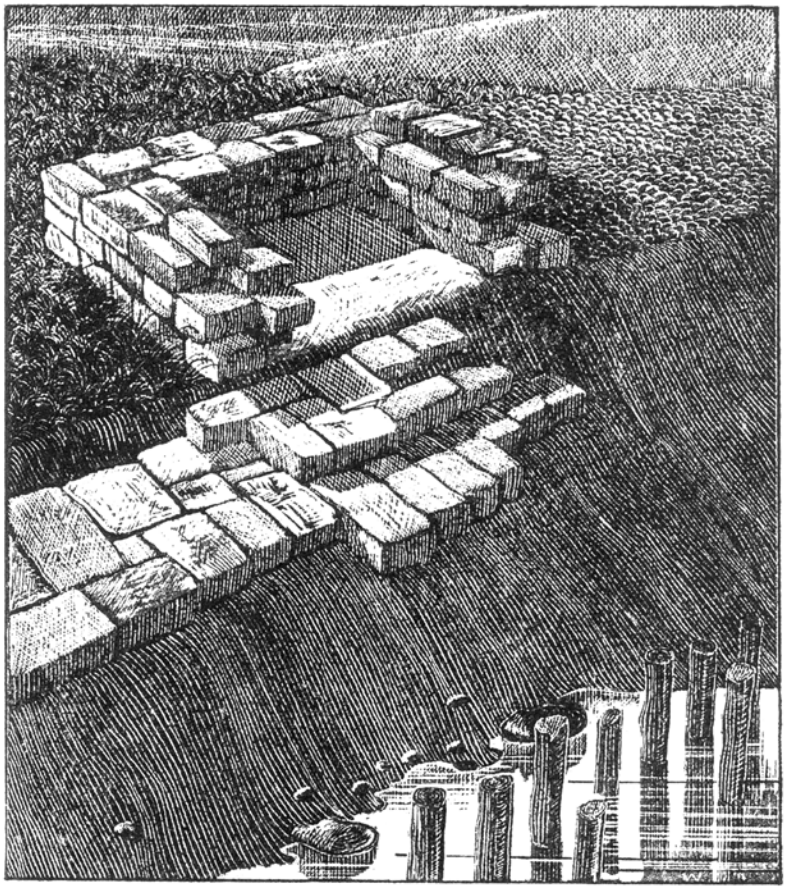
The Roman waterfront

The north-west bank of the Roman River Foss was seen as a steady rise in the natural sandy clay from about 3m above Ordnance Datum (AOD) up to 5.2m AOD in the middle of the site. The foot of the riverbank was thought to have been consolidated with timber piles to form a wharf with a paved surface, and behind that was a probably square gritstone building and an associated cobble surface running parallel to the river. A more schematic plan and a reconstruction drawing of this structure were published in 1962 by the Royal Commission on Historical Monuments in its survey of Roman York entitled *Eburacum*. However, the levels shown on the site plan indicate that the gritstone building, at 6.4-7.5m AOD, was 1-2m above the river bank. Furthermore, the cobble surface appears to run beneath the gritstone structure. It therefore seems unlikely that the gritstone building was associated with the Roman waterfront, and it is probably post-Roman in date. It should also be noted that the tops of the timber piles at the foot of the riverbank are around 5.3m AOD, which is higher than the top of the river bank. These piles would therefore have been standing proud of the Roman river, and they too make more sense as a post-Roman feature, perhaps the foundations for a medieval building. The only feature that can confidently be regarded as Roman is the cobble surface.

The 'Anglo-Danish' bank

A clay bank resting on a brushwood layer was found at the north-west end of the site. The brushwood had been laid on silts, interpreted as alluvium and thought to date to the Roman period, the top surface of the silts was at about 7.1m AOD. The top of the bank was at 9.1m AOD, making this structure some 2m high; as it was thought to overlie Roman deposits, it was interpreted as a feature of Anglo-Scandinavian date.





Above: Plan (left) and reconstruction of structure previously identified as part of the Roman waterfront but probably of later date. (after R.A.Hill/ RCHME)

However, pottery dating to as late as the 14th century had been recovered from the bank and from the brushwood layer below it. In addition, the alluvium overlying the Roman river bank and beneath the clay and brushwood bank also contained some medieval pottery. It is therefore likely that the alluvium overlying the Roman river bank is primarily medieval in date, and represents silting in the King's Fishpool. Soon after the Norman Conquest the River Foss was dammed to form a wet moat around York castle. There is archaeological evidence that the water level upstream of the dam rose some 2m to around 6.3m AOD, which would have inundated the low-lying land adjacent to the river, forming a lake known as the King's Fishpool (see *Archaeology of York* 10/6, 696-8, 790-3).

Reclamation of this land from the Fishpool soon commenced as the owners of land adjacent to the Fishpool attempted to extend their properties by making dry land out of the marginal land. Reclamation may have been encouraged from the 13th century onwards by a fall in the water level in the Fishpool to around 5m AOD, which is suggested by archaeological evidence; this fall in water level would have exposed much more land to reclamation. Legal and illegal reclamations from the Fishpool, which was crown property, are well documented. The reclamations ranged from modest consolidation of the marshy ground surface, using wicker revetments and stone surfaces, to major incursions by using landfill to raise the ground level by 1m or more over hundreds of square metres. This range of reclamations is evident at the Telephone Exchange site. Clusters of timber piles, and indeed the gritstone building, suggest attempts to occupy the marshy ground level at around 6m AOD across the entire site, perhaps in the 13th century, with subsequent flooding forcing the major reclamation with the clay and brushwood bank at the north-west end of the site in the 14th century.

The medieval quay

Although timber pile clusters on the south-west side of the Telephone Exchange site towards the River Foss end point to the presence of a medieval building at about

6m AOD, on the north-east side of the site brushwood revetted with wicker seems to form a quay at only 5.2m AOD. The quay was associated in the site report with the Carmelite Friars, who established a priory thereabouts in 1300; in particular, the Carmelites were allowed to build a quay in the Fishpool in 1314. Recent discoveries tend to support this interpretation, as this reclamation episode has probably been identified archaeologically elsewhere, in the Trust's excavations at Carmelite Street (*Interim* 16/1, 1991, 26-29). Furthermore the quay at the Telephone Exchange appears to be on the line of the documented south-west edge of the Friary. The timber building on a higher ground level to the south-west would therefore be explained as land use on a separate property. As the quay was revetted on its south-west side there may well have been a channel between the quay and the timber building, for drainage as well as forming a boundary between the two properties. The quay was probably abandoned due to flooding, and was succeeded by a brick building at around 7.5m AOD in the 15th/16th centuries.

Evidence from earlier excavations, even those investigated decades ago, can still inform our interpretation of current excavations. Equally, old sites can be elucidated by referring to more recently gathered data. What evidence will the Hungate development unearth?

Kurt Hunter-Mann

HUNGATE FINDS: 3

A good night out

or

Licenses, Linnets and Liquid refreshment

Hungate was described in 1901 as '…one of the main slum districts of York…' in Rowntree's study of poverty in the city. The area slid into this state during the 19th century as the population of the city grew and overcrowding, poor sanitation, ill health and poverty began to take hold of a once prosperous area.

One escape from the troubles of life was to be found down the neck of a bottle, and there is plenty of archaeological evidence that the inhabitants of Hungate explored this route.

Material collected from one small area of Hungate is almost entirely associated with drinking. There are literally kilos of glass bottles, stoneware porter bottles, ale bottles, flasks and flagons once used to store and serve all sorts of drinks. This collection was found not far from where The Bricklayers' Arms once stood on the corner of the now vanished Palmer Lane. The pub was in existence by 1838, and applications for the renewal of licences were challenged in 1903 and 1911, but it continued to serve the area until 1937 when the licence was finally withdrawn.

It seems likely that the material shown in the illustration came from periodic clearances from this establishment. Hugh Murray's book 'A Directory of York Pubs 1455-2003' records that The Bricklayers' Arms was described by the Chief Constable in 1902 as a 'fairly good house', and it had a club room, a smoke room, a dram shop, a kitchen and a cellar below. Between 1871 and 1915 it was famous for linnet singing competitions…

No bones of past champion linnets have been found yet, but perhaps we have discovered how their audiences passed their time while judging performances.

Ailsa Mainman

More stories of recent finds from Hungate can be found at www.dighungate.com

York Archaeological Trust
Specialist Training Weekends




Throughout the year York Archaeological Trust will be running a series of specialist weekend courses to reflect the archaeology unearthed at the Hungate site. These courses are suitable for anyone and will be led by a series of experts in the field.

Course fees will include lectures, admission prices, an evening reception on Friday, refreshments, lunch and dinner on Saturday, and refreshments and lunch on Sunday. The fees do not include accommodation or breakfast. Discounted accommodation can be provided at a number of recommended hotels and bed and breakfast providers.

Places on each course are strictly limited so early booking is recommended. To book a place call 01904 543402 (lines open Monday to Friday 9am to 5pm).

Friday 22nd to Sunday 24th June 2007: Hungate Reveals Its Past

Explores a range of finds recovered from Hungate and offers participants the opportunity to handle, process, and discuss the archaeological techniques which help unlock their secrets.

Friday 28th to Sunday 30th September 2007: Food and Drink in the 19th century

Explores evidence from Hungate which shows what the people who lived in Victorian Hungate ate and drank. Leading experts will investigate archaeological discoveries and social records to paint a true picture of what was on offer to eat in this period. Held in conjunction the York Food and Drink Festival 2007

Friday 16th to Sunday 18th November 2007: Technical Applications in Archaeological Excavation

Explores the use of computer technology on archaeological sites.

Friday 7th to Sunday 9th March 2008: Exploring Your Family History

A series of workshops to offer guidance for researching family history or to discover more about how to enhance what they have already found. Participants will be able to choose from a series of sessions made available during the weekend.

Friday 10th to Sunday 11th May 2008: An Introduction to Fieldwork

For beginners and those with some basic knowledge: the chance to take part in fieldwork based at the Hungate site. Explore archaeological techniques and see behind the scenes with the staff of York Archaeological Trust.

Cost per weekend course per person: £85.00.

Full payment is required at time of booking

Places are limited so book early to avoid disappointment

To book or enquire about further information call 01904 543402

A STRIKING DISCOVERY

The seal of a Horologiarius

Front (left) and back (right) view of copper alloy seal matrix from Low Petergate, York

Research on the finds recovered from York Archaeological Trust's excavations on the site of the former York College for Girls in Low Petergate, York, has recently uncovered a particularly intriguing object. At first this appeared to be a simple circular copper-alloy disc 22 mm in diameter, but an X-ray showed it had an inscribed design and a legend around the edge. Further investigative cleaning in YAT's Archaeological Conservation Laboratory revealed more detail, and the disc was identified as a seal matrix, a metal disc which would be pressed into wax to create a wax seal.

The detail on the metal matrix is mostly clear to see, and it depicts a simple central motif of an eight-spoked wheel, and lettering around the edge which reads: S (IGILLUM) DE ROB(ER)TI HOROLOGIARII DE and then, less clearly, four letters which appear something like IERM. This translates as 'The seal of Robert the clockmaker from (?) Yarmouth'. The shape of the matrix indicates that it probably dates from *c.*1300, a time when most documents would have carried a seal as a means of authentication. Seals were used by those in many different ranks of society, not just the wealthy or those in the church, but also craftsmen and others, as this seal matrix indicates: in fact many seal matrices simply bore motifs, and no inscriptions, suggesting that they were items which would probably have been purchased ready made, rather than individually crafted to order.

Below: Detail of the inscription showing the word 'HOROLOGIARII'

The great interest of this particular seal matrix is its reference to a clockmaker, as mechanical clocks (as opposed, for example, to water clocks) were first made in England only a very few years before this seal matrix was made. An itinerant '*horologiarius*' is mentioned in the account books of Beaulieu Cistercian Abbey, Hampshire, in 1269-70, and there are records of a clock made by the Augustinian Canons of Dunstable Priory, Bedfordshire, in 1283. In the following few years there are records of other clocks at major English churches – Exeter Cathedral in 1284, St Paul's London in 1286, Merton College Oxford and Norwich Cathedral before 1290, Ely Abbey 1291, Canterbury Cathedral 1292, and Salisbury Cathedral before 1306. York has hitherto been missing from this list, but now it seems possible that Robert the clockmaker may have been engaged upon works in York c.1300. The most likely venue for his skills must be York Minster, although the first references to a clock there do not appear in the surviving documents until much later.

The earliest medieval clocks did not necessarily have dials; their main purpose was to strike the hours. Some were developed that would show solar and lunar data; in 1322-5 a large astronomical clock with automata was installed in Norwich cathedral, and in 1327-1336 the noted mathematician and astronomer Richard of Wallingford, Abbot of St Alban's Benedictine Abbey, designed an enormous astronomical clock that stood in the south transept there. The oldest surviving medieval clocks in England are those with very similar mechanisms at Salisbury Cathedral in Wiltshire, first mentioned in 1386, and at Wells Cathedral in Somerset, made at some time in the period 1344-1392.

Although we cannot know what sort of mechanism powered the clock that Robert may have made, this unique discovery does permit us to speculate on the presence of a new-fangled wonder in York *c.*1300, and to add the sounds of a striking clock to our mental soundscape of medieval York.

Nicky Rogers and Richard Hall

In the footsteps of King David

This summer York Archaeological Trust will be presenting a new series of historical Battlefield Walks. Here Russell Marwood gives us the background to the first event...

The Battle of the Standard, 22 August 1138

The early death of the Selby-born King Henry I on 1st December 1135 left the question of succession to the throne of England in doubt. Henry's only legitimate son from two marriages, Prince William, had perished in the wreck of the White Ship in 1120. Henry, in an endeavour to secure the throne for his daughter, Matilda, extracted an oath of allegiance to her from the English Barons in December 1126.

Even with this alleged backing, Matilda proved an unpopular choice. Her husband, Geoffrey, Count of Anjou, was a traditional enemy of the Normans, and the thought of a woman leading the Kingdom provoked criticism from a number of English and Norman barons. The succession was in reality far from settled.

The actual list of would-be candidates was indeed small. These included Robert Earl of Gloucester, Henry's illegitimate son, together with Henry's nephew, Stephen of Blois. Also, and touted as a kind of compromise candidate was Stephen's elder brother Theobald, Count of Blois.

Following Henry's death in 1135, it was Stephen who acted quickest. He took a ship to England and headed to London to collect the oaths of many Barons together with the will of the people. He then hurried on to Winchester to secure the reins of government and the Royal Treasury.

Although many barons immediately declared for Stephen, there was opposition both within England and from Scotland.

Indeed, the Scottish king, David I, was the maternal uncle to Empress Matilda and he proved to be one of her more consistent supporters throughout the conflict although it seems he did have other objectives.

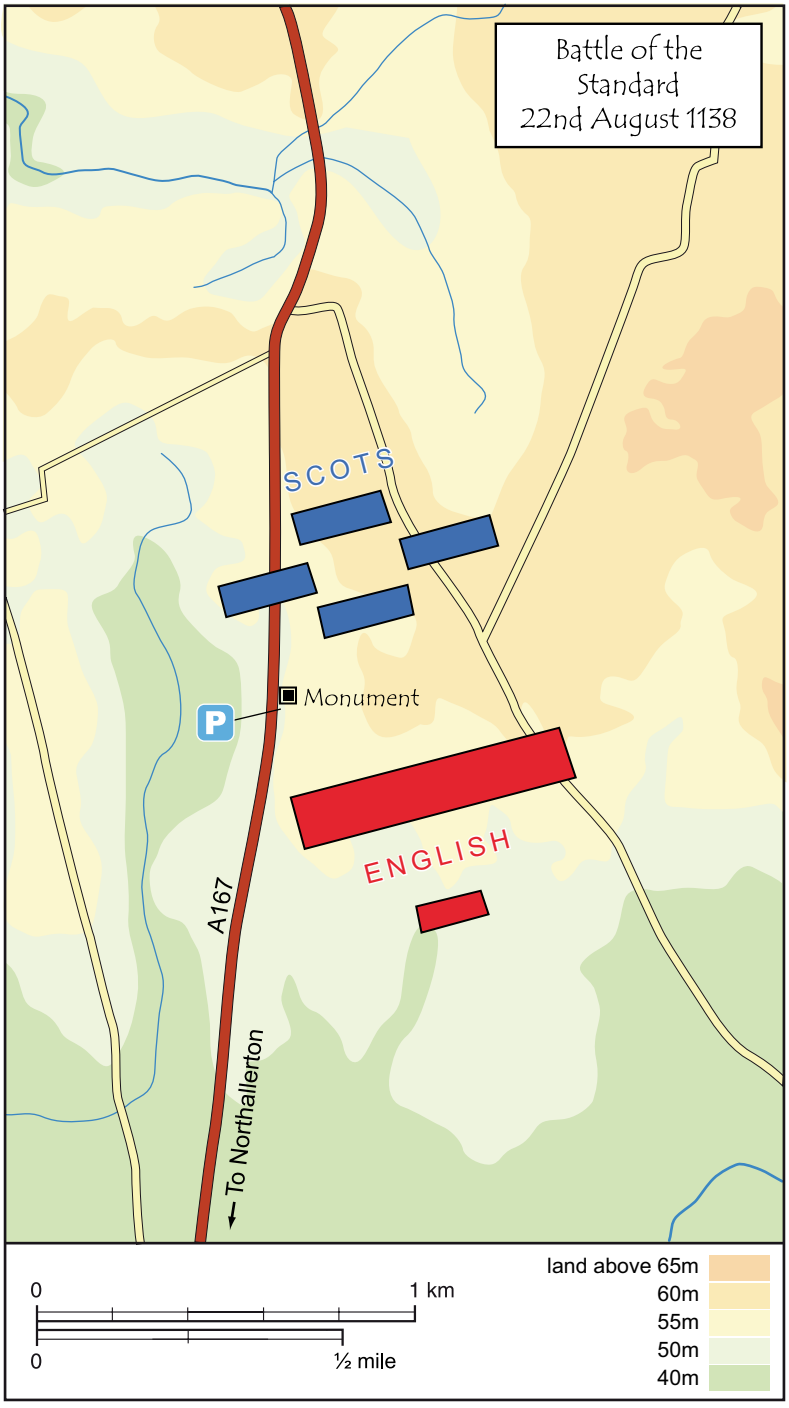
In 1066 the territory of Carlisle was part of Strathclyde but had been under English rule by 1100. David had claims on this land, together with claims to the Earldoms of Northumberland and Huntingdonshire, through his father-in-law Waltheof. Could it be that Stephen's accession and subsequent civil war with Matilda provided a convenient justification for David staking his claim to lands by launching a series of attacks in northern England.

Hoping to catch Stephen unprepared, the Scottish King led an army south during the winter of 1136. This was a risky business at the best of times but he carried all before him and captured Carlisle, Wark, Alnwick, Norham and Newcastle.

Stephen finally collected a group of Barons together and marched north in February 1137. This threat halted the Scots advance and a negotiated settlement was reached. In this, Stephen ceded Cumbria to David, and, thinking this as a weakness on behalf of Stephen, David launched another invasion in the summer of 1137. Another truce was arranged but the Scots were back in January 1138 for a small raid. Stephen marched north again with a punitive force with the aim of ravaging the lowlands as an object lesson to the rest of Scotland. It seems that this task proved too difficult and his army fell apart through maladministration and betrayal.

David's confidence was growing and he seized the initiative. As he led his own army

Memorial to the Battle of the Standard near Northallerton



Deployment of the Armies

on a march via Newcastle, another Scottish army under the command of his nephew, William fitzDuncan, defeated an English blocking force at Clitheroe in Lancashire on 10th June. In July the influential English baron, Eustace fitzJohn defected to Matilda's cause and went over to David, taking with him his castles at Alnwick and Malton. Thus encouraged, it is said that in all 25,000 men marched into Yorkshire, although medieval sources frequently inflate troop numbers substantially.

Stephen's attention was fully occupied in the south of England with Empress Matilda and her illegitimate brother Robert. Stephen's lieutenant in the north, Archbishop Thurstan of York was to be given the task of the defence of the North.

Thurstan, an infirm man of 70 years was a skilled administrator and not a soldier. He used the Church however, to promote the action against the Scots as a Holy Crusade. Also, the Scots carried out systematic looting and the capturing of peasants to take back to Scotland as slaves which enraged the northern English barons so much as to unite them in their cause.

During the first week of August 1138, an army began mustering in York and around the 14th it began passing through Bootham Bar on its long march north. Thurstan was too infirm to travel with the army and it seems that Walter Espec, Sheriff of York, may have led it north although accounts are not clear on this point.

With the campaign being treated as a crusade against the Scots, a symbol of church unity was used as the army rallying point. Thurstan had probably seen the idea of a Holy wagon or *Carrocio* used in Italy as a rallying point for the City militias. There is no evidence to suggest that this idea had been used on a British battlefield before; it is said to have comprised of a ship's mast set within an open wagon upon which were mounted two, if not four standards: the banners of Saint Peter of York, Saint John of Beverley, Saint Cuthbert of Durham and Saint Wilfrid of Ripon.

The English army marched to Thirsk where it was joined by other local militias. Numbers are vague but it seems that the Scots certainly outnumbered the English. David was still confident and was not prepared to discuss a truce this time. Both armies prepared for battle.

Early on the morning of 22 August 1138, the English army occupied the southernmost of two hillocks standing 600 yards apart, 2 miles north of Northallerton. The carriage supporting the sacred standards was positioned on the summit of the hillock and the English troops deployed in its defence.

The rest, they say, is history.

But why did these men meet on that fateful day on that particular hillside in North Yorkshire? Did they deploy in the standard formations of the day and did Scottish pride have anything to do with the outcome? What did the soldiers of the day look like and how did the landscape decide the outcome of the battle?

If you would like to know more about the battle and its location together with some answers to the above questions please join us in the latest of our Yorkshire Battlefield Walks. After last year's successful walks around Marston Moor, we invite you to retrace the steps of King David during the battle which changed the way British armies deployed and fought forever.

Only by standing in the midst of this battlefield landscape can we truly start to appreciate the outcome of this bloody clash.

Russell Marwood

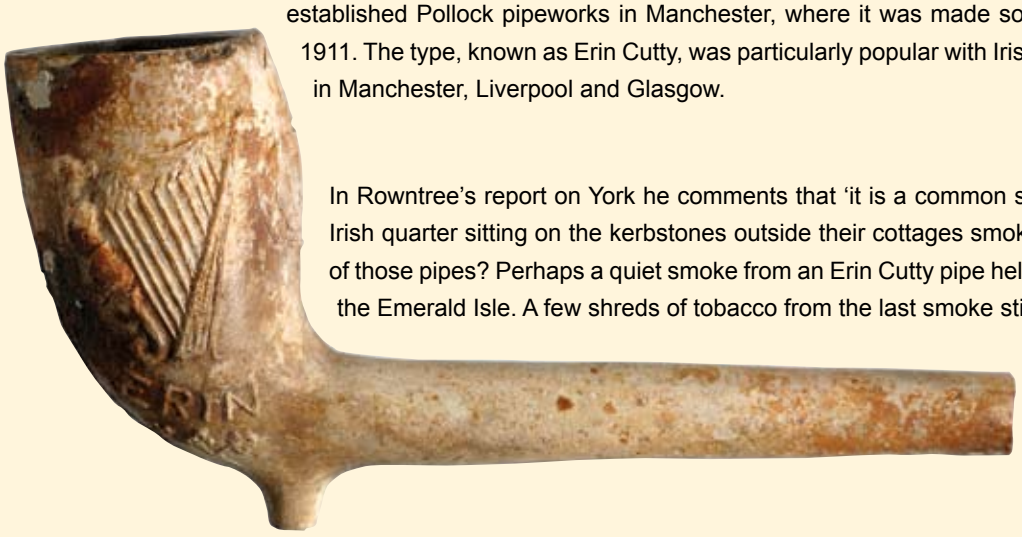
Two walks covering the Battlefield of The Standard have been scheduled for Sunday 22nd July and Wednesday 22nd August. Meet 2.00pm at the Battle Memorial on the A167, north of Northallerton (Please contact me on 01904 663014 or e-mail me at battlefields@yorkarchaeology.co.uk for information and to book your place, as parking may be difficult and an alternative location will be given).

For dates of further walks in the series, see inside back cover.

HUNGATE FINDS: 4

Hungate was a poor part of town in the 19th and early 20th centuries. The slum housing, unhealthy sanitation and high number of public houses was highlighted in a study of poverty in York by Seebohm Rowntree in 1901. Amongst the Hungate inhabitants was a significant proportion of Irish immigrants who had been coming to the city since the 1840s to work on the canals, railways and in the cultivation of chicory.

One recent find from the excavations at Hungate gives us a glimpse of this Irish community. The decorated bowl of a clay pipe which shows the Irish harp and the words ERIN was found in one of the backyards. Dr Peter Davey of Liverpool University has identified it as the product of the well-established Pollock pipeworks in Manchester, where it was made somewhere between 1901 and 1911. The type, known as Erin Cutty, was particularly popular with Irish immigrants who had settled in Manchester, Liverpool and Glasgow.



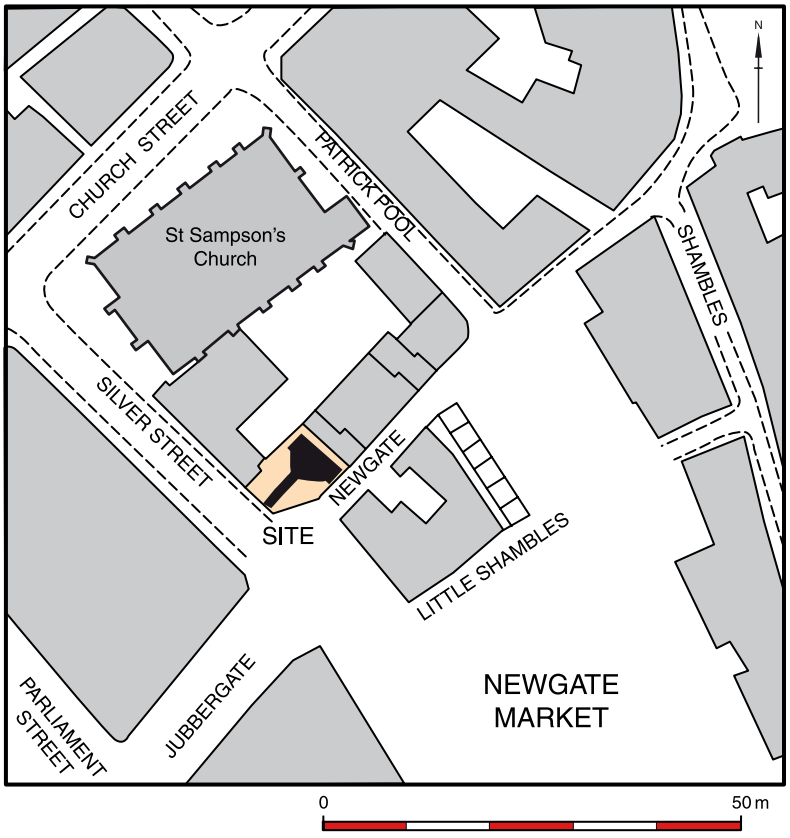
In Rowntree's report on York he comments that 'it is a common sight to see the women in the Irish quarter sitting on the kerbstones outside their cottages smoking clay pipes'. Was this one of those pipes? Perhaps a quiet smoke from an Erin Cutty pipe helped to evoke old memories of the Emerald Isle. A few shreds of tobacco from the last smoke still survived inside the bowl.

Ailsa Mainman

Building over Burials:

medieval redevelopment in Silver Street, York

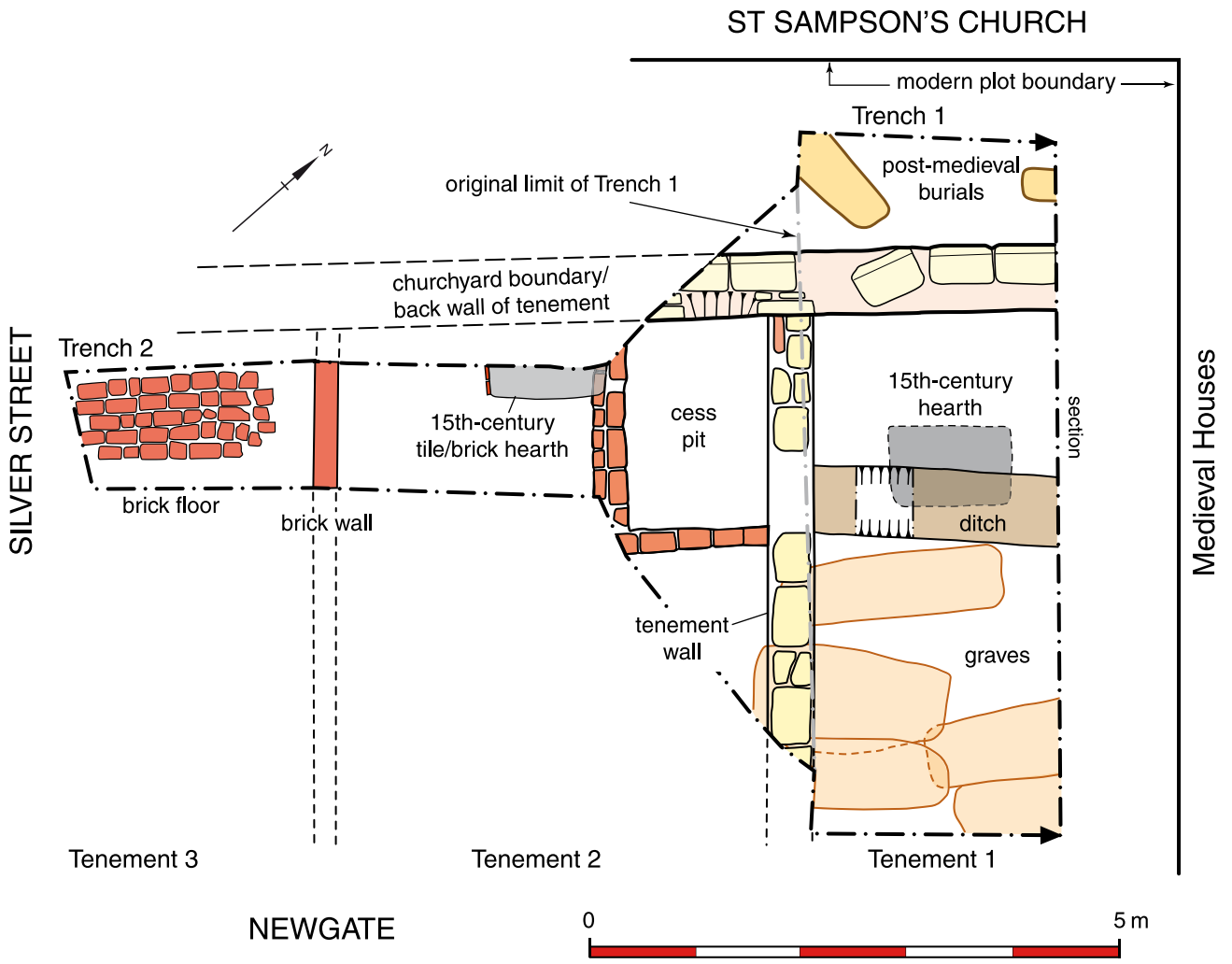
Many people in York will have noticed the disruption in the Newgate market area caused by the closure of Silver Street in January 2007, and symbolised by the erection of hoarding that all but blocked the street. What would not have been noticed, though, is that behind this hoarding and hidden away in a yard at the end of Newgate, York Archaeological Trust was busy recording some important and interesting discoveries that shed light on this corner of the medieval city. The reason for all this activity was the relocation an electricity sub-station from the buildings on the opposite side of Silver Street and the associated movement of cables below the road to feed them to the new sub-station. The Trust's involvement began in the yard in December 2006 with what was initially intended to be a watching brief on the excavation of the foundation pit for the new substation. However, as is often the case, once machinery had removed the concrete and limestone bedding from the footprint (Trench 1) of the new sub-station, extensive archaeological deposits were exposed (photo-watching brief.tif) and emphasis shifted to full excavation. On the basis of the discoveries made it was also decided that the service trench, Trench 2, would be hand excavated in January. The construction work in the street continued to be monitored archaeologically as a simple watching brief which showed that the sheer number of modern service trenches had removed almost all archaeological traces from below the street.



Site location plan

Machining of Trench 1 was halted when archaeological deposits became evident

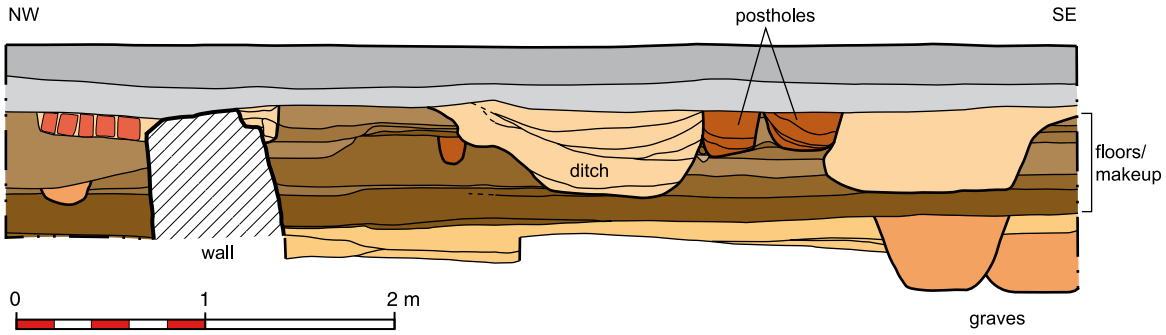
Newgate appears in the documents in 1336 as Le Newgate and the north-west side of the street has a number of buildings from the 14th century; at the junction with Patrick Pool there are the remains of a stone house on one side of the street and a row of houses built in the churchyard of St Sampson's church on the other. A charter, granted to Hugh Botnor, chaplain, in 1336/37, allowed him to build these houses 'between the common lane of Patrick Pool and a lane to Thursday Market'. The lane in the charter is presumably Silver Street, a name that first appears in the 16th century. Early map evidence shows Silver Street as a narrow, dog-legged lane that fed into the south-east side of St Sampson's Square (Thursday Market); it was widened and straightened in 1836 as part of the



Trench 1 and 2: Major features, all periods

extension of Church Street. The present area of Newgate was radically altered in 1952-5 when Little Shambles and the south-east side of Newgate were demolished, and the yard was created in the1960s by the demolition of the building at the end of the medieval row. The opportunity to excavate therefore had the potential to identify the remains of the medieval buildings that formed the rest of the row and perhaps burials associated with the church of St Sampson.

Unsurprisingly, the earliest features uncovered by the excavation were burials associated with St Sampson's church. Five burials were recovered from Trench 1, all lying to the south-east of a boundary or drainage ditch aligned north-east/south-west. The graves were found to contain 14th-century pottery. The skeletons were of three adult females, an older child and a young adult male. The deposits into which the burials were cut were waterlogged, allowing fabric from shrouds or clothes to be preserved on three of the burials. The fact that the graves all contained 14th-century pottery suggests that the graveyard was in use right up to the point at which the houses were constructed. The excavation also raised some interesting questions about the boundaries of the churchyard of St Sampson's in the medieval period. Some 25m from the recent excavation, nearer to the Church Street frontage, burials were found in 1979 close to the present line of Silver Street; but in the recent excavation no burials were found in Trench 2, closer to Silver Street than Trench 1. It is possible therefore that the laying out of the wall lines of the 14th-century house on Tenement 1 preserved an earlier, dog-legged churchyard boundary, which would suggest that the churchyard did not incorporate all of the land within the plot now defined by Silver Street, Newgate and Patrick Pool. As we shall see below, the whole row of 14th-century buildings was not constructed along the north-west side of Newgate in one go but a substantial wall constructed in the 14th



South-west facing section of Trench 1

century that formed the back wall of the new houses was abutted by the side wall of the first of the demolished properties, at a point 10ft (3.05m) from the end of the last (southwestern-most) house surviving above ground from the medieval row of buildings. Burials extended up to this wall line but only marginally beyond it, suggesting that this property division perpetuated an early and irregular boundary to the churchyard. Alternatively, it could be argued that this area was not fully used for burials prior to the construction of the houses. Interestingly, in Trench 2 the waterlogged deposits, which were excavated to a lower level than in Trench 1, not only contained 14th-century pottery but also leather off-cuts, raising the possibility, supported by other evidence (see below), that the area later occupied by Tenements 2 and 3 (see plan) was not part of the graveyard but, perhaps, a yard associated with a building beyond the limits of our excavation.

Prior to the excavation, information on the row was derived from the investigation of the buildings undertaken by the Royal Commission on Historical Monuments (RCHMY5, 1981) and a study by Short published in the *Archaeological Journal* in 1979. The surviving part of the row referred to in the charter is now known as 12-15 Newgate. These surviving buildings were all altered in the late 18th or early 19th century, and numbers 13 and 14 were rebuilt in brick in the 19th century. Study of the buildings showed they were of a uniform size, with bays 10ft (3.05m) wide between their main posts. In the early 1960s demolition of the bay on the south-west side of No.15 (the location of the yard) exposed a complete cross-section of the original row, showing that the 19th century work had just been a skin over the older building.

Our excavation has hinted that the row was built in at least two phases, for it seems that the row originally ended 10ft (3.05m) from the end of No.15. The earliest floors associated with this property and a possible internal division towards the rear of the building, more or less on the line of the earlier ditch, were identified a metre below the present ground surface. The rear wall was formed by the substantial boundary wall with the churchyard, and was abutted by the side wall consisting of foundations of large cobbles topped with limestone blocks. The back wall had been rendered and a fragment of painted wall plaster survived. There was the suggestion that this painted plaster may have covered the entire wall; perhaps this end building of the row may have been of higher quality and status than its neighbours. Pottery associated with the construction of the building was all of early/mid 14th-century date which accords well with the documentary evidence for the construction of the row.

A series of modifications were made in the late 14th century. A levelling layer identified in Trench 2 corresponded with a levelling event within the Tenement 1 building, raising the ground level by 30cm. This material contained a quantity of 13th-century pottery, suggesting it had been brought to the site deliberately to raise the ground level. Associated with this was the modification of the side (end) wall of the tenement to accommodate a brick-lined cess pit; the church boundary wall was also modified to accommodate a garderobe chute. Internally there was a timber sill wall dividing the property into two rooms; the rear room had a tiled floor and in the front room there was a heavily truncated hearth.

Limestone block with painted wall plaster surviving

In the 15th century the buildings were again modified. Floor levels were raised within the original property, although the internal division was maintained, and a limestone and clay hearth was constructed in the rear room. Two post holes associated with the hearth may represent supports for a cowl flue. Most importantly, the cess pit within the yard was backfilled and the row was extended. There was evidence in Trench 2 for the construction of a further two properties although the one closest to Silver Street had a sub-basement or cellar constructed within it in the 18th century which had destroyed the earliest of the relevant medieval layers. The watching brief within the street identified another wall, 10ft from the end of the cellared property (not on plan), that appeared to belong to yet another property in the row (Tenement 4).

Bone from one of the burials on the site with traces of preserved textile

The infilled cess pit was to be a constant problem for the property constructed over it (Tenement 2). There was evidence for constant and uneven settlement either into the cess pit or to either side of its walls, resulting in numerous patches and backfills to the floor surfaces. A brick hearth was observed close to the rear wall of the property, corresponding in its position with the hearth recorded in the 15th-century levels in the original property (Tenement 1). There was evidence in both of the properties for regular relaying of floors through the 15th century, but evidence for later occupation had been destroyed when the three properties exposed in the excavation were amalgamated at some point in the 19th century. The cellared property was backfilled at this time and there was the suggestion of uniform disturbance across the top of all of the properties.

St Sampson's churchyard continued in use after the creation of the row of houses, although the earliest burials encountered from this phase were dated to the 16th century; a coffined burial and at least one baby burial were identified. In the 17th century there appeared to be further levelling in the churchyard, into which a charnel pit was cut. This was sealed by what appeared to be a uniform dump deposit over which was laid what may have been a brick path in the 19th century, although it was heavily disturbed by later intrusions.

The work at Silver Street has added considerably to our understanding of this corner of the medieval city. The waterlogged conditions means that the preservation of leather and more importantly the textiles associated with the burials is of considerable interest, and they will be researched further to set them within the wider context of the city and beyond. Inevitably, however, the excavations raised more questions than answers regarding the original boundaries of St Sampson's churchyard. The excavations also provided important information on the development of one of the oldest rows of buildings in the city through the medieval period, proving once again how much more there is to learn about what have been thought to be well-known and well documented buildings.

Gareth Dean

TRACE YOUR VIKING ROOTS AT JORVIK VIKING CENTRE'S NEW EXHIBITION

A new exhibition hitting the JORVIK Viking Centre in York, in May 2007, will be sure to cause a storm, as it delves into the historic 'melting pot' of York that was created by immigration and trade in Viking times.

The unique exhibition will bring together bio-scientific and artefact evidence to determine if visitors could have Viking ancestors. Using computer technology, a 3-dimensional walk-through Viking wharf scene, graphics and interactive activities, visitors will be able to investigate:

- DNA and gene mapping, using evidence generated by gene-related studies
- bone material unearthed by archaeologists and used to map genetic disorders, such as Dupuytren's disease (known as the Viking disease)
- an oxygen isotope analysis of Viking-age bones and teeth, used to determine where people originate from
- archaeological environmental evidence, used to reveal what people ate, where the food came from, and what levels of pollution existed in the city of York at the time
- Viking migration patterns and trading routes to determine if this affected who and what was brought into York, revealed in the biological remains
- the assimilation of language and the development of dialects
- a comparative study with immigration and the cultural mix in today's society, with on-line links to relevant web sites.

Sarah Maltby, Head of Attractions at the JORVIK Viking Centre, commented: "We're very excited about the new exhibition; it's a combination of modern technology and important Viking era evidence that really will bring the past to life for our visitors. We think it will be hugely popular with families who will be intrigued to investigate whether they have Viking ancestors!"

The exhibition will include tactile, audio, and smelling activities to ensure its widest appeal to visitors with disabilities and the very young. The exhibition will run from May 2007.