



YORK ARCHAEOLOGICAL TRUST

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**St. LEONARD'S HOSPITAL AND  
ROMAN FORTRESS DEFENCES,  
MUSEUM STREET, YORK**

**PROJECT DESIGN**  
(Version 1.2 January 2004)

by Kurt Hunter-Mann

# St. Leonard's Hospital and Roman fortress defences Museum Street, York

## Training Excavation 2004

Proposed dates: 1.6.04 - 12.9.04 (training excavation 14.6.04 - 5.9.04)

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## List abbreviations

ARC	Archaeological Resource Centre
AY	The Archaeology of York
IADB	Integrated Archaeological DataBase
MAP2	Management of Archaeological Projects, revised version (English Heritage, 1991)
NGR	National Grid Reference
PPG16	Planning Policy guidance Note16:Archaeology and planning
SMC	Scheduled Monument Consent
WW2	World War Two
YAT	York Archaeological Trust
YPS	Yorkshire Philosophical Society

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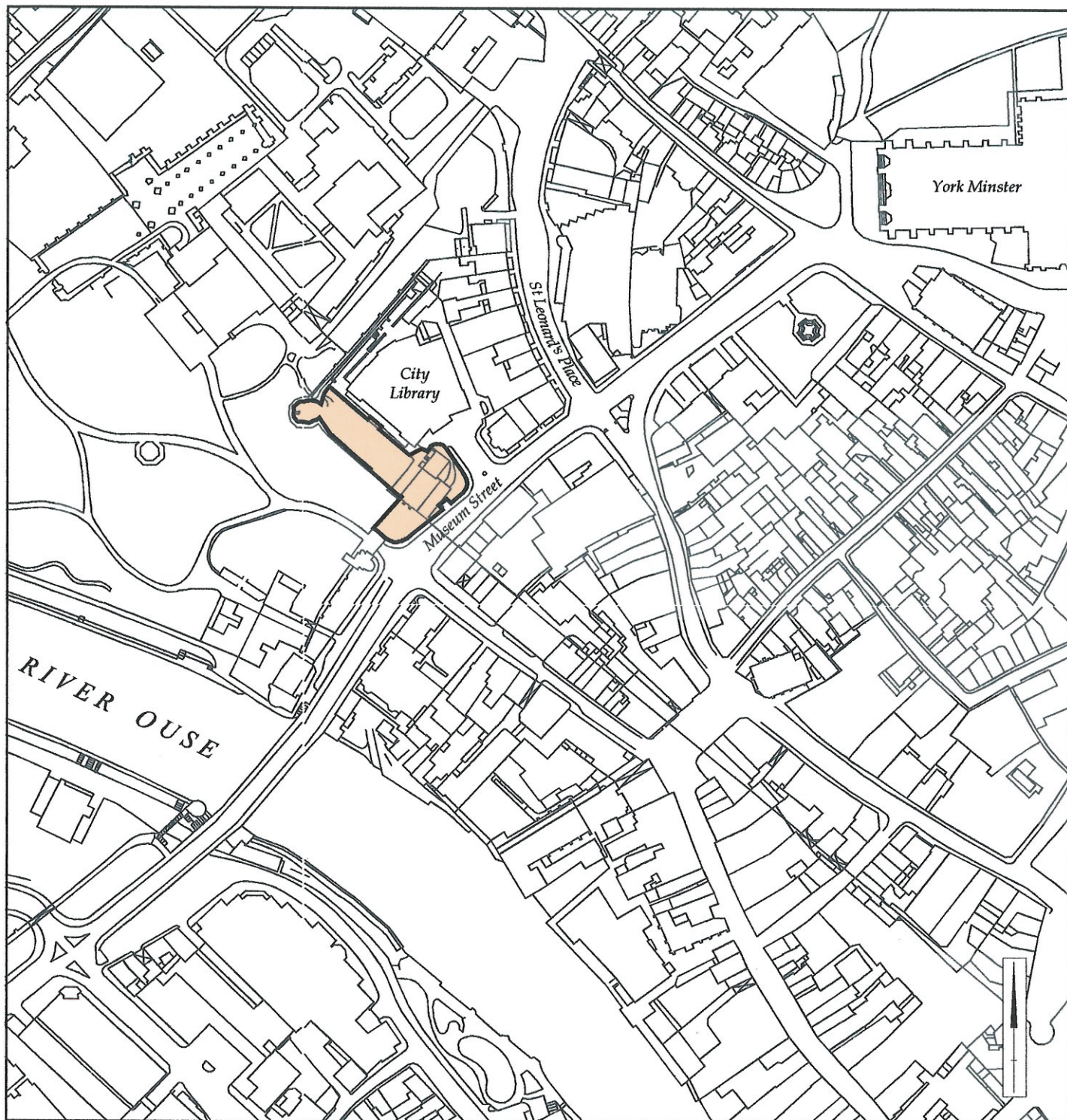


Figure 1 Location of site

BASED UPON THE 1995 ORDNANCE SURVEY DIGITAL DATA WITH PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE, CROWN COPYRIGHT, YORK ARCHAEOLOGICAL TRUST CROMWELL HOUSE, 13 OGLEFORTH, YORK, YO1 7FG. LICENCE NUMBER AL854123

## 1. THE PROJECT

York Archaeological Trust (YAT) and the City of York Council wish to undertake a final season of works that will complete the recent series of research excavations in the St Leonard's Hospital area of central York. The work follows on from a *Time Team* excavation for which Scheduled Monument Consent (SMC) was granted in 1999 and is part of the YAT training excavation for which SMC has been granted for 2001-4. The site lies within the precinct of St Leonard's Hospital and includes part of the Roman legionary fortress defences. In terms of the modern city the site lies on the north-west side of Museum Street, to the south-west of the Central Library (NGR SE 6050 5210).

This document is a Project Design submitted in accordance with the conditions of Scheduled Monument Consent, and Planning Permission to the City of York Council, to undertake this programme of archaeological work. It supersedes the Project Design that was submitted in advance of the 2003 season (YAT 2003a). It has been developed in the light of discussions between a number of interested parties including City of York Council, English Heritage, York City Library, Yorkshire Museum and the Yorkshire Philosophical Society.

The work in 2004 will complete the fieldwork stage of the project. An on-site management review process will be undertaken in order to ensure the project aims and objectives are achieved. As in 2001-3, the project will be a research and training excavation carried out in full public view and with links to local and regional educational programmes. The combined data from all four seasons will then be assessed prior to analysis and publication.

An important element of the proposed fieldwork is to provide further information for site management purposes. The 2001-3 excavations have indicated that the extent of 19th-century disturbance of the site varied from area to area, and that surprisingly large quantities of medieval and post-medieval stratified deposits remained intact. Consequently, further elucidation of the 19th-century excavations and landscaping, and of later intrusions, notably the Second World War (WW2) air-raid shelter, is intended.

The project will continue to focus on a number of research issues answerable on this important, multi-period city centre site. A prime aim will be elucidation of the origins, nature and development of St Leonard's Hospital, one of England's oldest, largest and most important medieval hospitals. The new research will also seek to establish the Roman and post-Roman history of the fortress defences, the utilisation of the site in Anglian times and in the Viking Age, and the process by which it became incorporated in the hospital estate. As such the research will address, under controlled conditions, a number of research priorities identified in *Exploring our Past 1998* and previous English Heritage documents. The site lies within the Roman fortress, a part of the city that is known to contain archaeological deposits of the highest quality that would merit formal excavation (Ove Arup 1991). The subsidiary project objectives – of training, public access to excavation in progress and educational initiatives – are amongst national priorities identified in *Power of Place* (2000).

## 2. YORK: HISTORY AND ARCHAEOLOGY

### 2.1 Historic status of the city

York is one of Europe's great historic cities and has been occupied more or less continuously since the arrival of the Romans in the 1st century AD. The richness of its archaeological deposits, and the range and variety of its buildings and ancient monuments make York an ideal centre in which to study the history of England over the last two millennia. The requirement for a coherent management and conservation strategy for the archaeological resource has been recognised by the City of York Council and English Heritage. In 1992 the *York Archaeology and Development Study* (Ove Arup and Partners 1992) and *Conservation Policies for York: Archaeology* were published. These provide the research and management frameworks for the investigation and conservation of York's archaeological deposits.

### 2.2 The Natural Setting

York lies in the heart of Yorkshire at the junction of the Rivers Ouse and Foss, and c.65 km from the east coast of England.

At York the Ouse cuts through a glacial moraine which runs across the Vale of York between the Wolds to the east and the Pennine foothills to the west. Vale of York geology is New Red Sandstone overlain by glacial clays and gravels; in the river valley at York, glacial deposits are overlain by alluvium.

The course of the River Ouse has not changed a great deal since Roman times, but the course of the River Foss is probably very different due to the creation of the King's Fishpool in the late 11th century and canalisation in recent times. Present day river levels are higher than in Roman times, partly due to Naburn Lock downstream from the city, and partly due to silting and geological factors. Rising river levels have contributed to the creation of waterlogged archaeological deposits in the centre of York giving unusually good preservation of timber structures and a wide range of organic materials.

### 2.3 Roman York (Eboracum) AD71 – c.400

In AD69 the Romans seized the opportunity to intervene in a civil war in the territory of the Brigantes, a British tribe living in much of northern England, and add it and that of the Parisi to the province of *Britannia*. The Emperor Vespasian sent the Ninth Legion north from Lincoln to establish a fortress at York, probably in the year AD71. The following account is based on information in RCHMY1, AY 3/3 and Ottaway 1993.

The Roman fortress stands on the north-east bank of the River Ouse and is protected on its south-east side by the Foss. The fortress had the usual playing card-shaped plan and extended over c.21 hectares (50 acres) with corners close to the cardinal compass points.

Initially, the fortress buildings were timber and the defences consisted of a ditch and rampart made of clay and turf with a timber palisade, towers and gates; part of this rampart has been unearthed during the St Leonard's Hospital excavations. In c.120 the Ninth Legion was replaced

by the Sixth Legion and in c.150-160 major rebuilding work in stone began. Reconstruction of the fortress defences in stone took place largely in the late 2nd – early 3rd century, a date supported by findings at St Leonard's Hospital. On the south-west side there was an ambitious scheme of projecting towers still represented by the Multangular Tower standing at the west corner, now to be found in the Museum Gardens. It is likely that these towers were built in the early 3rd century at about the time of the visit of the Emperor Septimius Severus in 209-11. Part of Interval Tower SW6 was examined in the current excavations.

In addition to the fortress there are two principal areas of Roman civilian settlement at York. The first, usually referred to as the *colonia*, lies on the south-west bank of the River Ouse and is defined by the medieval city walls which probably overlie a Roman defensive circuit. The second lies north-east of the Ouse, between the Ouse and the Foss and to the south-west, north-west and south-east of the fortress. Excavations in 1928 in the Museum Gardens close to the site revealed a sequence of Roman buildings and a street beginning in the late 1<sup>st</sup>/early 2<sup>nd</sup> century (RCHMY1, 47).

The earliest Roman settlement south-west of the Ouse probably lay along the main Roman road from the south-west which was laid out in about AD 71. Recent excavations suggest, however, that settlement of urban character did not begin in earnest until the middle of the 2nd century. In the second half of the second century and in the early 3rd century growth was rapid and involved land division, laying out of new streets, building construction and terracing. The cemeteries, ranged along the main approach roads, also appear to expand at this time.

The legal status of the town at the time of Septimius Severus is unknown, but York's position as the most important town north of the Humber was recognised by its designation as capital of *Britannia Inferior* (Lower Britain) in the reign of Caracalla (211-7). *Colonia* status may have been granted at the same time.

Public buildings known in the *colonia* south-west of the River Ouse include a bath house and temples to the gods Serapis and Mithras. The principal residential area was probably in the south-eastern part of the town where excavations have identified the remains of large houses built on terraces overlooking the Ouse. The inhabitants of the *colonia* included members of the Roman upper classes, including retired soldiers and government personnel, and their families. Some of these people are known by name from inscriptions on their tombstones and sarcophagi.

York remained important in both military and civilian spheres in the late Roman period. On the death of the Emperor Constantius I in 306, his son Constantine was proclaimed emperor in York. A Christian bishopric was established shortly afterwards. In addition, York was probably the base for an official known as the Duke of the Britains who controlled the Roman army in the north.

Excavated evidence suggests that the population of Roman York declined steadily in the later 4<sup>th</sup> century. The political and economic system which had sustained the town collapsed early in the 5<sup>th</sup> century, and it is unlikely that the fortress or town had a sizeable population after this time.

#### **2.4 Anglian York (Eoforwic) c.400 - 850**

The 5th and 6th centuries are a very obscure period in York's history and there is little evidence

for human settlement except for two 5th–6th century Anglian cremation cemeteries. However, the discovery of Anglo-Saxon pottery in the St Leonard's Hospital excavations does point to Anglian activity within the fortress. The following account is based on information from AY 7/2.

York returns to the historical record in 627 when, according to the Venerable Bede, writing c.733, King Edwin of Northumbria had himself baptised in a wooden church on Easter Day in York. It is probable that this church lay on or adjacent to the site of the present Minster, although no trace has been found. There are some documentary references to subsequent developments of the church in the later 7th and 8th centuries and a number of grave markers from the cemetery were found in the excavations at York Minster.

Anglian York was a political, religious and economic centre of the Northumbrian kingdom in the 7th – 9th centuries, and a home to schools of literary and artistic excellence enjoying renown throughout western Europe. One of the best-known scholars of the period was the monk Alcuin, head of the archbishop's school (767-82) who wrote, *inter alia*, a description, in poetry, of his home town. Perhaps the best known object of the period from York is the so-called Coppergate helmet, which combines an iron cap and elaborately decorated bronze strips.

Although remarkably little trace has been found, an Anglian settlement nucleus lay in the centre of the former Roman fortress where there was presumably a cathedral church, royal palace and a mint. Anglian period settlement also seems to have run along the banks of the Ouse and Foss, and an important site was excavated on Fishergate c.1km south-east of the former Roman fortress, close to the Foss. Traces of timber buildings of the first half of the 8th century were found along with abundant evidence for foreign trade and a range of crafts. This gives an archaeological context to Alfrid's biography of St Liudgar in which York was referred to as 'a general seat of commerce by land and sea'.

## **2.5 Anglo-Scandinavian York (Jorvik) 866-1066**

In 866, York was seized by a Viking army and, until the death of Erik Bloodaxe in 954, the city was, apart from a brief interlude between 927 and 939, the chief seat of the rulers of a Viking kingdom in the north.

The Viking kings probably ruled from a palace complex in the former Roman fortress. Excavations at York Minster revealed an Anglo-Scandinavian cemetery containing a number of burials probably, to judge by the quality of the funerary monuments, of individuals of high social status. There was, however, no trace of the Anglo-Scandinavian Minster church.

A new settlement grew up in the late 9th century to the south-east of the Roman fortress in a promontory of land between the Rivers Foss and the Ouse. The principal archaeological evidence for it comes from the site 16-22 Coppergate, now the location of JORVIK (formerly the Jorvik Viking Centre).

In the early 10th century the 16-22 Coppergate site was divided into four long narrow properties which ran back from Coppergate towards the River Foss. These boundaries thereafter remained fixed until 1976 when demolition in advance of redevelopment took place. In the early 10th century also a major alteration to the street plan of York took place. This involved the

establishment of a new north-east / south-west route to replace the Roman one. South-west of the Ouse the new route was formed by what is now Micklegate which was diverted south-east of the line of the Roman road and ran down to a river crossing at what is now Ouse Bridge. North-east of the bridge the new route continued north-eastwards as the streets High Ousegate and Coppergate. Other major streets were probably laid out at the same time, but there is no archaeological evidence for this.

One indication of the growth of population in Jorvik is the multiplication of churches. There are a dozen or so for which a pre-Conquest origin seems certain on archaeological or documentary grounds including St Helen on the Walls (excavated by YAT; AY 10/1), St Mary Castlegate (AY 8/2), All Saints Pavement and St Martin cum Gregory. 11<sup>th</sup>-century structures and other features at St Leonard's Hospital suggest that the hospital was a pre-Conquest foundation.

Within the area framed by the principal streets of Ousegate, Pavement and Coney Street the archaeology of the Anglo-Scandinavian period is characterised by up to five metres of dark, highly organic deposits. The excavation at 16-22 Coppergate suggests the practice of a wide variety of crafts, including the working of leather, iron, non-ferrous metal and textiles. A range of imported goods included hones from Norway, querns from the Rhineland and silk from the eastern Mediterranean.

## **2.6 Medieval York**

The Normans under William the Conqueror finally took control of York in 1069. A motte and bailey castle was built on either side of the Ouse and the city defences were extensively refurbished. An earthen mound was thrown up over the earlier Roman and Viking defences and, in the 12<sup>th</sup> century, the circuit was extended to include new parts of the town including the Walmgate area. Defence of the south-east side of the town and the castle on the north-east bank of the Ouse was enhanced by the creation of the King's Fishpool. Other changes in the Norman city included the reconstruction of the Minster on a true east-west line and the foundation in 1086 of St Mary's Abbey, a great Benedictine monastic complex on the north-west side of the city. The ruins of the abbey lie immediately north-west of the Multangular Tower.

The Domesday Book of 1086 states that one of the six shires, administrative areas into which York was divided, had been 'laid waste for the castles', but also implies the existence of c.1800 inhabited properties. From this it has been calculated that there was a population of c.10,000. Growth of population in the 12<sup>th</sup>-13<sup>th</sup> centuries is indicated by further foundation of churches, with over 50 recorded by the 13<sup>th</sup> century. Land to the rear of Coppergate was reclaimed from the Rover Foss to form additional living space (AY 10/6). New religious houses of the period included six friaries and a number of other institutions.

In spite of the plague in the mid 14<sup>th</sup> century, York's population and prosperity reached a new peak at the end of the century and decline did not set in until after 1450. Late medieval York was, after London, the second largest English city and paid the second highest tax revenue as a result of wealth generated by over 100 recorded trades and crafts, and flourishing overseas trade. Within the golden century 1350-1450 the Minster was completed, many churches were expanded and adorned, and the guildhalls constructed. Evidence for a housing boom has been recorded on archaeological sites and many buildings of the period still stand in the city streets.

## **2.7 Post-Medieval York**

After a century or so of decline York was revitalised from 1539 onwards when it became the seat of the King's Council in the Northern Parts. The Civil War interrupted this growth as York was a Royalist Centre. When rebuilding began again after the siege of 1644 the City Council decreed that it should be in brick, and its use transformed the appearance of the city over the next century or so. The later 17th and 18th century saw York enjoying a long period of prosperity as a market centre and resort for the local gentry.

There was a garrison at Clifford's Tower until 1684, when the tower blew up. Although there was a cavalry barracks from 1795, there was no permanent garrison until 1881, when the Imphal Barracks were constructed and The Prince of Wales's Own (West Yorkshire) Regiment was transferred there (Cummin 1972).

In the 19th century York became a centre for industry and a railway centre; the first station being constructed on a site within the city walls in 1839. In 1870-7 a larger station was built immediately to the north-west of the city defences on the south-west side of the River Ouse. The economic development of the 19th-century city was accompanied by a fourfold growth of population enhanced by numerous immigrants from Ireland and elsewhere.

The Yorkshire Philosophical Society (YPS) was founded in 1822 and the Yorkshire Museum, which stands close to the site, was built for the YPS between 1827 and 1829. Soon afterwards the area around the museum was laid out as Botanic Gardens, and is now known as the Museum Gardens. The YPS carried out excavations on the site during the 1830s and 1840s.

## **2.8 Modern York**

As a rail, industrial and military centre York was the target of bombing during the Second World War. An air-raid shelter was constructed on the site to provide a refuge for occupants of the library. This structure was located during the Time Team excavations in 1999.

The pace of development in 20<sup>th</sup>-century York has continued and the city today is at the forefront of many areas of the nation's life. The local economy today is sustained by a number of new high-tech industries, but at the same time the city's unique heritage is subject to conservation and research policies which are geared to the needs of scholars, visitors, local residents and future generations alike.

### 3. THE ROMAN LEGIONARY FORTRESS

#### 3.1 Legionary fortresses in Britain

There are a limited number of legionary fortress sites in Britain, and York is one of only three that were occupied once the permanent military disposition became established at the end of the 1<sup>st</sup> century, the others being Chester and Caerleon. These fortresses remained in use until the end of the Roman period. As noted above in the case of York, settlements soon developed near the fortresses to provide services for the army.

The legionary fortresses housed around 5,000 troops and a number of ancillary staff and workers, and occupied an area of around 25 hectares. The fortresses were laid out in a standard way, with axial main roads that ran from the gates to the headquarters building in the centre. The barrack blocks and other buildings were also positioned in a fairly standard manner.

Initially fortress defences in Britain consisted of a ditch and an earth rampart surmounted by a timber palisade, with timber interval towers and gates. In the 2<sup>nd</sup> and 3<sup>rd</sup> centuries the defences and the buildings were rebuilt in stone.

#### 3.2 The legionary fortress at York

Numerous excavations in York have revealed evidence for the fortress. Notable discoveries were made beneath York Minster in 1966-73, which revealed much of the *principia* (Phillips and Heywood 1995); and at 9 Blake Street in 1975-6, where parts of barrack blocks and other buildings were uncovered (AY 3/4). The layout of the fortress is understood in the broadest sense. Intervallum buildings, standing between the *via sagularis* and the defences, which have been identified at several points along the defensive circuit, may be encountered on this site (RCHMY 1, 44-5; AY 3/3, 291). The position, form and function of such buildings do not follow a predictable pattern.

The stone defences with projecting interval towers on the south-west side of the fortress were previously thought to date to the 4<sup>th</sup> century (RCHMY 1, 6). However, it is now thought more likely that they were largely constructed in the later 2nd-early 3rd centuries, based on the evidence of finds from the second rampart and re-cut ditch (AY 3/3, 286-7). Projecting bastions were added to the interval towers only along the south-west side, including the west and south corners. Evidence from the St Leonard's Hospital excavations indicates that these interval towers were associated with, if not earlier than, the second rampart, and therefore date to c.AD200. Opportunities to analyse the use of these towers during the Roman period have been very limited to date, although internal deposits were excavated in Trench 1 during the current excavations.

The defences at the west corner of the fortress are well preserved, with the curtain wall standing almost to its full height in places. The Multangular Tower, the extant west tower, is one of the finest pieces of Roman military architecture in Europe. The exterior face and part of the interior are fully exposed, the deposits within the interior having been excavated in 1831 (Wellbeloved 1842, 56-7). The upper part of the south-west earth rampart on the site was evidently removed when the medieval hospital was built against the internal face of the curtain wall. Some 40m south-east of the Multangular Tower stood a stone interval tower, SW6. Any remains of this

structure lay below ground until revealed in Trench 1, but the projecting bastion was exposed following excavations by Willmot in 1957-9 (RCHMY 1, 17-18; Fig.8). An interval tower was added to the north-west side of the defences north-east of the Multangular Tower perhaps as early as the later Roman period, although this structure is generally referred to as the Anglian Tower (Radley 1972).

### **3.3 Post-Roman use of the fortress**

With the exception of the area of the fortress headquarters below York Minster, the character of occupation within the fortress, and the use of its defences, during the Anglian period is uncertain. By the Anglo-Scandinavian period the fortress was probably a focus of royal and administrative activity. A cemetery of this period was found close to York Minster, and suggests an important church stood in this area. It is possible that the street name King's Square is derived from Anglo-Scandinavian royal occupation of the south-east fortress gate. The stone towers on the south-west side of the fortress were substantial structures in themselves, and may have been put to other uses in addition to defence. Limited excavations at tower SW1 indicate that it remained in use at least to the 11<sup>th</sup>/12<sup>th</sup> centuries (Evans 1998, 8). Some evidence for refurbishment of the fortress defences at this time was obtained during excavations in the vicinity of the Anglian Tower (Radley 1972).

An apparent change in the orientation of the medieval hospital buildings north-west of the chapel, indicated on Benson's 1911 plan, is in the same position as the north-west side of tower SW6; which suggests the remains of the tower influenced the layout of the infirmary in the area under excavation. This was confirmed during the 2001-3 excavations, which revealed that the north-west side of the interval tower was used to form the south-east end of the original (11<sup>th</sup> century) infirmary. Only in the 13<sup>th</sup> century was the interval tower swept away by a south-west extension to the infirmary, on a slightly different alignment to the 11<sup>th</sup>-century building (Hunter-Mann 2003b, 11).

## **4. ST. LEONARD'S HOSPITAL**

### **4.1 Medieval Hospitals in Britain**

Medieval hospitals were diverse institutions in terms of their community role. Moreover, their role changed as the medieval period progressed. There were, however, two main groups of hospitals. The first, to which St Leonard's belonged, was of institutions founded in the late 11th–13th centuries and attached to monastic institutions, usually observing the Augustinian rule. The second group was founded in the late 14th–early 16th centuries by secular benefactors (Rawcliffe 1995).

The hospitals in the first group had a staff, which cared for large numbers of poor and sick people, and also for large numbers of non-resident poor. In other words they formed part of a great network of social welfare. In the larger hospitals the sick were both chronic and acute; in others the criteria for admission varied. Evidence for doctors and surgeons is scarce and the majority of inmates probably benefited as much from food and rest as medical care. After the Black Death older hospitals appear to become less active, largely for financial reasons. The later foundations, often called *maisons dieu*, catered for smaller numbers of people and offered no medical care. They were little different from almshouses in offering housing for the poor and aged.

### **4.2 Medieval Hospitals in York and Yorkshire**

Archaeological research into medieval hospitals in Yorkshire has been fairly limited. There is no regional research agenda into which the work on St. Leonard's could be set. The only other hospital in Yorkshire examined to any extent is at Brough St Giles, Catterick (Cardwell 1992). St Leonard's was the principal hospital in York in the Middle Ages, the largest in the city and one of the largest in England. The other hospitals in York were associated with guilds. At the Merchant Adventurers' Hall there was a hospital known as Trinity, located in the undercroft of the great hall. At St. Anthony's Hall in Peasholme Green there was also a hospital occupying the ground floor. To the east of the city there was St. Nicholas' leper hospital, part of which was recently excavated by YAT, revealing a 12<sup>th</sup> century aisled hall, divided into cubicles for the inmates, each with its own hearth.

### **4.3 St. Leonard's Hospital**

By tradition St Leonard's Hospital was founded in 936 by King Athelstan as St Peter's Hospital. The King is said to have initiated the right of the hospital to one thrave, or sheaf, of corn from each plough in the diocese to support its work. The thraves, known as Petercorn, were confirmed by William II at the Norman re-foundation (RCHMY 5, 93). It has been argued that the 10th century foundation was located near the Minster, as it is by no means certain that hospitals existed as free-standing institutions before the Conquest (Cullum 1993). Two cross-shaft fragments of pre-Norman date, found at St Leonard's Place, suggest that a church with burial ground stood in the vicinity before the hospital was relocated to the site in the medieval period (RCHMY 5, 95).

The hospital's establishment on a site in the west corner of the former Roman fortress is thought

to date to the reign of William II. The site is bounded to the north-west and south-west by the medieval city defences (which in this area follow the line of the Roman fortress wall), to the south-east by what were known in medieval times as Lop Lane and Footless Lane, and to the north-east by the properties fronting onto High Petergate.

In about 1137, the hospital appears to have been re-organised by Archbishop Thurstan. These changes included a new church, dedicated by King Stephen to St. Leonard. It is generally agreed that the original hospital buildings were damaged by fire in 1137, hence the construction of a new church, although this interpretation has recently been challenged by Norton (1998). The church was located 'in the high street adjoining the hospital' which is a little puzzling as the 'high street' is usually taken to refer to Lendal, a street which approaches the hospital site from the south-east. The reference is most likely to imply, however, that the church was close to the street which is now Museum Street. It is also likely to have been on the same alignment as the surviving buildings in the south-western part of the precinct. In this case it would have stood on north-east/south-west alignment, similar to virtually all York's medieval churches including that of nearby St Mary's Abbey founded some 50 years earlier. The only major exception to this was the Minster itself, which was placed on a true east-west line when re-founded after the Conquest.

It is difficult from what is known to establish a coherent plan for the whole site, although Cullum (1991; 1993) has suggested that the documentary sources indicate that by the 13th century it had a double courtyard plan similar to some other known medieval hospitals. One courtyard would have been surrounded by the buildings of the hospital while the other would have been an Augustinian monastery of standard type. There would have been a number of buildings and facilities in the precinct including a master's lodgings, service areas, school and cemetery. In 1346 a 'barnhouse' under the infirmary was apparently converted into a nursery for children.

There are two places within the precinct where medieval buildings survive. In the Theatre Royal there are the remains of an undercroft of the mid 12th century. It seems likely that the building of which the undercroft formed part stood on an east-west alignment, at 90° to that of a lane immediately to the east. This lane originally continued the line of Blake Street, which runs up to the hospital from the south-east, as far as High Petergate, but was incorporated into the hospital site in 1299 and stopped up. The line of the lane can still be traced in the modern street plan and the site of its junction with High Petergate is probably occupied by No.7 High Petergate. A gateway to the hospital precinct stood in what is now Duncombe Place, facing south-east towards what is now Blake Street: a surviving arch was not finally demolished until the 18th century. Close to the gate site there are the remains of a small 13<sup>th</sup>/14<sup>th</sup>-century building now incorporated in a house used by the Theatre as offices (RCHMY5, 93-5).

Other hospital buildings survive in the south-west part of the precinct, on the site currently under investigation. They comprise a vaulted passageway, which led to the River Ouse, and on its north-west side there is a vaulted undercroft. Above both gate and undercroft are remains of the hospital infirmary and a chapel. These buildings are probably those built at the expense of John Romanus, Treasurer of the Minster, in the second quarter of the 13th century. Part of the infirmary, a second chapel and boundary wall are thought to have been demolished when Museum Street was widened in 1782. Their location is shown on the 1st edition OS map of 1853. Investigations in 1846, when the area between the Public Library and City wall was given

by the City Corporation to the Yorkshire Philosophical Society, revealed structural remains to the north-west of the standing buildings described above. Pillar bases and walls, shown in greatest detail on a plan published much later, indicate a large building with a vaulted undercroft (Benson 1919). The current excavations have identified this building as the original, Anglo-Norman infirmary.

St Leonard's was the oldest and largest of York's medieval hospitals, and by 1300 had up to 225 inmates. It accommodated residents and non-residents, and provided charitable welfare for the poor, for both acute and chronic sick, and for the aged and for orphans. Dr. Pat Cullum has identified a particular class of inmates known in the documents as 'cremetts' who were probably people too weak as result of age or sickness to care for themselves. It appears that the destitute were admitted free of charge and benefited from the endowment of beds by wealthy donors. This was considered to be one of the Seven Works of Corporal Mercy. Other inmates benefited from *corrodies*, a form of pension. Others again were known as livery holders.

Initially the inmates were probably accommodated in the nave of the church, but in c.1220-55 the infirmary was, as noted above, built to provide separate accommodation for men and women. By 1300 the staff comprised 13 chaplains and 8 sisters.

Medical treatment was of a rudimentary nature compared to today. For many inmates the chance to have regular meals and rest probably aided recovery as much as anything. As far as medicines were concerned, herbal remedies were used and knowledge seems to have been largely the preserve of the sisters. At the same time the power of prayer was believed to have a very positive role in the cure disease. Documentary sources provide some indication of diet, which seems to have been heavily based on bread, beer and meat with relatively little in the way of fresh vegetables and fruit.

After the mid 14th century the hospital entered a period of slow decline in terms of numbers of inmates, probably due to financial problems. In 1469 the right to the thraves of corn came to an end. In 1546, following the Dissolution, the site was sold to the Crown and the York Mint was moved there briefly before it was closed along with other provincial mints at the end of the reign of Edward VI. The south-west part of the hospital site was known as the Mint Yard until the last century.

It may be presumed that much of the hospital was demolished after the Dissolution. Extensive demolition deposits and evidence for robbing was encountered during the current excavations, in Trenches 2 and 3. What remained has largely disappeared, apart from what is noted above. A particularly major episode of destruction would have accompanied the creation of St Leonard's Place in 1832 and the erection of buildings on its south-west side. The first Theatre Royal, built in 1744, adopted a good deal of the medieval building including the north-east undercroft which was, however, partly destroyed in 1901 during rebuilding works at the Theatre (RCHMY5, 94).

## 5. BACKGROUND TO THE PROPOSED WORK

### 5.1 Ownership and status

It is proposed to examine that part of the Roman fortress and hospital precinct between the Public Library and Roman fortress wall. This forms part of Monument 30 (York City Walls, Posterns and Gates). The site is owned by the City of York Council and is managed by the Leisure Services Department and the City Library.

### 5.2 A History of Archaeological Investigation in York

Research into York's early history on the basis of its physical remains began in the 16th century, one of the first written accounts appearing in Camden's *Britannia* (1586). The 16th–19th centuries may be termed the era of the antiquarians whose interest in ancient artefacts and structures took relatively little account of their context of discovery in the way that archaeologists do today. However, the antiquarians included a number of distinguished scholars with local and national reputations, and important publications of the era include *Eboracum* by Francis Drake (1736), *A History of York* by William Hargrove (1818) and *Eboracum* by Charles Wellbeloved (1842). The last named was also instrumental in the foundation of the Yorkshire Museum in 1834 which houses a large collection of York's antiquities and archaeological finds.

In the second half of the 19th century the pace at which discoveries of antiquities were made in York increased substantially, especially in the Roman cemeteries thanks to the expansion of city's suburbs and construction of the railway and associated facilities. Much of this material was recorded by James Raine, curator of the Museum 1873-96, and by George Benson, a local architect, in the first volume (1911) of his three-volume *History of York*.

The first research-based archaeological excavations were conducted 1925-8 by Professor Stuart Miller at sites in the Roman fortress including the in the vicinity of the Multangular Tower at the west corner. Other pre-Second World War excavations were undertaken on part of the fortress baths at the *Roman Bath* pub (1930) and in the *colonia* south-west of the Ouse on the site of the *caldarium* of the baths (1939).

After the War archaeology in 1950s and 1960s was largely carried out by volunteers under the supervision of local amateur archaeologists with few resources. Many important excavations, largely concerned with the Roman period, including that of the cemetery at Trentholme Drive, were directed by L.P. Wenham, Head of History at St John's College, York. Excavations were also undertaken by the Royal Commission on Historical Monuments as part of its work on the *Inventory of Historical Monuments in the City of York*. The Royal Commission was also responsible for the excavation of the Roman fortress headquarters and Norman Minster under York Minster in advance of underpinning in 1967-72.

In the late 1960s the scale of threats to York's archaeology from redevelopment increased rapidly. As a result in 1972 a number of bodies including the Department of the Environment, and Council for British Archaeology sponsored the creation of the York Archaeological Trust which created a professional team to examine the archaeology of all periods of York's history. Although the Roman period has remained in the forefront of research, the Trust has also given

particular attention to the hitherto neglected Anglo-Scandinavian and medieval periods of the City's history.

### **5.3 St Leonard's Hospital site**

#### ***5.3.1 Previous archaeological investigations***

There has been little formal excavation on the site of St Leonard's Hospital prior to the campaign which began in 1999. The Multangular Tower was excavated after the Yorkshire Philosophical Society acquired the site in 1831, and the ground level therein was reduced to its current level, broadly the Roman construction level (Wellbeloved 1842, 56-7). In 1846 clearance in an area adjacent to the Roman fortress wall, north-west of the standing buildings of the chapel and undercroft revealed further medieval structural remains (YPS 1847, 8; Benson 1919, Fig. 12). During 1925-7 two trenches were dug in advance of the construction of the present library and revealed in one case part of a Roman barrack and in the other a Roman oven at a depth of c.2m below the then ground level. No record of any medieval deposits was published. Small trenches close to and within the Multangular Tower elucidated the construction history of the Roman fortress defences (Miller 1925; 1928). In 1969-70 some limited archaeological investigation of the city defences on the north-west side of the site immediately to the north-east of the Multangular Tower was undertaken during landscaping by the City Council intended to display part of the Roman fortress wall. The Anglian Tower was revealed during this work (Radley 1972; AY 3/3, 256-73).

The Time Team excavations in 1999 were limited to the investigation of the medieval hospital and later features. They indicated that the remains of the hospital had been extensively disturbed during the clearance works of 1846, although the foundations of two pier bases were found. Following the 1846 clearance work, the site had evidently been used as a garden decorated with stonework unearthed from the medieval buildings (1891 Ordnance Survey map). The remains of a Second World War air-raid shelter were also found. The lower part of this shelter, built of reinforced concrete, appeared to be largely intact, and had been in-filled with the demolished upper part of the structure (Sloane 2000; Time Team, n.d.).

The most recent description and survey of the surviving medieval structures in the hospital precinct was published in 1981 (RCHMY5, 93-5). A discussion of aspects of the plan and history of the hospital, largely based on documentary sources, was published by Dr. Pat Cullum in 1991.

#### ***5.3.2 Site condition***

Most of the site is taken up by a lawn. A gravel path running along the north-east side, against the public library, connects the Museum Gardens/King's Manor with Museum Street and provides access to the defences on display behind the library. Towards and within the standing undercroft and in the passageway, the surface consists of beaten earth and gravel. The ground surface is flat, except for a steep slope at the north-west end leading to the lower ground level in the Multangular Tower. Several large Roman stone sarcophagi are situated around the margins of the site and within the Multangular Tower.

The public has easy access to the site along the path during daylight hours except when the

library is closed, when the entrance from Museum Street is locked. Although part of the city defences are on display nearby and important buildings are standing on the site, the presentation of these features to the public is minimal. The few information panels in the area are quite old, and contain limited text with no graphics.

Rubbish, including drug needles, accumulates in the undercroft and in the Anglian Tower, creating a somewhat dingy and grubby atmosphere.

#### **5.4 Research Framework**

The *York Development and Archaeology Study*, prepared in 1992 for York City Council by Ove Arup and Partners and the University of York, sets out an archaeological research framework and agenda for the City. This was the basis for the document *Conservation Policies for York: Archaeology*, formally adopted by the City of York Council in the same year. The proposed excavation offers an opportunity to explore a number of issues set out in the research framework.

In addition, the excavation offers an opportunity to address research themes recommended by English Heritage in *Exploring Our Past* in 1991 and the revised version of this paper published in 1998. In respect of the first publication, themes relating to training excavations occur under the headings 'Processes of Change': 'Briton into Roman', 'Viking Age and late Saxon', and 'Archaeological Study of Buildings'.

In the 1998 revision of *Exploring Our Past* the excavation's objectives may be seen as relating in the first instance to the 'Primary Goals', as follows: 'Advancing understanding of England's archaeology', 'Securing the conservation of archaeological landscapes, sites and collections', and 'Promoting public appreciation and enjoyment of archaeology'.

The objectives also relate to topics identified under the heading 'Archaeological Research Agenda' within the following sub-headings: 'Meaning of Change' topics 'Briton into Roman', 'Empire into Kingdom' and 'Late Saxon to medieval period.' 'Chronological Periods' topics 'Military and Civilian Interaction in Roman Britain', 'The End of Towns in Roman Britain.' 'Themes' topics 'Urbanism', 'The Archaeological Study of Buildings', 'Human health, diet and economy.' Finally 'Landscapes', topic 'The use of space within the urban landscape'.

Recommendation 14 of *Power of Place* (English Heritage 2000) is to 'encourage research and scholarship to underpin conservation'. The St Leonard's Hospital site contains monuments ranging in date from the Roman period to WW2, but the extent and the degree of survival of these monuments below-ground is uncertain. The archaeological investigation of this site would contribute to its conservation as an historic environment by more accurately determining the significance of the monuments and archaeological deposits therein. Such information would inform any conservation plan for the site, including its presentation to the public.

#### **5.5 Outreach and education**

Archaeology in Britain has had a long tradition of public participation, often with local amateur groups assisting if not driving important fieldwork projects. However, the rise of a professional workforce over the past 30 years has reduced opportunities for amateur involvement. Since

1990 archaeology has been included in the planning process under *Planning Policy Guidance Note 16: Archaeology and Planning* (PPG16), which favours the preservation of archaeological remains in situ, or at least their preservation by record. PPG16 has been criticised for putting the needs of development first, at the expense of archaeological research and public education. Furthermore, it has encouraged contract fieldwork, which is generally regarded as inappropriate for amateur involvement. Much recent fieldwork has not even been accessible to public visitors. However, the importance of providing frameworks and opportunities for archaeological research and education have been recognised (English Heritage, *Exploring Our Past 1998*).

The lack of participation in archaeology by the public - including children - means that the general population may be unaware of the resources required to carry out archaeological fieldwork to a high standard. It also results in public apathy about the subject, including such issues as competitive tendering. Without public support archaeology will diminish as an educational resource and as a profession.

The English Heritage Implementation Plan for *Exploring Our Past '98*, Section 10.0 stresses the need to 'provide a more extensive educational service to the community.' Section 11.0 of the Implementation Plan states:

'Archaeological excavation is extremely important in promoting public interest and enthusiasm, and we will ensure that projects undertaken by ourselves, and those commissioned from others are planned to maximise the local and regional impact of the work, and opportunities for participation.'

*Power of Place* (English Heritage 2000, 23) confirms that the historic environment is a matter of great public interest:

'People are interested in the historic environment. They want to learn about it. They want to help define it. They want their children to be taught about it. They want to be involved in decisions affecting it. They want to take part.'

Recommendation 8 of *Power of Place* is 'place the historic environment at the heart of education' and Recommendation 9 is 'remove barriers to access'.

Fieldwork training is provided for archaeology graduates, and a limited number of people entering the profession. Most excavations on which members of the public can participate provide little training. There are very few opportunities for the general public to receive intensive fieldwork training. One consequence is that excavation and recording carried out by amateur groups may be of variable quality, often not attaining modern high standards.

Public interest in archaeology is currently at a very high level, as indicated in the audiences for such television series as *Time Team* and *Meet the Ancestors*. The public also continues to demonstrate a strong desire to visit excavations when opportunities arise. Very large numbers of visitors viewed the *Time Team* excavations at the St. Leonard's hospital site in September 1999.

Part of the mission of York Archaeological Trust is 'to educate the public in archaeology.' It has a long record of disseminating the results of its work in *The Archaeology of York* and other publications (e.g. Kemp 1992), and has successfully presented archaeology to the public through

the Jorvik Viking Centre/JORVIK, the Archaeological Resource Centre and Barley Hall. The presentation of archaeology through an ongoing excavation has been provided by YAT when possible, such as at Coppergate (1976-81) and Wellington Row (1988-9), and as recently as Ellerkers in Walmgate, (1994-7) and at 41-9 Walmgate (2000). However, the predominance of short-term, developer-funded sites during the 1990s left few opportunities for presentation to the public. A longer, research-led excavation provides much greater scope to educate the full range of potential visitors including local residents, school parties (both local and from further afield) and tourists visiting the city.

## **5.6 Training**

In Section 14.0 of the *Exploring Our Past* Implementation Plan, the importance of communicating archaeological skills to all sectors of the community is discussed. Sub-section 14.4 stresses the value of training schools which 'engage the public with excitement and provide opportunities for participation and training, at both an amateur and professional level.'

York Archaeological Trust provided much fieldwork training for volunteers and students on the large excavations of the 1970s and early 1980s. More recently, the rise of developer-funded projects has greatly reduced these opportunities. Nationally, opportunities for archaeology undergraduates to participate in high-quality fieldwork training excavations are limited, and they tend to have insufficient practical understanding of archaeological fieldwork techniques as a result.

The training excavations run by YAT at Rawcliffe Manor in 1993 and at Ellerkers, Walmgate during 1994-7 demonstrated that the recording system operated by the Trust was an extremely effective method for teaching excavation and recording. The trainees had the responsibility for the excavation and full recording of each context in stratigraphic order. Consequently, they acquired an understanding of such concepts and techniques as site formation processes and stratigraphic analysis very quickly.

## **5.7 Progress during 2001-3**

### **5.7.1 Excavation results**

A more detailed account of the 2001-3 excavations than that which follows appears in interim reports (Hunter-Mann 2003b: 2003b). Trenches 1 and 2 have been excavated to the planned depth limit. Trench 3 has reached the construction level of the later Roman fortress rampart. Trench 4 is still in Modern contexts, and Trench 5 has reached early 19<sup>th</sup> century deposits.

#### *Pre-Roman activity*

An irregular ditch aligned roughly north-south was found beneath the Roman rampart and Interval Tower SW6. Although no dating evidence was obtained, it is thought to be part of an Iron Age field boundary.

### *The Roman fortress*

Considerable information on the Roman fortress defences was obtained from Trench 1. The first rampart, which was of late 1<sup>st</sup> century date, survived to a height of 1m, and was constructed in the manner expected from previous excavations - turves resting on a timber corduroy and with a clay revetment. The second rampart, associated with the stone defences, consisted of mixed sandy dumps. It sealed the remains of the first rampart and had been deposited against the south-east wall of Interval Tower SW6. Medieval truncation had removed all but the bottom 0.5m of the second rampart. Part of Interval Tower SW6 was excavated, its north-west wall standing about 1m high and surviving to within 0.5m of the current ground surface. The remains of an internal wall were also found. The tower was found to have been built on Roman make-up deposits, perhaps in order to create a level construction surface. All traces of the first rampart had been removed by the construction cut for the tower. A long sequence of occupation and building/demolition deposits over 1m thick overall was encountered within the tower, suggesting activity continuing long after the end of the Roman period.

The Roman fortress defences have yet to be investigated in Trench 3, but the rear of the second rampart has been exposed. Here the rampart appears to overlie earlier Roman occupation deposits, presumably representing activity in the area between the first Roman rampart and the intervallum road. A linear feature, cut into the rear of the rampart, has been tentatively interpreted as the base of a timber staircase up to the rampart walkway. It is dated to the 4<sup>th</sup> century or later, and so represents late- or post-Roman remodelling of the fortress defences.

The south wall of the Multangular Tower has been located in Trench 5, but was only observed in the bases of modern trenches.

### *Post-Roman activity*

A sequence of activity post-dating the Roman rampart and pre-dating the medieval undercroft has been identified in Trench 3, in the form of deposits that accumulated against the rear of the rampart. Much of this activity dates to the 11<sup>th</sup> century. Most notably, a clay surface and post-holes indicate that a timber structure stood against the back of the rampart. It is possible that this building represents a pre-Conquest phase to the medieval hospital. Subsequently the structure was sealed by levelling/dump deposits that, in association with the truncation of the fortress rampart, formed a level surface for the construction of the original undercroft.

### *The medieval hospital*

Traces of the original undercroft structure were found in Trench 3, and were dated by finds to the 12<sup>th</sup> century. One column base was found to rest on a limestone plinth supported by clay and cobble foundations in a massive pit. It is this structure that used the north-west wall of Interval Tower SW6 to form its south-west wall, as found previously in Trench 1. Evidence from Trench 1 shows that about the same time Roman tower SW6 and the rampart to its south-east were largely dismantled, to be followed by two phases of substantial timber buildings. However, in the 13<sup>th</sup> century the timber structures were succeeded by a south-east extension to the original undercroft. It incorporated a large stone drain, over 1m high internally and running north-east/south-west. A long sequence of floor/occupation deposits was found in the original undercroft, whereas the absence of such deposits in the extension suggests it had a stone floor,

later robbed. The infirmary was extensively demolished and robbed in the 16<sup>th</sup> century.

#### *Post-medieval activity*

Part of the infirmary was retained during the 16<sup>th</sup>-19<sup>th</sup> centuries, but to the north-west it was followed by hearths, drains and structures indicative of industrial activity.

#### *The 19<sup>th</sup>-century Garden*

Much evidence was found for the re-organisation of the site following its acquisition by the Yorkshire Philosophical Society to form part of the Museum Gardens. A massive brick wall, found at the north-east end of Trench 3, appears to have formed the boundary between the YPS garden and the property to its north-east. The documented archaeological investigation of the infirmary in the 1840s appears to have been represented by a wide range of trenches across the site, including two phases of excavation in Trench 3. Several of the infirmary undercroft column bases were found intact by the 19<sup>th</sup> century excavators, and it seems these bases were left exposed in order to form features of interest. Evidence from Trenches 3 and 5 indicate that the area was subsequently landscaped on at least two occasions whilst it formed part of the Garden of Antiquities.

#### *The Second World War air-raid shelter*

Evidence for the air-raid shelter identified by Time Team has been revealed in Trenches 1, 3 and 5. In Trench 5 the north-east end of the shelter was indicated by an irregular cut, perhaps representing a failed attempt to provide a rear entrance to the shelter; the structure itself appears not to have extended as far as Trench 5.

#### *Modern excavations*

Parts of the 1999 Time Team trench that investigated the air-raid shelter entrance and Trench 2 of the current excavations were located in Trench 4.

### **5.7.2 Excavation data recovery**

#### *Context data*

Approximately 400 contexts were recorded and planned individually, using the YAT single context recording system, bringing the overall total to some 1200. Most of the written records and plans have been stored on the YAT Integrated Archaeological DataBase (IADB) system.

#### *Finds*

Finds processing was largely undertaken as part of the fieldwork training modules.

The 1,100 small finds from 2003 have been viewed (there are 3,200 from the site in total). The conservation requirements regarding the stability of the finds have been assessed and have been met by the YAT Conservation Department. The metal finds have been x-radiographed.

The 5 boxes of pottery have been viewed (16 boxes overall from all three seasons), and spot dates provided for the stratified material from Trenches 1 and 3.

All the 0.8 tonnes of ceramic building material recovered during 2003 (overall 4.3 tonnes) has been fully recorded. The bulk of this material has been discarded, with generous form and fabric samples being retained.

All 20 architectural fragments recovered from the 2003 excavations have been recorded (100 in total) and all but the most undiagnostic examples have been retained. At least some of these fragments formed part of the fabric of the medieval hospital; examples of Roman *saxa quadrata* were also recovered.

12 boxes of hand-collected animal bone were collected (52 boxes in total). Recording of this material as part of University of York second year or post-graduate student projects is ongoing.

The intensive environmental sampling programme was continued. 48 samples were taken (189 in total to date). Over half of the samples are Bulk Sieve samples, representing 50% sampling of the Roman-medieval deposits; the remainder of all deposits was dry-sieved at 5-10mm in order to maximise the recovery of smaller finds. The Bulk Sieve samples were processed and recorded as part of the fieldwork modules, with a smaller number being processed as part of the St Leonard's Hospital Artefact modules. It is proposed that the General Biological Analysis samples will be processed and recorded by second year students at the Department of Archaeology, when the Department's laboratory facilities have been completed.

### **5.7.3 Training**

Some 200 trainees took part in the 2003 season (600 in total). Roughly half took 1-2 day 'tasters' and half participated in the 'module' courses over 1 week or longer.

The Tasters concentrated on basic digging techniques and finds processing, and visited venues such as the ARC and JORVIK.

The fieldwork modules involved excavation, site recording, finds and environmental sample processing; there were also lectures and visits. By making the trainees responsible for both stratigraphic excavation and recording of contexts using the standard YAT single context recording system, they were able to learn the basic methods and techniques, and to understand the reasons for digging and recording to a high standard. It was possible to teach basic excavation techniques and site recording in one week, and to include such aspects as stratigraphic analysis and site formation processes in the second week.

Additional modules in surveying and artefact analysis gave trainees an opportunity to gain experience of the full range of activities involved in archaeological work; a few of trainees took part in more than one module. These modules contributed to the project research aims by assisting with finds processing and study, and the recording and analysis of the standing remains of the hospital.

The modules were aimed primarily at students and members of the public with little or no previous experience. On completing, trainees gain some understanding and appreciation of

archaeological methods and practice in Britain. Many trainees will be in a position to apply the skills they had acquired to other projects, not least by being able to participate in projects in their locality. A small number may eventually become full-time members of the archaeological profession.

An evaluation of trainee reactions showed a high degree of satisfaction with the training, confirming the findings of surveys in previous years. These ratings appear to reflect the effectiveness of the YAT recording system when there is sufficient time to combine the excavation and recording elements to produce a good understanding of the excavation process. A number of Tasters graduated onto Module courses, apparently reflecting continued enthusiasm and increasing confidence in their fieldwork skills.

The use of Placements, begun in 2002, was expanded. 20 Placements, either archaeology undergraduates or St Leonard's 2001-2 trainees (or both), assisted with the project for an average of 4 weeks each. In return they received training in at least two of the following areas: excavation, site recording, stratigraphic analysis and computer inputting, finds processing, environmental sample processing and site presentation (to public visitors). The placements were also taught heritage management by staff from English Heritage, shadowing the fortnightly monitoring meetings as part of this process.

#### ***5.7.4 Public education***

The education of visitors on this live excavation was continued. Almost 20,000 members of the public visited the excavations in 2003, an increase of about 50% on 2002. The site was open to visitors every day, including Bank Holidays. A prepared walkway allowed visitors to walk alongside all four trenches and the finds processing area. Information boards at the site entrance gave the background to the excavation, and notice-boards adjacent to each trench were regularly up-dated. A team of YAT Attractions Division guides was on hand to explain the discoveries being made. The site was open for National Archaeology Days (a weekend in July); these events included a children's quiz, displays and the involvement of re-enactors.

The children's activity days continued. The children took part in trowelling (not in the trenches), finds washing and wet sieving for a half day or a full day. The activities were run by qualified teachers and YAT staff, mostly from the Archaeological Resource Centre. A programme of visits and activities for school and minority groups was continued.

## 6. AIMS AND OBJECTIVES

### 6.1 Aims

This project design applies to the final season of excavation (2004). The project has five overarching project aims, carried over from 2001-3 and the Time Team excavations in 1999:

- 1) To improve our knowledge of the history of this part of York over the past two millennia.
- 2) To inform the management of the site and the curation of the historic monuments.
- 3) To provide training in all aspects of archaeological fieldwork for trainees and students.
- 4) To provide training in the aspects of cultural heritage management associated with the management of the project.
- 5) To educate visiting members of the public and organised groups in archaeology and the history of York.

### 6.2 Objectives

A number of more specific objectives have been identified, which need to be achieved in order to fulfil the project aims:

- a) *To characterise the use of a part of the intervallum zone of the Roman legionary fortress (Aims 1 and 2)*
- b) *To study in detail the Roman fortress defences, particularly tower SW6 (Aims 1 and 2)*
- c) *To identify any Anglian and Anglo-Scandinavian activity, including the re-use of tower SW6 (Aims 1 and 2)*
- d) *To determine the origins and plot the development of St. Leonard's hospital. Particular issues are the degree of influence of the standing Roman structures on the hospital layout, and evidence for the rebuilding or refounding of the hospital following the supposed city fire of 1137 (Aims 1 and 2)*
- e) *To study the lifestyle of the hospital residents and, if possible, to ascertain the character of medieval medical treatment (Aim 1)*
- f) *To examine the post-Dissolution use of the site, including the 19<sup>th</sup> century excavations and garden features (Aims 1 and 2)*
- g) *To determine the form, extent and degree of preservation, of the Second World War air-raid shelter (Aims 1 and 2)*
- h) *To review the principal documentary sources for the site and relevant standing structures*

with a view to complementing the archaeological evidence (Aims 1 and 2)

- i) To provide training in all aspects of archaeological fieldwork to a high standard (Aims 3-4)
- j) To provide training in a safe, supportive environment (Aim 3)
- k) To provide a structured training programme for individuals wishing to learn the techniques of archaeological excavation, recording, finds processing, presentation and heritage management (Aims 3-4)
- l) To introduce aspects of cultural heritage management to the training and to relate site management decisions to the conservation of the wider historic environment (Aim 4)
- m) To develop the excavation as an attractive, accessible location for enhancing public understanding, participation and enjoyment of the archaeology of York for local residents and tourists (Aim 5)
- n) To develop the St Leonard's Hospital and associated sites as an educational resource for school visits and children (Aim 5)
- o) To assess the potential to enhance the cultural heritage value of the site (Aims 2 and 4)

### **6.3 Supporting information**

#### **6.3.1 Research themes (see Aim 1)**

The project aims and objectives relate to themes identified for research in *York Development and Archaeology Study* (YDAS) and English Heritage's *Exploring Our Past*, as follows:

- a) Processes of human adaptation to the natural environment and landscape of the city.
- b) The development of the townscape over the last two millennia with reference to specific features within it, including the streets, properties, cemeteries and a major religious institution.
- c) The changing character of the city's population with reference, in particular, to social ranking, gender relations, ethnicity, occupations, and religious affiliation.
- d) The application of archaeological methodology in York with particular reference to modern scientific and IT-based analytical techniques.
- e) The creation of a high profile, publicly accessible exploration of key aspects of York's development over the last 2000 years

Section 5.5 of the *York Development and Archaeology Study* (Ove Arup 1991) identifies a series of nine projects as the basis for the Research Framework. Of these there are two specific projects to which the proposed work at St Leonard's will make a significant contribution. They are entitled 'Urban Evaluation' (No.1) and 'Study of Medieval Buildings' (No.4). In addition, if the

hospital cemetery is encountered this will contribute to the project entitled 'Formal Excavation' (No.2) as it relates to a 'mediaeval church and its cemetery' (p.32).

### **6.3.2 Site Management** (see Aim 2)

The site has great potential to answer academic research questions, to develop greater public appreciation of its standing and buried remains, and to inform policies for the future management of the ruins and associated remains in this area of York. This project must be seen in the context of the overall archaeological conservation strategy for the City set out in the publications *York Development and Archaeology Study* and the *Conservation Policies for York: Archaeology*.

Upstanding buildings in this area form part of two Scheduled Ancient Monuments, and there are a number of related, but unscheduled, pieces of upstanding medieval masonry. An investigation of the relationship between the standing remains and the below ground archaeology (which also forms part of the scheduled monuments) will contribute to any management and interpretation plan for this very important part of the medieval City.

The 2001-2 fieldwork has demonstrated that disturbance of deposits of Roman to medieval date is not as extensive as was generally thought. 19th-century clearance of the site was destructive but selective, and seems to have been trenched on an ad hoc basis rather than being systematically cleared to a general level. Although a plan drawn up at the time by the architect G.T. Andrews offers the complete layout of the infirmary block, much of this evidence is extrapolated from little more than part of two rows of column bases (Wellbeloved 1852, 6). The destruction caused by the World War Two shelter is confined to a 2m-wide trench, although this may have impacted on the only surviving fragment of the infirmary north-west wall. Consequently there remains some degree of uncertainty regarding the survival of archaeological deposits and features across the site.

In the Multangular Tower, archaeological deposits post-dating its construction were removed by earlier excavators. However, the 2001-2 excavations showed that Interval Tower SW6 was built on contemporary make-up deposits, which raises the possibility that the same sequence occurs within the Multangular Tower. Deposits contemporary with the construction of the Tower may therefore lie very close to the current ground surface. It would also be useful to determine the extent of the 1926 trench dug in the tower (Miller 1928).

### **6.3.3 Training** (see Aims 3-4)

Further archaeological investigations at the St Leonard's complex provide an excellent opportunity to put in place some of the principles outlined in *Exploring Our Past* and *Power of Place* (see Section 5.5 above) to the potential benefit of members of the public.

The principle of providing Taster courses for complete beginners and Module courses for novice archaeologists will be maintained. The YAT excavation and recording system will be employed. In the Modules, site recording and stratigraphic analysis will be taught in order to develop a good understanding of site formation and excavation/recording processes. The training will be tailored to suit the abilities and needs of each person. The bulk of the training will be 'hands-on', with a classroom element designed to put the practical work into context.

Placements, mostly former St Leonard's module trainees with some archaeology undergraduates, will assist with the project. They will help with the tuition of trainees whilst continuing to develop their fieldwork skills. Several of these placements will assist with the presentation of the site to the public and visiting educational groups.

The Cultural Heritage Management aspects of the project will form a greater element of the training in 2003-4. All of the trainees will be shown how the excavation contributes to the heritage management of the site. The Placements will be included in the regular site management review meetings.

#### **6.3.4 Outreach and education** (see Aim 5)

In order to achieve the following objectives outlined in the discussion document *Viewpoint, Our Questions for You* (English Heritage, June 2000), an outreach, education and training programme must:

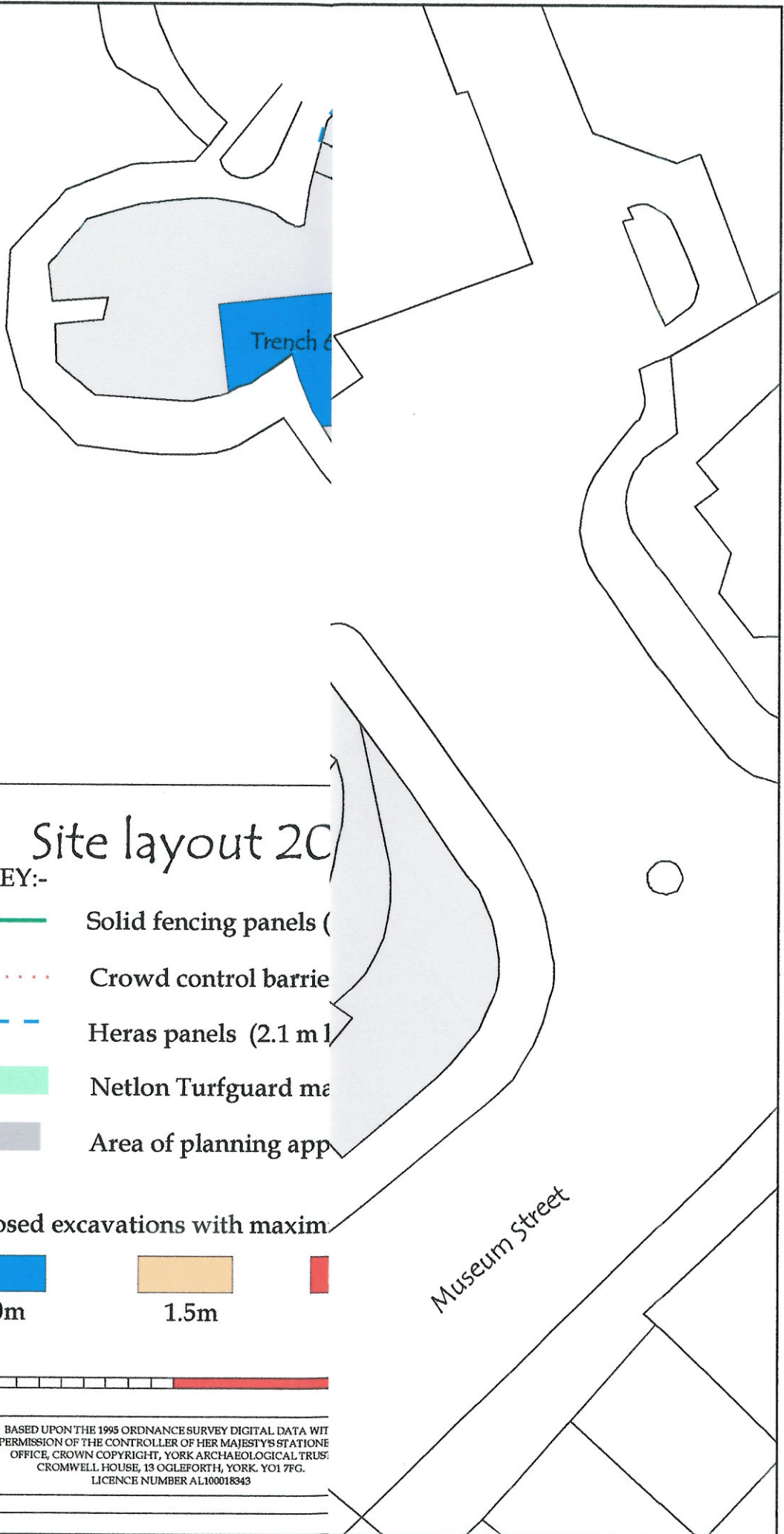
- *be locally relevant and community based*
- *enable residents and others to overcome both physical and intellectual barriers to the archaeology of the site*
- *generate better communications of all kinds*
- *improve the information infrastructure to support future participation in the archaeology of the site.*

As a flat, open space in the centre of York, the site is easily accessible to the public, including tourists. Access will be controlled to ensure manageable visitor movement to and around the site. Educational activities for school parties will be provided in partnership with the Yorkshire Museum, City of York Department of Educational Services and other interested parties. The excavation area is not large enough to accommodate large numbers of general public visitors and activities for school parties, but the activities will be carried out on days when the site is not open to the public.

The presentation of archaeological fieldwork to schoolchildren (mainly at Key Stages 2 and 3) and other members of the public will complement the educational experiences provided by JORVIK and the ARC. A tour of the excavation, followed by the ARC, JORVIK or the Yorkshire Museum, will allow visitors to see how and why the excavation data is recovered, interpreted and presented.






YAT established a website in 1995 as an information point providing basic information about the Trust and its attractions ([www.yorkarchaeology.co.uk](http://www.yorkarchaeology.co.uk)). A project website, linked to the YAT homepage, was developed in 2001. It has provided updates on the progress of the excavation on a weekly basis, and on the post-excavation work on a monthly basis, explaining basic archaeological issues along the way. The website will be continued on the same basis for the 2004 season.

The project will provide an archive of high quality resources - text, images, artefacts, video, web-based resources - that can be used in teaching the complex and interesting history of the site from earliest times and work with school groups will be overseen by a suitably qualified teacher.

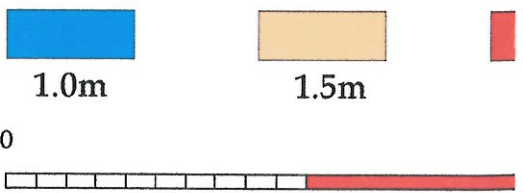


# Site layout 20

KEY:-

-  Solid fencing panels (
-  Crowd control barrie
-  Heras panels (2.1 m l
-  Netlon Turfguard ma
-  Area of planning app

Proposed excavations with maxim



BASED UPON THE 1995 ORDNANCE SURVEY DIGITAL DATA WITH PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE, CROWN COPYRIGHT, YORK ARCHAEOLOGICAL TRUST, CROMWELL HOUSE, 13 OGLEFORTH, YORK. YO1 7FG. LICENCE NUMBER AL100018343

## 7. METHOD

As the project will bring together staff from the City of York Council, Yorkshire Museum and York Archaeological Trust, a steering committee comprising representatives from these bodies along with English Heritage and Yorkshire Philosophical Society will continue to meet as necessary to ensure that the aims of the project are met and resources used effectively.

During the 2004 season regular on-site management review meetings, involving representatives from City of York Council, English Heritage and York Archaeological Trust will be held in order to ensure that the project aims and objectives are achieved and the methodologies are adhered to.

Work on the site will combine excavation, building recording and surveying. The training excavation will adhere to the guidelines set out by English Heritage in 1991 in *Management of Archaeological Projects* (hereafter MAP2). This requires archaeological work to be divided into three phases to allow accurate costing and effective management: 1, Excavation; 2, Assessment; and 3, Analysis and Publication.

All work will be undertaken using the Yorkshire Museum's accession and numbering systems and the YAT recording systems.

### 7.1 Excavation

Excavation will be carried out to professional standards and all appropriate records will be made and kept. Provision will be made to ensure a safe and secure working environment at all times.

The provision of mains drainage, water, and other services will be organised prior to work commencing on-site. York Archaeological Trust will be responsible for the removal of excavated spoil and reinstatement of the excavated trenches to the City of York Council's specification (see below).

#### 7.1.1 Trench 3

Trench 3 will be excavated down to undisturbed natural deposits (about 2.5m below current ground level). From an original area of 9m by 6m, all four sides will be stepped in by 1m at half-depth for safety reasons, making the deepest section 7m long by 4m wide. This trench will be covered with a poly-tunnel to avoid disruption from poor weather. It will be fully staffed at all times, in order to maximise the rate of excavation in accordance with the project aims and objectives. It is expected that the Roman levels will be fully excavated in 2004.

#### 7.1.2 Trench 4

This trench, measuring 6m long by 3m wide by a maximum of 1.5m deep, straddles the entrance to the WW2 air-raid shelter. It incorporates at the south-east end the medieval stone drain (previously exposed at this point in Trench 2), and at the north-west end it will allow assessment and analysis of the survival of medieval occupation deposits in this part of the infirmary undercroft. The impact of the air-raid shelter and any 19<sup>th</sup> century excavations on the adjacent

archaeological deposits will also be determined. It is expected that no more than 20% of the archaeological deposits in this trench will be excavated, as the medieval stone drain at the south-east end of the trench and the WW2 air-raid shelter in the centre of the trench will be left in situ, leaving only the deposits in the north-west part of the trench for excavation.

### **7.1.3 Trench 5**

Trench 5, measuring 5m square by 1.5m deep, will investigate the south-east corner of the Multangular Tower and confirm the location and character of the north-west end of the medieval infirmary block. The survival of medieval occupation deposits within the infirmary undercroft, the character of post-medieval deposits and features, and the extent of the 19<sup>th</sup>-century clearance trench in this area will also be determined.

### **7.1.4 Trench 6**

This trench, along with Trenches 4 and 5 was the subject of the revised SMC application for 2003-4. It will only be opened on the advice of the English Heritage Inspector as part of the on-site management review procedure.

Trench 6 measures a maximum of 6m square by 1m deep and will investigate the interior of the Multangular Tower. The extent of previous excavations, hitherto thought to be fairly comprehensive, will be determined. As far as research aims are concerned, at present there remains some doubt regarding the date of the construction of the stone defences of the legionary fortress. It was originally thought, largely on stylistic grounds, that the walling and towers on the south-west and north-west sides were late 3<sup>rd</sup> or early 4<sup>th</sup> century, but recent research (AY 3/3) and work in Trench 1 at St Leonard's Hospital now indicates that an early 3<sup>rd</sup> century date is more likely. This trench will allow the survival of archaeological deposits beneath the construction level of the Tower to be ascertained, and details of the construction and history of the tower to be elucidated. In Miller's 1926 excavation timber piles were encountered and an objective of the proposed work is to recover further examples for dendrochronological dating.

## **7.2 Recording**

York Archaeological Trust will use a computer-based recording and retrieval system, subject to the approval of English Heritage and City of York Council. The standard YAT recording system, based on 'single context' written description and planning, will be employed. Paper forms may be used to gather the data but the information will be inputted onto the Trust's Integrated Archaeological Database (IADB) computer system during the course of the excavation.

## **7.3 Finds processing**

All *bulk finds* will be washed and, with the exception of animal bone and discarded building material, marked. Marking and labelling will be indelible and irremovable by abrasion. The bulk finds will be appropriately bagged and boxed, and recorded on IADB. Identification of stone and tile will be carried out on-site and that which is not kept will be discarded. A detailed record will be made of all discarded material.

The processes detailed in the preceding paragraph will be completed no later than six months after the end of the excavation.

All *small finds* will be recorded as individual items and the records entered on IADB. The small find recording system will be compatible with the Yorkshire Museum Accessioning system. All small finds will be appropriately packaged to ensure the optimum survival of data.

The processes detailed in the preceding paragraph will be completed within two days of the small find being excavated.

## **7.4 Sampling**

The training excavation will continue its on-site deposit sampling strategy, which will ensure compatibility between data collected at St Leonard's and that collected at other sites in York. If appropriate deposits are located, advice on a sampling strategy will be sought from the University of York Department of Archaeology and the regional science advisor of English Heritage.

The rationale for the strategy is to be found in *Environmental Archaeology and Archaeological Evaluations: Recommendations Concerning the Environmental Archaeology Component of Archaeological Evaluations in England* (Association for Environmental Archaeology 1995). Study of the biological remains recovered from processing of sediment samples may provide data concerning a multitude of topics, for example land use, the agricultural base of a settlement, resource exploitation, crafts and industries, living conditions (including aspects of health and diet), storage problems, and local environment, trade networks and social status. Soil monolith samples will provide information on deposit formation and, in the case of buried soil horizons, on the regime under which the deposits formed (e.g. waterlain, land under agriculture, etc.).

Where feasible 100% of all archaeological deposits will be dry sieved to either 5mm or 10mm, for the purposes of maximising finds recovery and assessing the reliability of finds recovery by hand; some deposits will be entirely dry sieved if it is agreed to be appropriate. Deposits unsuitable for dry sieving will be sampled for wet sieving (see 7.4.4 SRS samples, below); it is expected that some deposits will be wet sieved in their entirety. The wet sieving will be carried out during the excavation, as part of the educational and training elements of the project (see 7.9.2).

Recording of the environmental samples (and animal bone) will be undertaken by staff and students of the University of York Department of Archaeology and the Palaeoecology Research Services (PRS) - except where such material forms only part of a larger assemblage, (e.g. for small animal bones), in which case these should be studied in parallel with any other material from the same context prior to investigation - and will be at scan or semi-quantitative level as appropriate. Identification of recovered remains will be made using the standard works and the reference collections of the EAU.

### **7.4.1 Soil monoliths**

Where necessary, soil monoliths will be collected in rigid boxes ('kubiena'-type) and examined

and described in the field. Further examination will be undertaken in the laboratory and, where appropriate, samples will be set in resin and prepared for thin-section analysis and subsequent, more detailed, microscopic examination and interpretation.

#### **7.4.2 General Biological Analysis (GBA) samples**

GBA samples (*sensu* Dobney *et al.* 1992) will be selected for processing and evaluation on the basis of archaeological information and questions, and the probability of the recovered remains contributing usefully to interpretation (e.g. source of dumped material, depositional environment, and wider aspects of site economy and environment).

The sediments will be described in the laboratory using a standard *pro forma*. Sub-samples of 1 to 3 kg will be processed for plant and invertebrate macrofossils and for an examination of their overall composition (the amount to be selected according to lithology). Methodology will follow Kenward *et al.* (1980). Recording of recovered remains will be at scan or semi-quantitative level as appropriate. Identification of recovered remains will be made using the standard works and the reference collections of the EAU.

Where appropriate, samples will be investigated for the eggs of parasitic nematodes and/or other microfossils using the 'squash' technique of Dainton (1992).

#### **7.4.3 Bulk Sieve (BS) samples**

BS samples (*sensu* Dobney *et al.* 1992) will also be selected for processing on the basis of their contribution to the research objectives. They may range from a few to several tens of kilogrammes in weight and it is recommended that the methodology for their processing should follow Kenward *et al.* (1980).

#### **7.4.4 Site Riddled (SRS) samples**

All of the SRS samples taken will be processed on site, in order to obtain the maximum finds assemblage at the earliest opportunity. The methodology will follow Kenward *et al.* (1980).

#### **7.4.5 Analysis**

The environmental samples will be recorded by Palaeoecology Research Services (PRS) and the University of York Department of Archaeology. Any conclusions that may be drawn from them will be discussed in the project assessment report, with a view to appropriate analysis and dissemination of the results.

### **7.5 Ceramic spot-dating**

The pottery will be spot-dated to provide basic dating evidence. The ceramic building material will be fully recorded during the excavation, and the bulk re-deposited in the trenches during reinstatement. A sample of about 20% will be retained to represent the forms and fabrics.

## **7.6 Conservation**

The aim of any conservation undertaken on artefacts excavated from York would be to provide data by means of microscopic examination, x-radiography and/or other investigative methods, to assist the analysis and interpretation of the material by the excavator and other specialists, according to the academic objectives of the project.

Any organic and inorganic materials which are recovered during the excavation will be appropriately treated and stabilised to ensure that they do not undergo preventable deterioration once removed from the ground and to maintain their integrity for handling and study, and as part of the primary archive. There will be specialist recording of any materials in respect of which information may be lost in the process of conservation. All conservation work will be undertaken either by or in consultation with the Conservation Services section of York Archaeological Trust.

Any in situ structural elements encountered will be suitably protected on advice from English Heritage prior to backfilling.

## **7.7 Building recording**

Recording of the medieval hospital undercroft and chapel range, particularly those elements directly relating to the below-ground investigations, will be completed. This work will concentrate initially on those parts of the upstanding structure directly linked to the below-ground features investigated during the current excavations. The building will be drawn at 1:10 scale onto permanent drafting film. Measurements will be made by hand using a datum line attached to the standing building. A written record of the structural elements will also be made. The excavation of Trench 6 would involve some analysis and recording of the adjacent foundations and superstructure of the Multangular Tower. The building recording will form part of the educational and training elements of the project.

## **7.8 Outreach and education**

### ***7.8.1. Dates and overview***

The site will be open for visits by members of the public every day throughout the excavation. The admission times will be 10am-4.30pm. Pre-booked parties (including school groups) will be able to visit outside these hours to avoid congestion. Most educational groups (Key Stage 1-4) will visit the site for approximately one hour, sufficient time to view the excavation and explore some of the buildings in the Museum Gardens.

Members of YAT Attractions staff, who are trained and experienced in helping the public understand archaeological sites and finds at the JORVIK and ARC, will introduce groups of visitors to the site and guide them around the excavations. Children will be able to take part in activities such as games and quizzes as they tour the site.

On the National Archaeology Days (17-18 July) and the August Bank Holiday weekend (28-30 August) re-enactment groups relevant to the research aims of the project will be present,

bringing such aspects as medicine, cooking and crafts to life. Events for children and adults will also be provided. Admission to Young Archaeologists Club members will be free on the National Archaeology Days.

Children's structured activities on site will focus on the extraction of finds using sieving equipment and the processing of finds following well established procedures. In addition, there will be guided tours of the standing remains in the vicinity. A small number of Key Stage 2 school groups will be able to take part in hands on activities for up to 2 hour sessions each Monday during July and September. Bookings will be co-ordinated by the Group Bookings Office at JORVIK.

### ***7.8.2 Advertising and public relations***

The excavations will be advertised using established networks established by the YAT at the JORVIK, the ARC and First Stop York. In addition, the YAT and City of York Council websites will be used to promote the excavation. A publicity campaign with local and national press and media will further enhance the profile of the project.

Teachers will be contacted via direct mailings using existing databases used to promote JORVIK and the ARC to the educational community. In addition, direct mailings to local schools will be made using local education authority mailing systems. Courses for teachers will be arranged in order to prepare teachers for visits.

### ***7.8.3 Project website***

The project website will be maintained, providing weekly updates on the excavation and then monthly news of the post-excavation work.

The Trust has outline plans to incorporate interactive elements using the digitally based records of excavations in York; these are currently available on the YAT's website.

The web pages will include the following:

- Information for teachers
- Maps for self guided walks of central York
- Activities for parents and children
- Objects from sites in Yorkshire Museum and YAT collections
- Images, plans, photos, drawings of sites in excavation
- Site records, old newspaper articles, early photographs etc
- Photographs and text describing the project

A partnership between the City of York Council (possibly School Learning Together Project) and York Archaeological Trust will work together to develop web pages on the archaeology of the site for adults including local teachers and children.

#### 7.8.4 Access

The excavations will take place in a central, much visited part of York. Temporary signage on Museum Street will direct visitors and residents to the entrance point adjacent to the library. A route through the excavations avoiding steps will ensure access for wheelchairs, pushchairs, the elderly as well as more mobile individuals (see Figure 2). The final details of the route are currently the subject of discussion with the City of York Council and other interested parties.

In order to control access to the site by the public, 2m-high fencing panels will enclose the excavation area. To ensure the safety of visitors to the site, each of the deeper excavations will also be enclosed separately with 1m-high fixed crowd control barriers along the sides open to the public, and plastic barrier mesh along the other sides.

#### 7.8.5 The education programme

The Head of Education of the YAT, and Jenny Popplewell, an Advanced Skills Teacher (primary) Headlands School, Haxby have devised a programme of activities designed to make the training excavation interesting and relevant for local school children and other visitors. Julie Ward, Education Officer for English Heritage, advised on the development of suitable activities.

For the first year activities suitable for children at Key Stages 2 & 3 will be continued. These will be designed to meet the requirements of the National Curriculum and will include activities that link to both the National Literacy and Numeracy Strategies.

Three levels of explanation will be developed by site based staff.

- 1.1 A basic presentation for casual visitors lasting approximately 30 minutes supported by graphics panels and leaflets
- 1.2 A guided tour of the excavations and standing structures in the Museum Gardens lasting up to 60 minutes. This will be available for pre-booked school and other educational groups.
- 1.3 A series of archaeological activities including site tour, opportunity to meet an archaeologist and specially designed activities to meet the needs of teachers delivering National Curriculum subjects. These visits will last up to 2 hours, and will be led by qualified teachers.

##### 7.8.5.1 Content of site visit for all visitors

Excavations at St Leonard's will reveal deposits and finds dating from much of York's history - from the Roman colonisation to the 20th century. Such a variety of time periods is bewildering to most adults and children who rarely have a well-developed sense of chronology. The educational programme will reflect the well-defined objectives of the excavation. The main way the project will enable visitors to comprehend the site will be to employ well-trained archaeological staff, such as demonstrators from the Archaeological Resource Centre or Interpreters from JORVIK to greet visitors and give carefully crafted oral presentations. These staff will be supported by portable graphics, written guidelines and a small selection of finds

from the YAT teaching collections. In order to enhance public understanding of the excavation simple, clear graphics panels will be prepared by the York Archaeological Trust and fixed in prominent positions for all to view. These will explain the location of the site in relation to the rivers and the Minster, the standing remains visible to visitors and the main features revealed by excavation.

An illustrated A4 folded information sheet will be prepared. Graphics panels adjacent to each trench will be updated regularly.

To summarise, each visitor will have access to graphics, spoken and written information covering the following points:

- The standing masonry visible at the site - Roman fortress wall, the remains of St Leonard's Hospital and the City Wall.
- The aims of the excavation - public archaeology, education, research and management.
- A summary of results to date with a chance to see a selection of typical finds.
- Careful consideration will be given to ensure that the duration of the tour, graphics, text and language level are appropriate for children aged 7-11 years.

#### *7.8.5.2 Additional content for educational groups*

Groups of up to 30 school children and their teachers will be encouraged to tour the excavations, ideally as part of a circuit that includes visits to the ARC, JORVIK and Yorkshire Museum in order to provide an excellent introduction to the archaeology of York. These visits will be pre-booked using the JORVIK booking system and will last for no more than 60 minutes. Half of this time will be spent on site, the remainder examining buildings and building materials within the Museum Gardens. This arrangement will allow a maximum of 10 groups to visit each day between the hours of 10.00am and 3.00pm. The activities will be led by site-based staff, and where possible introduced to teachers in special open days/familiarisation sessions.

School and other educational groups will be encouraged to appreciate the extremely rich architectural heritage of the buildings and ruins present in the Museum Gardens. Groups will be encouraged to observe and identify the most common kinds of building materials represented in Museum Gardens. This includes large and small limestone blocks, rubble, concrete, timber, brick and tile. Visitors will take part in activities that will enable them to observe the effects of weathering, and to trace evidence for repair and rebuilding. They will, of course, also visit the excavation.

The following are tried and tested activities known to be successful with school groups visiting the Museum Gardens will be developed by a small team of local teachers and other interested parties charged with will be undertaken:

- Examination of the kinds and condition of building materials in the Fortress Wall in Museum Gardens - small limestone blocks (*saxa quadrata*) with tile course (Roman work) large ashlar blocks (medieval and later) and bricks.

- Comparison of the condition of the Roman masonry in two places, in Museum Gardens where there has been much erosion over last 1800 years and in sections excavated in 1970s where blocks are more angular and false jointing is visible.
- Observation of the straight line of the wall running south-west towards Museum Street and the curvature of the wall towards the Multangular Tower.
- Comparison of the battered lower courses of the Multangular Tower and the vertical lower course of the majority of the wall.

These activities are designed to enhance teachers' and pupils' understanding of the built environment.

#### *7.8.5.3 Special group visits with hands-on activities lasting 2 hours.*

A range of specially designed activities devised by the project's education team will be provided for a small number of local school groups. These activities will also be offered to youth groups willing to visit after school hours and as part of summer schools during the school holidays. Funding for this aspect of the project is being sought from the New Opportunities Fund in collaboration with the Study Support team of the City of York Council.

Activities developed with schools will be offered on National Archaeology Days and selected open days. Teachers and placements students will assist with the tuition in order to maximise the educational value.

Children under 16 years of age will be encouraged to examine the site in its surroundings, get involved with finds processing, coarse and fine sieving and recording masonry. For safety reasons, excavation will not be offered to individuals under 16 years of age.

Other activities which will be considered will include: scale drawing of walls, planning Roman bread oven, investigating coffins, and identifying different kinds of building materials using pre-printed worksheets.

Experimental archaeology, both academically driven experiments and those that have a more didactic purpose, are also seen an essential element of this project. They provide opportunities for visitors to take part in activities of relevance to the archaeology of the site and enable those unfamiliar with archaeological evidence more fully to comprehend the significance of ancient finds. Furthermore, artistic events using costumes, music and drama will be developed if external funding is granted.

Breakdown of visit:

- A 3-hour visit might break into the following compartments:
- 30 minute introductory talk/guided tour of excavations (group together)

On site and at Lendal Hill House or other suitable location, the group will be divided into 3 groups of 10 and rotate round the following activities:

- 45 minutes trowelling and sieving deposits for finds
- 45 minutes washing/processing finds
- 45 minutes processing and sorting environmental samples

Alternative activities might include:

- Recording and drawing length of Roman or medieval wall
- Describing artefacts in detail (group of 10 pupils)
- Listening/watching oral history video of York people describing the City during WW2 (whole group).

#### *7.8.5.4 Special events for local groups*

A series of special open evenings will be arranged for certain groups of local residents. Those with special needs will be contacted through the City of York Disabilities Officers and York Council of Voluntary Services to ensure opportunities for local people who might otherwise not be able to visit the site.

## **7.9 Training**

The basic structure of 1-2 day, 1-2 week training courses and longer placements will be continued. In view of the technical nature of the archaeological work and the increasing depth of the trenches, there will be a minimum age limit of 16.

### *7.9.1 Taster sessions (1-2 days)*

To cater for individuals developing an interest in the subject who are unable or unwilling to commit to a module, taster sessions will be offered. These will introduce people to the conditions and working regime on an archaeological excavation. Basic excavation and finds processing techniques will be taught. Visits to JORVIK and the Archaeological Resource Centre will also be included in these packages.

Particular taster sessions will be promoted to teachers as soon as the site is able to receive trainees. By offering 1- or 2-day introductory archaeology courses the Trust will make a small contribution to improving the teaching of history and archaeology at Key Stages 2-4. These sessions will also allow teachers to try for themselves the activities developed from educational groups.

Special taster sessions will also be offered to members of metal detecting clubs, local archaeology and history societies.

Tasters will be run throughout the season. Taster trainees will not work in the deeper trenches due to the additional Health and Safety implications, or where the archaeological deposits

require appropriate investigation by Module trainees and placements. The maximum tutor to Taster trainee ratio will be 1:4.

### ***7.9.2 Training courses (1-2 weeks)***

1-week modules in excavation and finds and sample processing will be provided for people wishing to develop a more detailed, practical understanding of archaeological fieldwork. In addition there will be a 2-week course that will provide a thorough introduction to excavation, site recording and stratigraphic analysis. The modules are designed to be taken either singly in whichever area a person is interested; or in combination.

Young people over the age of 16, students and adults interested in archaeology (e.g. those who enrol for evening classes, join local archaeological or metal detecting societies) will be the prime target groups who will be invited to take part in the training excavation modules.

The excavation modules will deal with excavation, recording, stratigraphic analysis and finds processing. Returning module trainees will be taught additional skills including photography, building recording, surveying, computer inputting, site interpretation and cultural heritage management. The trainees will follow the YAT single context recording system. There will be finds and environmental sample processing and analysis elements which will allow the relationship between the contexts and their finds to be considered.

The finds and environmental sample modules will teach the processing and analysis of the finds and samples. The material used will be from contexts selected to provide a range of finds, along with samples with good environmental potential. The information that the finds assemblage can provide in terms of context status and site formation processes will then be considered.

The context of the work in each module in relation to the project aims and the wider history of York will be explained. Visits, tours and lectures both during and outside site hours will form part of the modules.

The tuition will be provided mostly by YAT staff. The main exceptions are environmental sampling and sample processing, which will be taught by a 3<sup>rd</sup> year placement from Bradford University under the supervision of Dr Andrew Jones of Bradford University/YAT.

The tutor to Module trainee ratio will generally be 1:4 for the practical elements, and 1:10 for the classroom/lecture parts.

### ***7.9.3 Placements (about 4 weeks)***

Around six placements will be involved at a time, making approximately 20 possible places. They will comprise archaeology undergraduates and former module trainees. The placements will be in excavation, finds administration, environmental sampling, stratigraphic analysis, presentation to the public and children's activities.

The placements will assist with the running of the project, but at the same time will receive in-depth training in those aspects of the project they are involved in, and cultural heritage

management. Assessment will be provided to fulfil individual goals or course requirements if necessary.

### **7.10 Storage**

During and after the excavation phase of this project, all objects will be stored in the appropriate materials and storage conditions to ensure minimal deterioration and loss of information. They will be stored so that there can be rapid access on demand.

All storage will have an appropriate level of security provision. Small finds will be kept in accommodation which has been approved by the Area Museums Service or the Yorkshire Museum. The finds archive must be kept in this secure accommodation.

The archive will be complete within three months of the end of the excavation phase of this project.

### **7.11 Backfilling**

Backfilling will be undertaken at a time agreed with the City Council immediately following the end of excavation. It will be carried out to a specification agreed between the site owner and York Archaeological Trust with the aim of returning the site to its condition immediately prior to the proposed work beginning. This will include the replacement of the grassed areas.

### **7.12 Health and Safety**

A full health and safety policy prepared by York Archaeological Trust is attached.

A risk assessment for the work will be undertaken by York Archaeological Trust prior to the project and the results made available in good time to all interested parties.

### **7.13 Completion of Site Archive and Assessment**

The combined data from the 2001-4 excavations will be ordered and prepared for archive according to the provisions of MAP2, Appendix 3. The written records, including finds information, will be computerised, and the drawn record digitised. A site narrative will be completed with 6 months of the end of the 2004 season.

The general public will be kept informed of progress with the site archive on the project website. The IADB records will be accessible, as will the documents, reports and images that are created as part of the archive. The objective is to keep interested parties informed of developments, and to demonstrate to the public the importance of the post-excavation work.

The completion of the site archive will be followed by the preparation of an Assessment Report of the site archive's potential for further analysis (MAP2, Appendix 4). The archive and assessment will be made available to the City Archaeologist and English Heritage within 2 years of the completion of the excavation.

It is not intended to undertake any further fieldwork beyond that outlined in this project design.

#### **7.14 Proposals for Analysis and Publication**

The analysis required will be undertaken as part of the St Leonard's Hospital excavation project, and will be funded by YAT. An electronic, web-based report will be created, linked to the site records and assessment data. This will be an interactive report, accessible to the general public. It will be available within 4 years of the completion of fieldwork.

Subsequently, the published information may be incorporated into relevant volumes of the *Archaeology of York* or a suitable academic journal, subject to the agreement of English Heritage and City of York Council.

#### **7.15 Project Team**

##### ***7.15.1 Project team***

The excavation team will be directed by Kurt Hunter-Mann with the assistance of Neil Macnab, both Field Officers with the York Archaeological Trust. The team will consist of at least 5 fully experienced archaeologists (including a finds assistant) who have at least two years excavation experience. There will be about 12 trainees on site at any one time, and a smaller number involved in finds work and other tasks at Lendal Hill House.

The finds and surveying modules will be taught mainly by experienced YAT staff from its excavation, finds, conservation and education departments.

##### ***7.15.2 Education and tourism team***

The York Archaeological Trust has a long tradition of running projects that involve professional staff, students undergoing training and volunteers, often highly committed and skilled individuals. The project will continue to draw on this range of staff to assist with excavation, finds work and public presentation to maximise participation and cost-effectiveness.

The education of both trainees and visitors will be overseen by the Trust's Head of Education with input from Jenny Popplewell, an Advanced Skills Teacher (primary) Headlands School, Haxby. Other individuals will be involved with delivering the activities with educational groups.

Presentation of the site to visitors will be undertaken mainly by experienced and specially trained members of the Trust's Attractions Division. Some placements and excavation and finds staff will assist when appropriate.

##### ***7.15.3 Post-excavation team***

Stratigraphic analysis and assessment report compilation - Kurt Hunter-Mann and Neil Macnab  
Roman pottery - Vivien Swan  
Post-Roman pottery - Ailsa Mainman and Anne Jenner  
Small finds - Nicky Rogers

Ceramic building material - Sandra Garside-Neville and Jane McComish

Architectural fragments - Jane McComish

Slag and metal-working residues - Cath Mortimer

Leather - Ian Carlisle

Environmental material - Allan Hall, Harry Kenward and Terry O'Connor (Department of Archaeology, University of York; John Carrott and Debbie Jacques (Palaeoecology Research Services)

Finds conservation - Jim Spriggs and staff

Computing - Mike Rains

Illustrations - Lesley Collett and Russell Marwood

Editing – Frances Mee and Patrick Ottaway

#### ***7.15.4 Resources and Timetable***

School groups and general public visitors to the site will be charged a fee sufficient to cover the costs of the staff providing the educational input. The trainees will also pay a graduated fee for their training packages; this will also cover the cost of the post-excavation and assessment.

All excavation and post-excavation work will be undertaken by appropriate specialists employed by, or on behalf of, YAT. All retained finds will be deposited in the Yorkshire Museum. On the completion of the assessment a programme of appropriate analysis and publication will be identified. This will be funded by York Archaeological Trust and will be completed within an agreed timescale.

The excavation will be completed in 2004. The archive production, site narrative and assessment are scheduled to be completed by October 2006. An updated project design would then be compiled.

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