



# **Archaeological Investigations at the New Entertainment Venue, Frankwell, Shrewsbury Shropshire**

County of Shropshire

Post-excavation assessment and updated project design

October 2010



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## **Executive summary**

*From 2005-07, in advance of the construction of the new civic theatre, known as the New Entertainment Venue (NEV) or the Severn Theatre or situated in Frankwell, Shrewsbury, there was intermittent, but comprehensive programme of archaeological and geoarchaeological investigation of the site of the Old Welsh Bridge and its environs. The 2005 fieldwork was undertaken by Glamorgan-Gwent Trust (GGAT), and all the subsequent work by the Museum of London Archaeology (2006-07).*

*The main results of this programme of work were investigation of the surviving portion of the Old Welsh Bridge (the northern most arch of the medieval and later structure), its unique sequence of defensive bastions, the remains of medieval and post medieval buildings adjoining the northern bridge approach road including part of the cemetery of St George's Hospital (established before c 1160). In the western portion of the site geoarchaeological investigation revealed a sequence of riverine deposits spanning from the late glacial to the post-medieval periods. Here there was a massive masonry abutment and a barge quay associated with the construction of the new Welsh Bridge (1793-95) some 60m downstream of the earlier one. The construction of the new bridge was a catalyst for a number of major changes within the area of site. Firstly, a huge area of the existing river inlet was reclaimed, moving the shoreline some 30 to 35m southward. Second, all the old bridge apart from the northernmost arch (the dry arch) and its adjoining southern pier was demolished. This masonry was retained as a landlocked alleyway to serve the existing properties on either side of the bridge. During the early 19th century a series of brick-built, cellared buildings were constructed around the remains of the bridge and the arch was incorporated into the cellars of one of these properties. These properties were demolished in c 1960, and afterwards the area was used as temporary car parking until 2005.*

*This report is intended to inform the reader of the results of the excavation at the NEV what was found on the site; what post-excavation analysis work has been done so far; what work still needs to be done and why; and how and where the results of the excavation should be made public. It is proposed that the site sequence be published as monograph (produced as one of the volumes of the Shropshire Archaeological and Historical Society Transactions) and that aspects of the sequence of bridge defences be published as part of the papers from the 2009 Archaeology of Bridges, International Congress held at Regensburg. The report is written and structured in a particular way to conform with the standards required of post-excavation analysis work as set out in Management of Archaeological Projects (English Heritage, 1991).*

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# 1 Introduction

## 1.1 Site location

The New Entertainment Venue now known as ‘the Severn Theatre’ hereafter referred to as ‘the site’, is located in Frankwell, a suburb of the town of Shrewsbury, Shropshire (NGR 34854 31284) situated at the north end of the Welsh Bridge (Fig 1). The site is bounded to the east by a number standing buildings (former Antiques Market) belonging to Frankwell Quay, to the north by Frankwell Quay and the former chapel (latterly a tyre centre, which has been retained and incorporated into the development), to the south by the River Severn and to the west by the Welsh Bridge and the buildings of Frank’s Bar (which are outside the development).

## 1.2 The scope of the project

The Planning and legislative background to the site was summarised in the original *Heritage Desk Study* (Hughes 2005a) and the *Archaeological Mitigation Planning Application (issue 1)* (Hughes 2005b). These documents highlighted the importance of the remains of the Old Welsh Bridge (OWB) and helped determine the scope of the subsequent fieldwork (Bateman 2006). The resultant fieldwork in 2006 had three themes (site code NEV06). First, the recording of the upstanding masonry of the bridge arch and its adjoining structures to assist with the conservation and repair of the standing masonry by Richard Strachey Conservation during spring 2006. Secondly, the geoarchaeological investigation of the riverine sediments undertaken in connection with the Exeter University, Department of Geography (Allan and Brown 2006). Thirdly, the archaeological investigation all of the structural remains associated with the OWB and its environs, to assist Arup Geotechnics with the formulation of an archaeological mitigation strategy (Hughes 2005b).

From November 2006 until June 2007 further fieldwork was undertaken during ground works at the instruction of the County Archaeologist Mike Watson, the new foundations of the NEV, within the vicinity of the remains of the OWB were archaeologically investigated. The new foundations consisted of a network of piles/ground beams, plus some deeper features such as lift pits. However, the new foundations on the western part of the site where relatively little of archaeological interest survived close to the modern ground surface were not investigated. This work was undertaken on an ad-hoc basis.

In May-June 2007, the final phase of fieldwork consisted of the controlled excavation of the area to the north-east of the bridge masonry where part of the cemetery of the medieval hospital and extensive multi-period structural remains were recovered (Fig 2). The aim of this report is to combine all the 2005-07 fieldwork into a single data set.



Fig 1 Site location

### 1.3 Circumstances and dates of fieldwork

In May-June 2005, the Glamorgan-Gwent Trust undertook an evaluation of the site of the New Entertainment Venue (NEV), latterly known as the Severn Theatre at Frankwell quay, Shrewsbury (Higgins 2005; Evans *et al* 2006). Twelve trenches were dug by machine to varying depths (Higgins 2005, fig 3) (Fig 2). However, as the level of recording undertaken apparently varied considerably the descriptive data is generally poor and some of it is difficult to reassess. During 2005, three deep boreholes were drilled on site by Geotechnical Engineering Ltd, down to bedrock, this data has been used to supplement the subsequent geoarchaeological work, as the commachio and precusssion boreholes could not be drilled to this depth due to the unstable sediments and the amount of ground water (see 1.2 and 5.16). Copies of the 2005 geotechnical borehole logs are included in NEV06 archive. Only after the 2005 evaluation was completed was a desk based assessment undertaken, which gave this initial fieldwork a spatial and historical context which it desperately needed (Baker 2005). The stratigraphic, finds and environmental archive from this fieldwork is held by GGAT (project A997, site no 552). The significant contexts from each of the GGAT evaluation trenches were renumbered [450-617] to fit the MOLA data set, site code (NEV06).

The evaluation work led to a comprehensive programme of fieldwork during February-April 2006 (Bateman 2006), the scope of which is outlined above (see 1.2). From November 2006-April 2007, ground works within the environs of the Old Welsh Bridge was monitored, this work entailed recording and excavating various threatened deposits and structures (Phillpotts 2007). No further fieldwork was undertaken on the western portion of the site. During May-June 2007, the final phase of fieldwork consisted of the controlled excavation of the area to the north-east of the bridge masonry (Watson 2007). This work included the excavation of part of the cemetery attached to the medieval Hospital of George. A licence for the removal of human remains was issued by Department of Constitutional Affairs under Section 25 of 1857 Burial Act (Accidental Licence No 07-00019, granted 20/3/07).

The 2006-07 fieldwork was directed by Bruce Watson. The upstanding bridge masonry, which is not listed or scheduled has been now preserved by reburial under the main stage of the NEV. The medieval and post-medieval masonry adjoining the bridge pier including the bastions suffered some damage from a combination of ground reduction, the excavation of ground beam trenches and pile probing. This work was monitored and the affected deposits and structures recorded before truncated or destroyed. Every effort was made to minimise the destruction of structural remains. The Shrewsbury Severn Theatre opened in March 2009 and the bridge arch is now buried under the main stage.

### 1.4 Organisation of the report

The *Post-excavation assessment and updated project design report* is intended to sum up what is already known and what further work will be required to reach the goal of a well-argued presentation of the results of recording and analysis.

The principle underlying the concept of post-excavation assessment and updated project design were established by English Heritage in the *Management of Archaeological Projects 2* (MAP2), (1991).

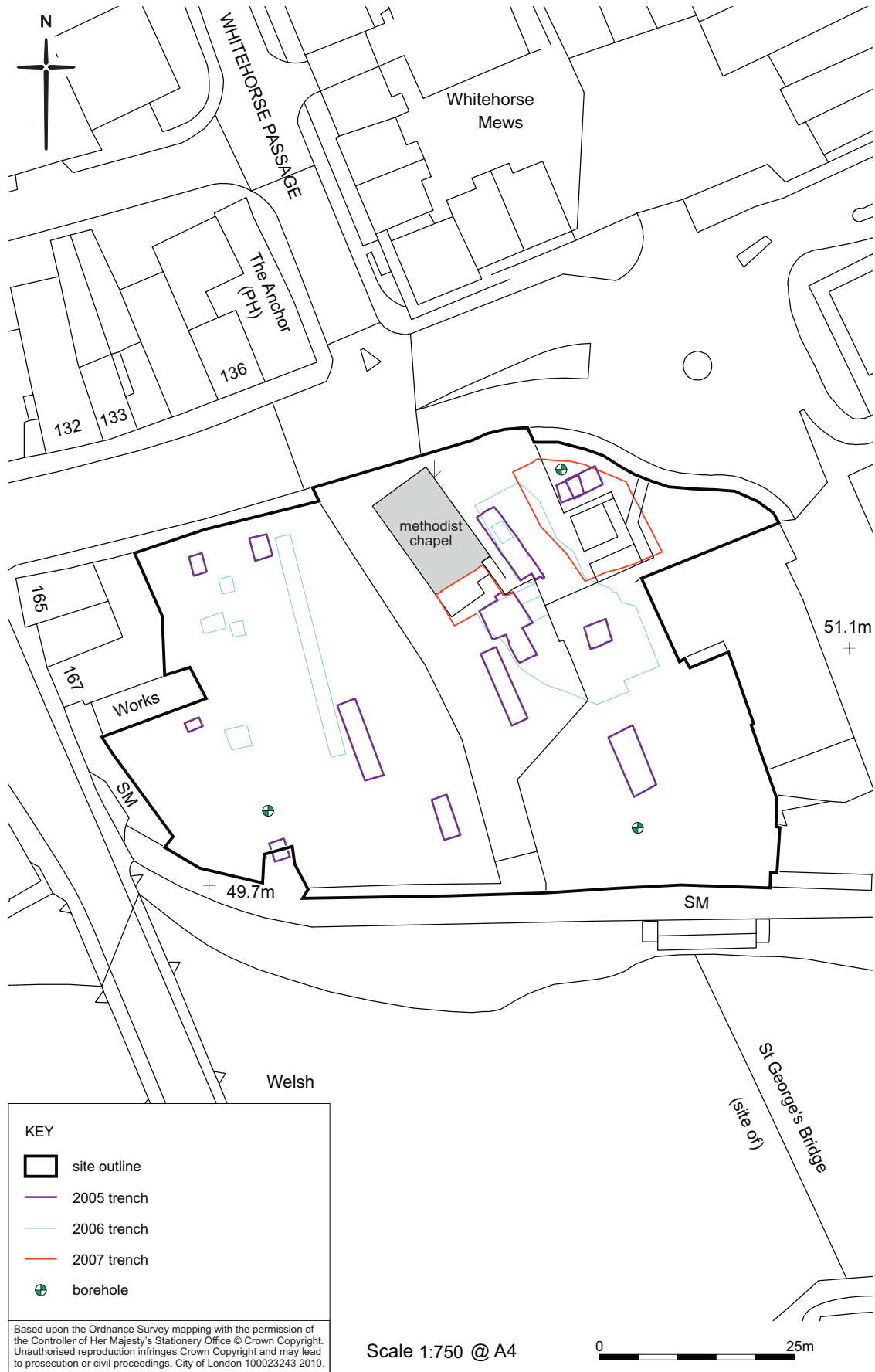
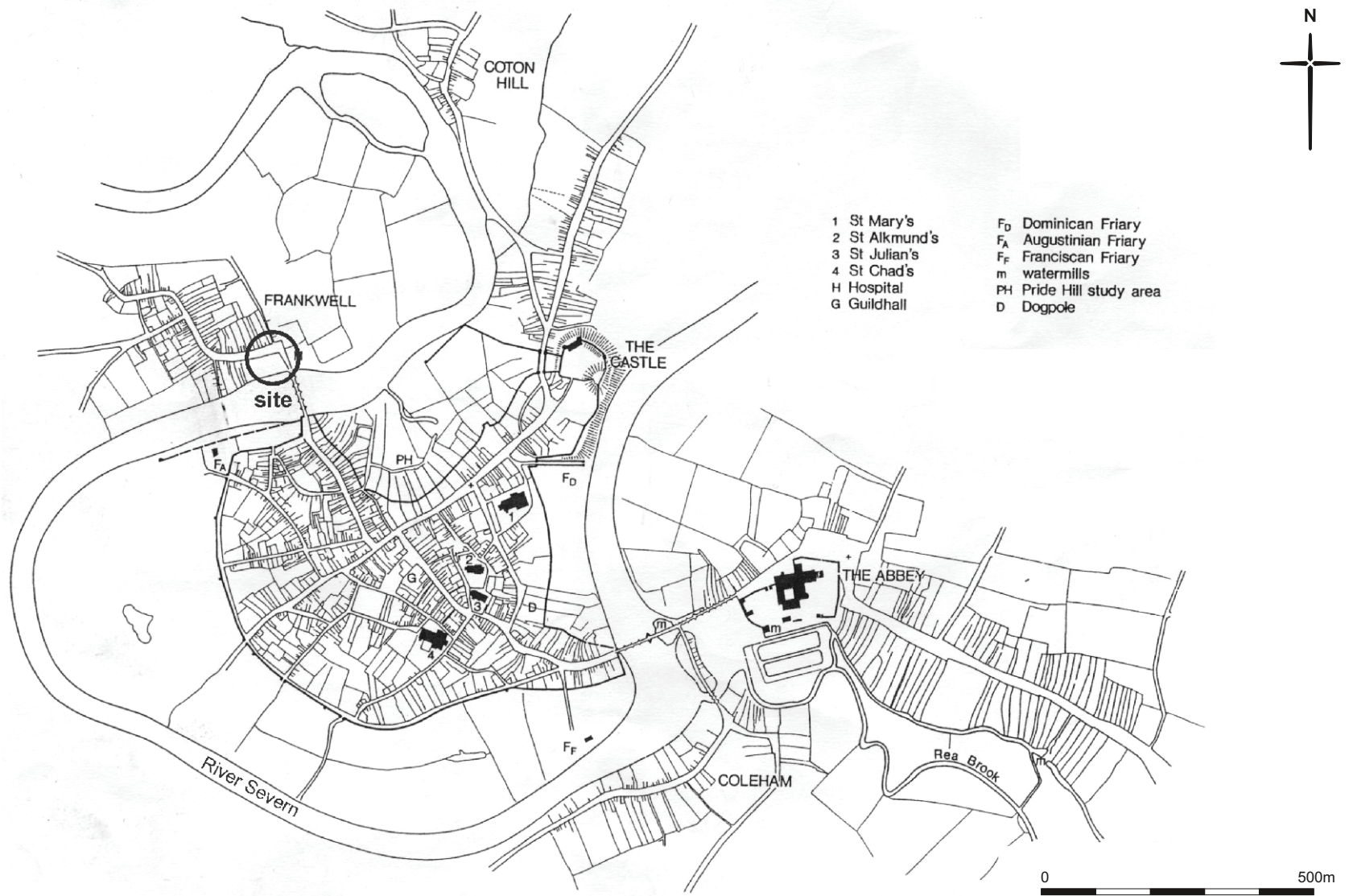


Fig 2 Areas of archaeological intervention 2005-07



SHR01002PXA10#03

NEV06 Post-excavation assessment © MOLA 2010

Fig 3 Map of historic town showing the location of the Welsh and English Bridges and the castle

## 2 Historical and archaeological background

### 2.1 Topography and geology

Shrewsbury is a town that is defined by the meanders of the River Severn. It is unusual for a major river this close to its headwaters to possess fully developed meanders (Fig 3). The reason for existence of these meanders is the fact the Severn today follows the infilled course of a huge late glacial (Devensian) melt water channel or subglacial scour which eroded a massive trench through the underlying solid geology (see section 2.1 and section 4; OA1 and 2). This channel was subsequently infilled with silts and sands. It is believed that the Shrewsbury stretch of the upper Severn originated as a glacial meltwater channel (OA3), which simply following the line of the larger pre-existing channel. So today the Shrewsbury stretch of the Severn occupies a flat river valley created by much a larger river and infilled with soft sediments, which can easily be eroded hence the development of meanders. Due to the presence of meanders it is likely there has been a certain amount of channel migration within the vicinity of the site, topographically the site could be described as within the inside of the Frankwell meander, where deposition rather than erosion of sediments would be the norm. This meander created an inlet on the downstream side of the Old Welsh Bridge (OWB), which is shown on historic maps.

Shrewsbury lies within the Carboniferous coal bearing strata known as the Shrewsbury Coalfields. The Frankwell Quay site lies on the on the very edge of the area mapped as Erbistock Beds on the BGS Solid and Drift Geology map 152. This forms the highest subdivision of the Carboniferous Upper Coal measures. The Erbistock Beds comprise the Keele and Enville Beds which consist of red marls and sandstones with pellety calcareous lenses and a breccia (clasts of different lithologies cemented together) at the top of the sequence. Outcrops of the Erbistock beds occur flanking either side of the Severn a short distance downstream of Frankwell.

#### 2.1.1 Quaternary deposits

The BGS mapping shows that the solid geology in the Shrewsbury area is covered by a mosaic of landforms of glacial and fluvio-glacial origin. This is due to the location of Shrewsbury within the extent of the Late Devensian ice sheet which reached its maximum extent during the Late Glacial Maximum of the Dimlington Stadial c 20 to 18 000 years ago. During the Devensian Glacial period the area was covered by ice sheets which first advanced from across the Irish Sea across the Cheshire plain towards the Ironbridge Gorge around 40,000 years ago. A later readvance of ice reached as far as Shrewsbury spreading down the Severn Valley from the Welsh mountains (Baker et al, 2002; Earp and Haines, 1982; Pannett and Sutton, 2002)

As these ice sheets retreated a thick mantle of boulder clay (or till) was deposited across the landscape along with gravel mounds formed by moraines and outwash gravels deposited by the glacial meltwaters. Of particular interest in the Shrewsbury area is a deep subglacial scour which runs northwest to southeast across the Cheshire plain towards the Ironbridge gorge. This deep trench was scoured out by meltwaters under high pressure beneath the Irish Sea ice sheet. In the vicinity of Shrewsbury Abbey this trench is known to be at least 60 m in depth (Baker et al, 2002).

As the Irish Sea ice retreated this subglacial trench began to infill with sand and gravel deposits washed into the trench as the glacial melt waters drained towards the Ironbridge Gorge. However in places, stranded blocks of glacial ice impeded the drainage giving rise to standing bodies of water within the channel belt. Underneath Shrewsbury Abbey the

presence of 30m thick laminated red clay suggested the deposition of sediment from suspension in still standing water conditions, probably where the water had become trapped between gravel ridges and stagnant ice (*ibid*).

When these blocks of ice later melted the surface collapsed creating Kettle holes. These Kettle holes often formed lake features in the Holocene period, which subsequently infilled with fine grained organic sediment. These 'Meres and Mosses' have provided important records of Holocene environmental change which stretch as far back as the Late Glacial period (Beales, 1980; Barber and Twigger, 1987; Chambers et al, 1996)

By 20,000BP the river began to cut a more orderly channel into this landscape. However the presence of glaciers further upstream still resulted in huge meltwater discharges, heavily laden with coarse sediment causing the river to either braid into multiple channels or to meander over a wide gravelly floodplain (Pannett, 1989). During the last stages of deglaciation these meltwaters appear to have incised through these gravel spreads leaving them as terraces at higher elevations. Unlike the Thames, which holds a record of terrace formation stretching back to the Anglian Glaciation (c 500,000 years ago), these terraces all date to the Late Devensian.

The plan-form of the Severn today has largely inherited the wide channel belt created by the subglacial scour, causing the Severn to develop wide loops and meanders which respect this previous channel. Meandering channels usually develop tighter meanders over time due to processes of erosion and lateral migration on the meander bends. With the Severn this does not appear to have happened, suggesting the channel has remained in a fairly stable state over the Holocene period. However, the wide channel belt has gradually infilled with fine grained sediment during the warmer Holocene period forming the present floodplain.

Although the Severn may have been relatively stable during the Holocene it has still been subjected to changes in flow pattern and plan-form. This is especially apparent in the presence of old meander loops which have become cut off by chute channels, formed oxbow lakes and subsequently infilled with fine grained organic deposits. One of these abandoned meander loops occurs a short distance to the north of the Frankwell site as is known locally as the 'Old River Bed' (Pannett, 1976).

## 2.2 Prehistoric

It is fairly certain that some of the undated riverine deposits examined in boreholes are of prehistoric date (see 5.16), but there is no other evidence of prehistoric activity artefacts known from the site.

## 2.3 Roman

The only evidence of Roman activity on site consists of single illegible *nummus* <6> was recovered from context [199], the backfill of a modern service trench. The coin is tiny, being only 10.5mm in diameter and probably dates from the late 4th century. It may have brought here from the nearby urban centre of *Viroconium Cornoviorum* (Wroxeter). There is also one probable Roman tessellated brick (see 5.3.1), which is believed to have been brought to the site during the post-medieval period.

## 2.4 Saxon

Geoarchaeological work carried out on site has revealed the full sequence of the post-glacial riverine sediments. Over time within this natural inlet there was continued build-up of slow flowing or standing water type sediments. Plant remains show there was vegetational development along the water's edge (the foreshore). Two organic sandy



silt lenses, containing plant remains have radio-carbon dated (OA4). The lower one [617] dated to Cal AD 630-710 (Beta 216903, 1360+/- 40 BP), and upper one [611] to Cal AD 540-660 (Beta 216902, 1460+/-40 BP). In historic terms these dates fall within the early/middle Saxon period (c AD 400-850) and predate the establishment of Shrewsbury by several centuries. It is believed that Shrewsbury was established during the early 10th century as one of a network of *burhs* or fortified places within the county. Pollen of Saxon date shows a river meadow landscape of grass and wetland trees, but the presence of mixed woodland and cereal cultivation nearby is also indicated (see 5.15).

## 2.5 Medieval: Frankwell and the Old Welsh Bridge

When the Old Welsh Bridge (OWB) was constructed is uncertain, but it was probably in existence by 1121, when a charter refers to two bridges (presumably the English and Welsh) in the town (Rees 1975, Nos 42, 47b). It is possible that the early 12th-century OWB was constructed of timber not masonry (Fig 3). The previous river crossing was a ford some 150m downstream of the OWB. In 1155 the OWB was described as 'St George's Bridge', because of the proximity of St George's Hospital to the Welsh Gate (Gaydon 1973, 105; see below). In 1262 there is a record of the receipt of tolls from the OWB (Ward 1935, 126). It has been claimed that there was a royal charter of 1284, which allowed the town to collect for three years for the repair or rebuilding of the OWB. Apparently this period of collection was extended for a further five years (Ward 1935, 127). This would imply that a major rebuilding of the bridge took place during 1284-92. Research to date has failed to locate this charter in the published lists and its citation therefore may be a mistake (HMSO 1906, 217-79). On 10th October 1283, there was 'grant to the bailiffs, burgesses and other good men of Shrewsbury in extension of former grant of pavage for three years from All Saints next' (HMSO 1983, 115). On 22nd October 1291, there was another grant to the bailiffs, burgesses and other good men of Shrewsbury in extension of former grant of pavage for three years, in extension of a former grant (type not stated of grant not stated) (HMSO 1893, 447). It is possible that Arthur Ward may have confused 'pavage' with 'pontage'. On 21st February 1284 in the Calendar of Patent Rolls one John de Norff a monk of Burton-upon-Trent was keeper of the works of the bridge was granted a protection with clause *rogamus* for two years to allow him to beg for alms to rebuild the bridge which had been partly 'swept away by flood' (HMSO 1893, 115). This reference clearly does not refer to Shrewsbury.

It is clear from residual 10th-century pottery recovered from the medieval overbank flood deposits on the bridge approach that there was some late Saxon activity here (OA5) (Fig 4). The medieval suburb of Frankwell developed on the opposite bank of the Severn to the town, along the approach road to the northern end of the OWB, as result of a result of the traffic and trade the bridge would have attracted. Frankwell was first documented in c 1222 as *Frankevilla*, meaning free town, free in this context in relation to the surrounding feudal countryside. The implication of the name is that this suburb was relatively new addition and was trying to advertise the fact that it had the same rights and privileges as the town on the opposite bank. There is some evidence of medieval settlement including pits (OA7), timber structures (S1 and 2) and the foundations of a substantial masonry building (B4), which probably had a timber-framed superstructure like the surviving late medieval examples in the town. The backfills of S1 and S2 both contained large amounts of iron smithing slag (see 5. 9).

By 1155 the Hospital of St George was in existence to the north-east of the Welsh Gate (its location can be established with some precision from a deed of 1476), but its exact spatial relationship with the areas excavated remains to be determined. For instance, it

may have been situated some distance back from the street frontage. It was referred to in an early 13th-century indulgence as a hospital, but thereafter it was generally referred to as a chapel, which may indicate that its role changed during the late 13th century. In 1278 a chantry was established at the chapel by the Cole family, who owned a lot of land in Frankwell and claimed during the 15th century that they owned the chapel (Gaydon 1973, 105). The five supine burials discovered to the east of the bridge approach road are interpreted as part of the (undocumented?) hospital cemetery attached to its chapel. One of these burials [925] has been radiocarbon dated to c AD 1260-1390 (OA 8). The OWB was also known as St George's Bridge because of its proximity to the hospital (see above). It has been suggested that Richard Pigot (died c 1369), Warden of the neighbouring Hospital of St John the Baptist, may have annexed St George's chapel to also serve his own institution, as his will stipulated he was to be buried in the chapel of St John and St George, which implies that an ecclesiastical merger had taken place (Gaydon 1973, 107). In 1463 St George's Hospital was either taken over by or merged with the neighbouring Hospital of St John (the exact location of this hospital is uncertain, but it was probably situated on the same side of the bridge approach road as St George's, but slightly further north). It appears that St George's chapel may have been closed before the Dissolution, as it is not mentioned in the hospital estate during this period. In 1523 some part of St John's Hospital building apparently including its chapel was leased. In 1564 it is documented that the Cole family were in possession of 'all that void place or ground' formerly St George's chapel 'nigh the Welsh Gate'. This plot of land extended from 'Cole's Almshouses' to 'the king's highway leading towards the Severn' (Barker 2005). This confirms that St George's Hospital chapel had been demolished by this date, but it also shows that part of St John's Hospital survived the Dissolution as almshouses, which remained until the 17th century (Gaydon 1973, 105-107). The history of these two hospitals because of their very close proximity and later relationship is difficult to untangle. St John's Hospital the existence of which was not recorded until the 1220s was clearly the later of the two institutions.

### **2.5.1 The Welsh Gate**

During the 12th century this stretch of the Severn served as the frontier between England and Wales, so both the English and Welsh Bridges were fortified as they served as part of the town's defences. The foundations of an undated sandstone trapezoidal building on the approach to the Old Welsh Bridge (OWB) are interpreted as a gatehouse probably associated with the 12th-century bridge (B1) (Fig 4). As this structure is on a slightly more easterly alignment than the present masonry bridge it is possible that it was associated with an unlocated earlier phase of timber bridge, which was on a slightly different alignment to the present one. During this period overbank flood deposits were accumulating on the area of higher land (OA5), to the east of the bridge approach road (R1).

During the 12th or 13th century it appears that the fortifications of the northern bridge approach were replaced by a pair of square sandstone rubble bastions (each side of the pier between the first and second arches of the bridge), presumably joined by a gatehouse which spanned the bridge roadway (B2) (Fig 5). Perhaps this rebuilding of the defences was linked with the construction of a masonry bridge.

The existence of the western bastion is conjectured. The only dating evidence for this phase of fortifications are a few sherds of late 12th or 13th-century pottery recovered from the levelling dumps, which sealed the truncated remains of first east bastion (B2; G19), the second eastern bastion (B6) was constructed on these dumps. The eastern bastion was discovered by the excavation of trenches through the floor the 19th-century cellars on the east side of the surviving bridge arch. It is probable that the

rebuilding of the defences was connected with the extensive rebuilding of the bridge or perhaps the construction of a new stone bridge.

During the 13th or 14th century the bastions were rebuilt on a larger scale and faced with sandstone ashlar (B5 and 6). The new east bastion possessed a diagonal southern end and the plan of the west bastion is partly conjectural, but it is likely that it was rebuilt to match the other one (Fig 6) and Fig 7. It is clear the new bastions were not quite, but the crucial thing about them is they extended across the line of the northernmost bridge arch, so either this arch did not exist at this period or it was blocked by their construction. This gatehouse was shown on the Burghley map of Shrewsbury c 1575, it is labelled 'ye Welsh Gate'. Incidentally, on this map the OWB is shown as possessing four arches which is incorrect (see below, discussion on the number of arches). The Welsh Gate served as a barbican to protect the main gatehouse the Mardol Gate at the southern end of the bridge from surprise attack. A similar arrangement of a gatehouse and a drawbridge tower also existed on medieval London Bridge. Also the defences of the English or Stone Bridge on the Burghley Map (c 1575) show two separate structures confirming the existence of a gatehouse (stone gate) and barbican or 'drawbridge tower' with twin bastions (referred to in 1510-11, see Ward 1935, 14-17).

In c 1543 John Leland wrote 'there are 2. great maine Bridges of stone on the wholl River of Severne at Shrewsbury. The greateft, fayreft and higheft upon the streame is the welth Bridge having 6. great Arches of stone, foe called becaufe it is the way out of the Towne into Walles. This bridge ftandeth on the Weft side of the Towne, and hath at one End of it a great Towre to prohibit Enimies to enter into the Bridge' (Herne 1769, 99; Leland first part iv fol 180b). Note – in Chandler's version of Leland's *Itinerary* (1993, 388) the number of arches is not cited. By 1795 the OWB possessed seven arches due to the shortening of the bastions of the Welsh Gate (see 4.10). The two portions of the English Bridge were also described by Leland. The eastern part of the bridge which spanned the Meole Brook consisted of three arches and the western portion over the Severn of possessed 'four great arches' plus a fifth spanned by drawbridge (Herne 1769, 99). In 1756 the western portion of the English Bridge spanning the Severn had six arches, one of which was formerly spanned by a drawbridge. The sixth arch was only added to the east end of the English Bridge in 1732 and Coleham Island (which then separated the Meole Brook and the Severn) was spanned by the seventh arch of the bridge (Ward 1950).

### **2.5.2 Post-medieval modifications to the Welsh Gate**

It is believed that construction of Frankwell Quay (S3 and 4) due west of the Old Welsh Bridge (OWB) in 1608, was linked the modification the bastions to reduce their size (B8 and 11) (Ward 1935, 132) (Fig 8) and (Fig 9). This shortening was presumably done to provide vehicular access to the new quay from the east. Broadly contemporary with the shortening of the bastions was the rebuilding of the northernmost bridge arch (B9). In c 1543 the bridge was described by John Leland (see above) as possessing six arches, which is interesting as by the 18th century it possessed seven arches. This difference is attributed to the reopening of a concealed arch when the Welsh Gate bastions were shortened.

By 1746 (Rocque map), the site of the eastern bastion was occupied by large rectangular blocks of buildings, including B14 and 15, flanking the bridge approach road (R2) (Fig 10) see cover). The dating of the demolition of the eastern bastion cannot be precisely established but it presumably happened after the English Civil War when the OWB defences were manned, in 1644 the town was ordered by the king to replace the 'doors' of the Welsh Gate (Ward 1930, 132). Broadly contemporary with the buildings (represented by B10) on the site of the east bastion was a probable animal mill (S5). By

1746 there was block of houses built on the east side of the bridge too. A watercolour of 1769 shows the bridge open arch (then known as the 'dry arch') a quay to the west side of it and how the west bastion had been converted into a cottage (Baker 2005, fig 11). The central part of the Welsh Gate was taken down in 1773 as 'it obstructed carriages passing over the bridge' (Ward 1930, 133), but clearly the western bastion was unaffected by this alteration.

Some time after 1769 (and probably before 1795) a rectangular building (B14) was constructed on quayside blocking the western access to dry arch, this building was retained until the mid-20th century (Fig 11). In 1791 the Mardol Gate was demolished (Ward 1930, 134) (see front cover).

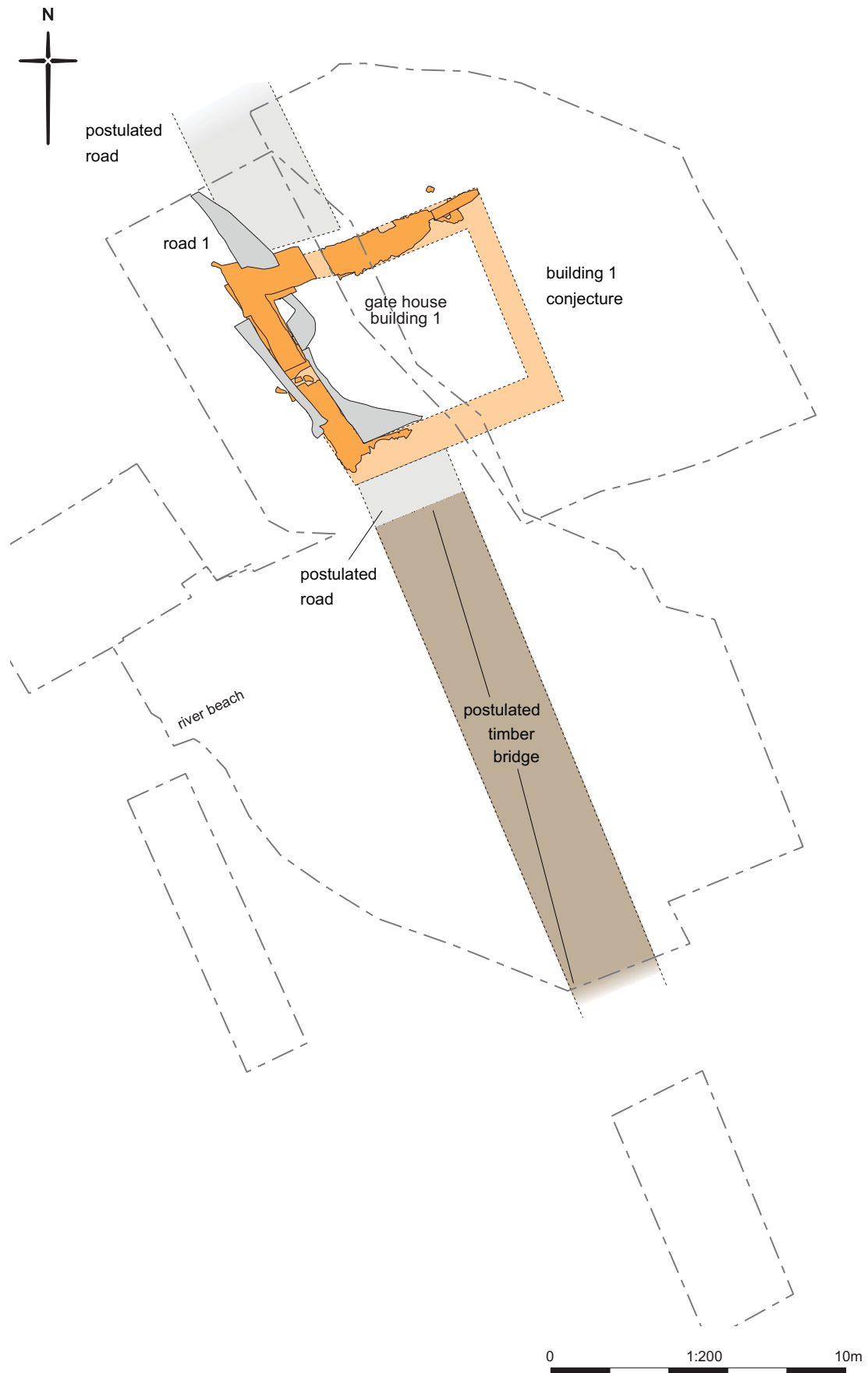


Fig 4 Gate house (B1) straddling the bridge approach road (R1)



Fig 5 Small square 12th or 13th century bastions (B2) of Welsh Gate on north end of masonry bridge

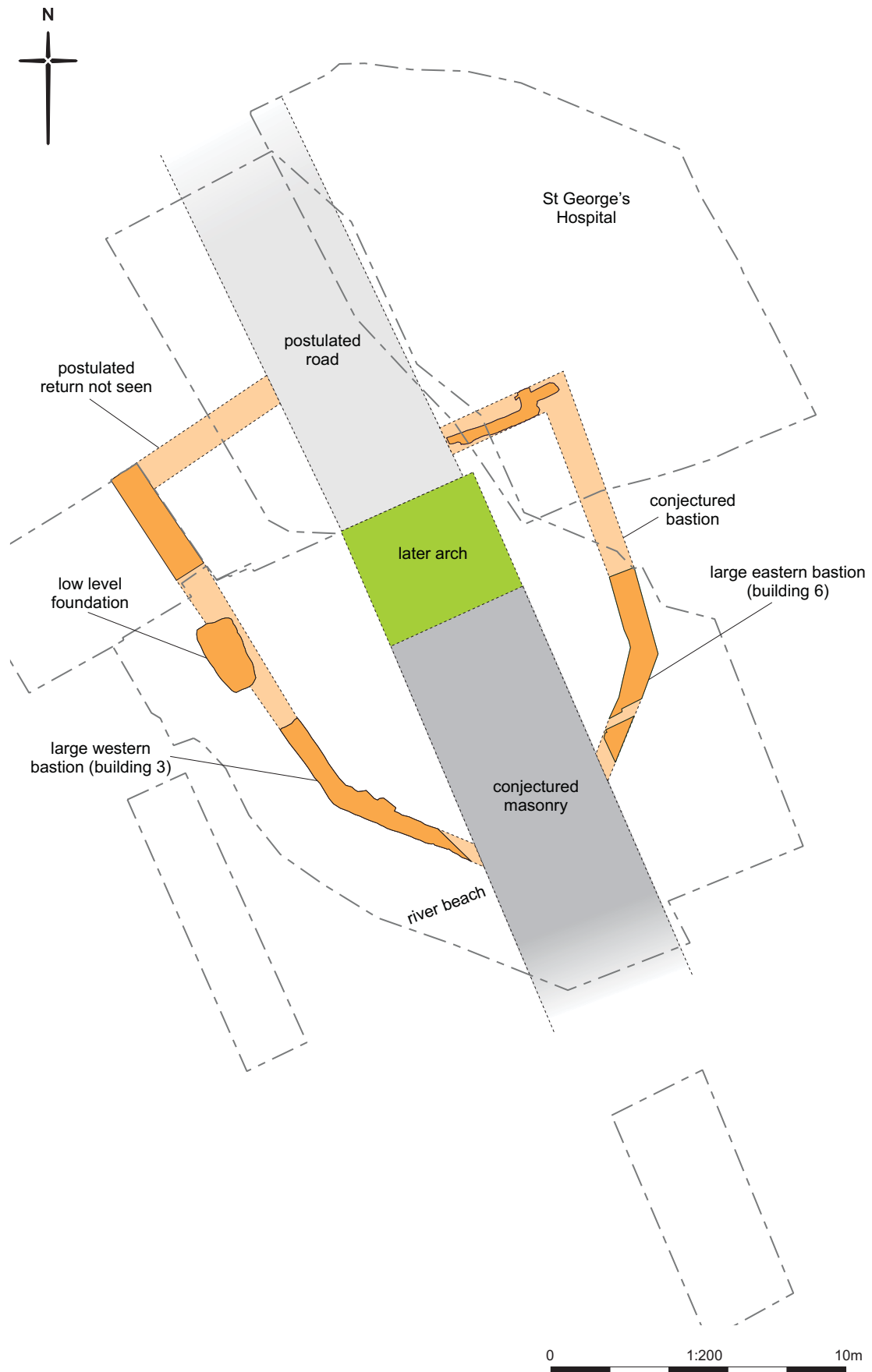


Fig 6 Large D shaped 13th or 14th century bastions (B3, B5 and 6) of the Welsh Gate



Fig 7 Photo of east bastion masonry (looking west)



## 2.6 Post-medieval: The New Welsh Bridge

The construction of the New Welsh Bridge (NWB) (1793-95) downstream of the Old Welsh Bridge (OWB) caused many changes to the area (Ward 1935, 141-47). The northern end of the new bridge was protected by a massive masonry abutment, which may also have served as barge quay for unloading building materials (S9) (Fig 12) and (Fig 13). A recently discovered map of the Welsh Bridge shows that the bridge and all the buildings occupying its northern end were still intact on the 5th February 1795 (see 5.14). This plan also shows it was proposed to build a new quay between the two bridges on a more southerly alignment than the previous one. There is some architectural evidence for this structure (S 7). In c 1796 all of the OWB was demolished apart from its northernmost arch and its flanking buildings, the remaining fragment of the old bridge became a cobbled cul-de-sac or alley way (R3) (Ward 1935, 142-51).

There were apparently two phases of reclamation of the area of foreshore and river between the two bridges. The first phase was 'new quay' shown on a plan of 5th February 1795, of which S7 is believed to be part. The degree to which this proposal was carried forward is uncertain as at some time during the late 1790s (the exact date undocumented) it appears it was decided to reclaim whole the area of the inlet and foreshore between the two bridges. This more ambitious scheme is defined as the second phase of reclamation; it was completed by 1832 according to cartographic evidence (SRRC qD69). This second phases of reclamation moved this particular stretch of the river shore line southwards some 30-35m to its present position). This area was apparently reclaimed by building a new earthen river wall (no evidence of brick or masonry). Attempts were made to prevent this reclaimed area from flooding by the extensive dumping of soil and demolition rubble to raise the ground level of this whole area by several metres of (OA11).

A two-up two-down, brick-built house was constructed above the quay on the west side of the bridge and the area of the former bridge arch incorporated into its brick floored cellar (B14, cont usage) (Trumper 2006, 44) (Fig 14) and (Fig 15). The remains of the shortened west bastion was now converted into a separate dwelling. To the north-east of the bridge approach various brick-built cellared buildings, some of which were used as Malt Houses were constructed on the site of the former hospital of St George (B 17, 18, 19, 20 and 21). In the 1938 *Kelly's Directory* for Shrewsbury there are several entries for the 'Welsh Bridge'. All the buildings along this cul-de-sac (following the line of the old bridge and its approach road) were demolished in the 1960s, the backfill of the cellars produced a large amount of bottles and modern ceramics (OA13). At the same time the bridge arch was systematically infilled with rubble retained by a ramshackle wall (Fig 15). Afterwards the area was used as a temporary car park until 2006 (OA13).

In 1865, a Calvinistic Methodist chapel and school was built at Frankwell Quay on the western side of the former bridge approach. To the rear of the chapel was the School Mistress's house (B23) (Fig 11) and (Fig 17). In 1909 the chapel closed and passed into secular hands. (Cox 1997, 84). For many years until 2006, it was the premises of Auto Tyres. The former chapel is being retained during the new development as a bar and restaurant.

During the late 19th and 20th century on the western part of this site various industrial buildings including a smithy and foundry were constructed (B22). By 1882 most of the eastern part of the site was around the former OWB laid out as pleasure gardens (OA12) (Fig 17). During the early 20th century industrial buildings connected with

adjoining foundries and Smithy were constructed on the gardens occupying the western portion of the site. Some of these buildings remained standing until 2006, but most were demolished some years ago (since the early 1960s), when the building around the former OWB were cleared. The last part of the foundry closed on 2004. A 1960s photographic survey of the town shows the industrial buildings which stood on the western part of site (b/w copies in NEV06 site archive).



Fig 8 Shortened 17th century bastions (B 8 and 11) and the new quay (S4) linked with the reopening of the bridge arch



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Fig 9 High level photo of shortened west bastion (B11) looking east

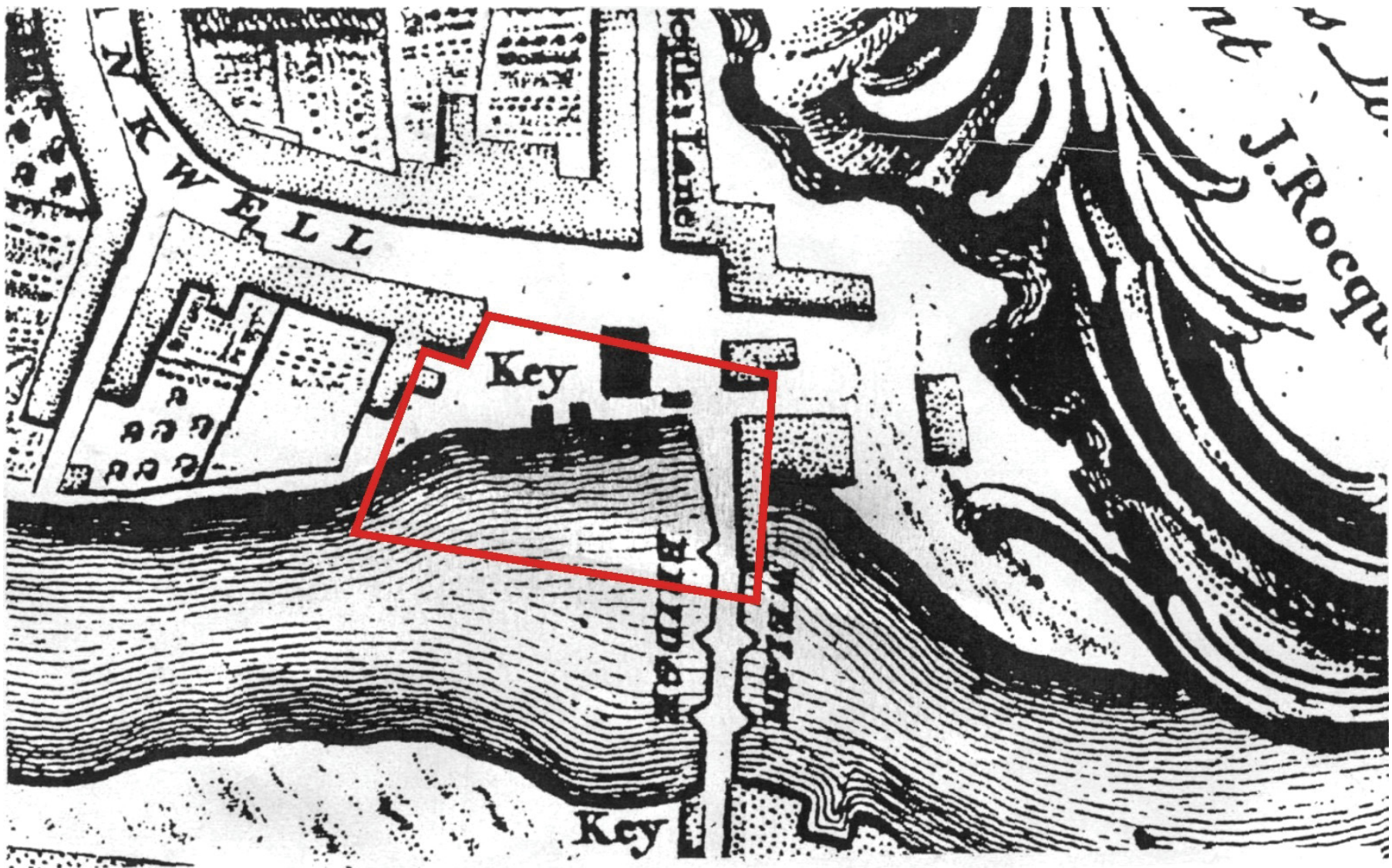


Fig 10 Rocque's map of 1746

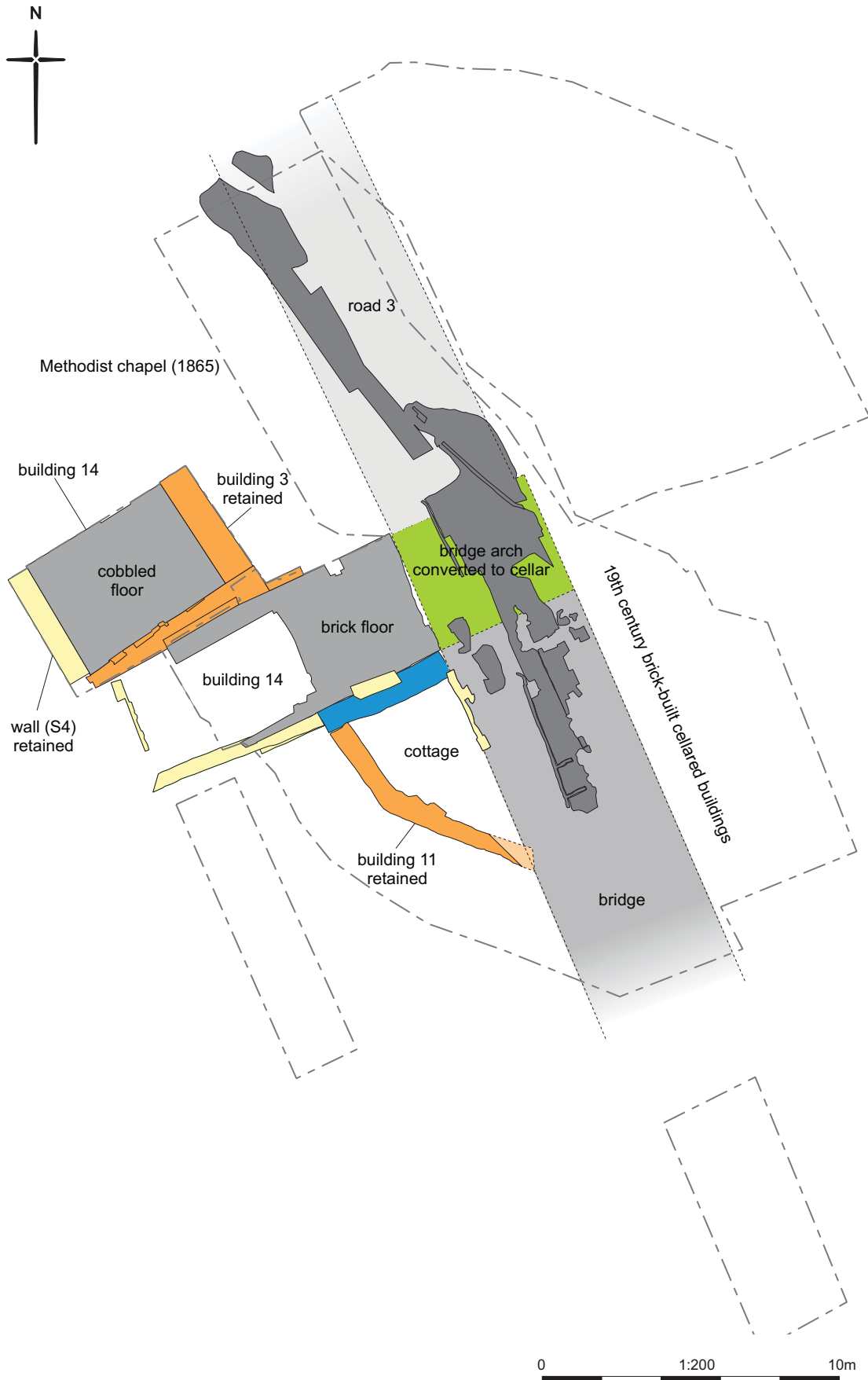


Fig 11 The quayside building (B14) and the shortened west bastion and cul-de-sac (R3) during the early 19th century

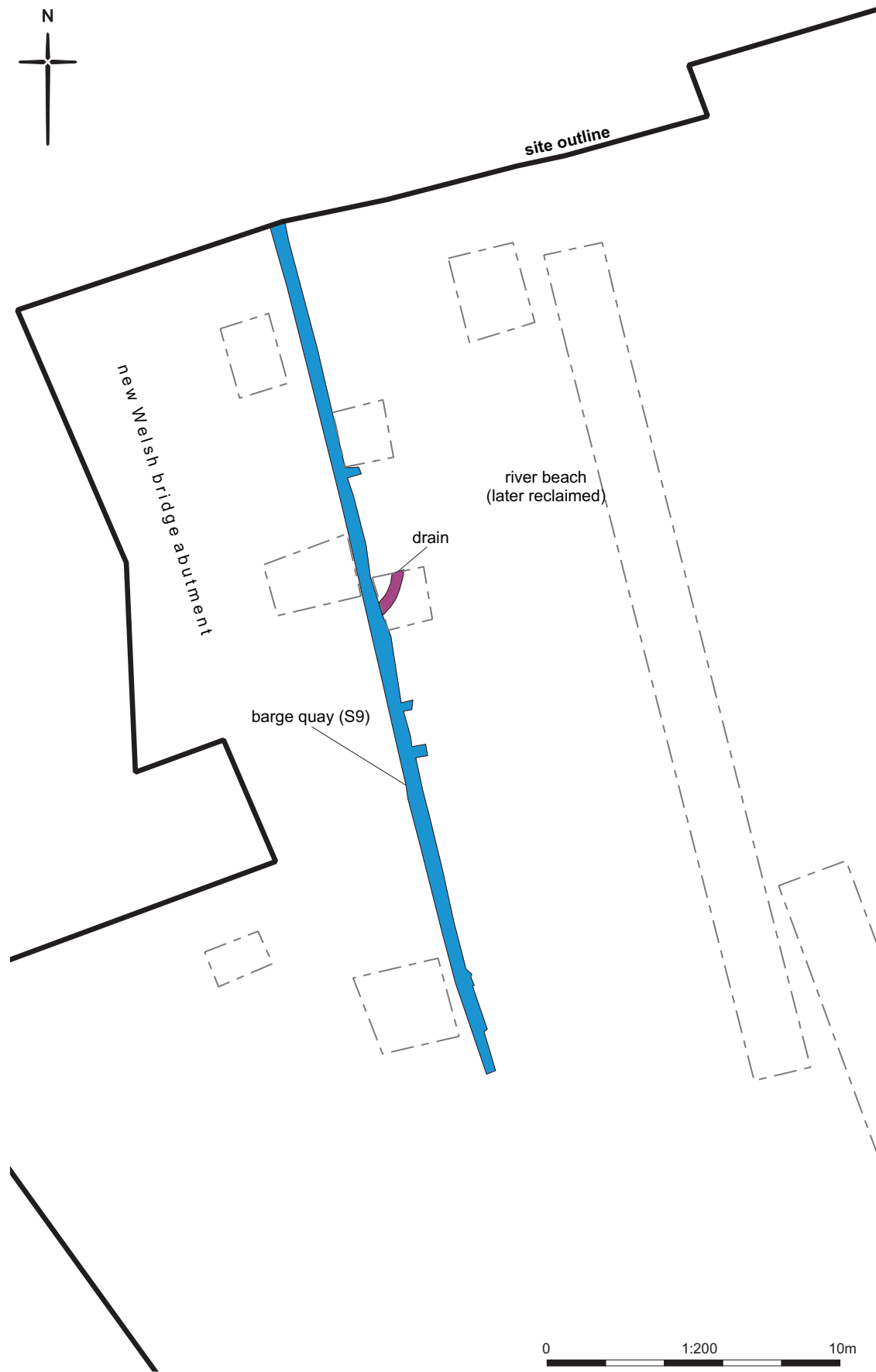


Fig 12 The abutment or barge quay (S9) associated with the construction of the New Welsh Bridge (1793-95)



Fig 13 Photo of masonry abutment or barge quay (S9)



### 3 Original research aims

The following archaeological research objectives have been compiled after consultation with appropriate specialists, and in particular with consideration of the results of previous archaeological investigations both on the site and on other sites in the area. This list has been compiled by combining the aims listed in Bateman (2006) and Watson (2007).

#### 3.1 Natural topography and the prehistoric environment

1. *What evidence is there for Holocene (Mesolithic and later) river channels? To what extent can the changing characteristics of the Holocene river in the Shrewsbury area be inferred from the alluvial sequence on the site?*
2. *Are micro- and macrofossils preserved in abandoned Holocene channels and what information can they provide about the changing prehistoric environment of the river valley and of the drier land either side? How does this compare with evidence for prehistoric vegetation and environment change known from the wider region, in particular the Lower Severn and the Shropshire-Cheshire Meres and Mosses?*
3. *Does the evidence for flooding, alluviation and raised water-tables well-known from the Lower Severn, Wye and Upper Thames (and thought to be associated with deforestation in the Bronze Age) also occur in this stretch of the Upper Severn? What other evidence for human impact on the river regime exists?*
4. *How do the lowest Quaternary deposits on the site relate to current understanding of the Late Pleistocene (Upper Palaeolithic) stratigraphy of the North West Midlands?*
5. *Can the Pleistocene and Holocene deposit sequence on the site be dated?*
6. *What is the origin of the sand and gravel deposits on the site and can they be correlated with the better-known sequence of river terraces of the Lower Severn?*
7. *What potential (if any) is there for more detailed analysis of microfossils and macrofossils preserved in the Late Pleistocene deposits to contribute to a better understanding of the changing Late Pleistocene environment? How does this compare with the Late Glacial evidence previously obtained from the Shropshire-Cheshire Meres and Mosses (in particular Crose Mere) and the Last Interglacial / Devensian evidence from Four Ashes (Wolverhampton)?*
8. *What was the natural topography of this stretch of the river valley in the prehistoric past and is there any direct or indirect evidence for prehistoric activity on the riverbanks or valley floor or associated with the river itself? In addition, is any indirect evidence for human activity on the drier ground above the river preserved within the floodplain alluvium?*
9. *Is there any noticeable change in the top interface of the overbank flood deposits across the area? For instance is there a slope down towards the river.*

#### 3.2 Medieval to post-medieval

10. *What evidence is there for the earliest establishment of a bridge/bridgehead and/or approach road is there? Does this precede or come later than the earliest evidence for habitation on the river bank?*
11. *Is there any evidence of Saxon occupation, such as rubbish pits or gullies flanking the bridge approach road?*
12. *What evidence for early land reclamation is there? What is the earliest phase of land reclamation?*
13. *Was reclamation piecemeal or conducted over large areas? Can it be tied to the development of individual properties?*

14. *What evidence is there for medieval embankments/revetments, quay structures and other river control mechanisms? How are such structures to be compared with others in the country?*
15. *What is the pattern of land reclamation out into the river? How does this compare with what is known elsewhere in Shrewsbury ?*
16. *What evidence is there for riverine transgression (flooding) in the medieval and post-medieval periods?*
17. *What evidence for the development of early medieval properties is there along the river bank? How do these work with the early street pattern and the development of lanes and alleys down to the river? How does this change with time?*
18. *Is there any evidence for the effects of early medieval construction work – eg the building of quays, the bridge or the town wall - on the fluvial regime?*
19. *How does the evidence for topographic development from this site fit with the archaeological evidence from elsewhere in Shrewsbury?*
20. *What evidence is there in particular for building and/or repair at the junction between St George's Bridge and Frankwell Quay?*
21. *What does a detailed standing building record of the surviving medieval structures (eg the Bridge, quay walls, etc) add to our present understanding of these structures in Shrewsbury?*
22. *What is the structural history of St George's Bridge?*
23. *What evidence if any is there for the adjacent medieval hospital and/or associated chapel and its development through time?*
24. *Is there any evidence for boat building activity along the river bank?*
25. *What evidence is there for medieval or post-medieval industrial uses of the area?*
26. *On the assumption that dumped reclamation deposits contain finds of different periods (medieval and post-medieval) what new information do these finds tell us about life in medieval and post-medieval Shrewsbury?*
27. *What evidence is there for settlement during this period?*
28. *Do any remains of the buildings shown on the large scale OS map of 1882 survive here?*
29. *What evidence is there for craft or industrial activity?*
30. *What evidence is there for any buildings or structures belonging to the Hospital of St George or its chapel?*
31. *What evidence is there for any burials associated with the Hospital of St George?*
32. *What is the age of these burials?*
33. *What evidence is there for the eastern wall of the probable gatehouse structure found further west.*
34. *Assuming that the eastern portion of the gatehouse (see above) is located what is its date? As previous investigation failed to provide any dating evidence it is very important that this structure is properly dated.*
35. *What evidence is there for the north wall of the second phase of the east bastion? Archaeological work on the west bastion in January 2007 confirmed that it extended further north than was expected, so assuming the two bastions were symmetrical then the later east bastion should be present here*
36. *Is there any evidence of secular settlement alongside the bridge approach road?*
37. *What evidence is there for craft or industrial activity within the road side settlement?*
38. *Is there any evidence for the fish pond here?*

## 4 Phased site sequence

### 4.1 Introduction

This is a summary version of the full land use descriptions. All the subgroup (SG) group (G) and land use data has been entered into the MOLA relational database (Oracle). Key: **O**pen Area, **B**uilding, **S**tructure, **R**oad.

### 4.2 Period structure

All Buildings and Structures have been assigned to Open Areas, some are retained and therefore appear on more than one OA

#### 4.2.1.1 *P1 Solid Geology – Keele Beds.*

OA1, (not illustrated).

#### 4.2.1.2 *P2 Creation of Devensian meltwater channel(s) c 40,000 - 12,000 BP.*

OA2, (Tables 24-27).

#### 4.2.1.3 *P3 Build up of Holocene river sediments c 14,000 BC - c AD 600.*

OA3, (Tables 24, 26, 27, 30, 31, 33, and 34).

#### 4.2.1.4 *P4 Saxon and medieval activity both riverine and terrestrial c AD 600 - 1500.*

OA4, OA5, OA6, OA7 and OA8, (Tables 28-31, 33 and 34; Figures 4-7).

#### 4.2.1.5 *P5 Earlier post-medieval activity both riverine and terrestrial AD 1500 -1790.*

OA9 and OA10, (Figures 8-10).

#### 4.2.1.6 *P6 Later post-medieval activity both riverine and terrestrial AD 1790 - present day (construction of the New Welsh Bridge 1793-95 and subsequent activity)*

OA11, OA12 and OA13, (Figures 11-17).

### 4.3 Open Area 1: Solid geology

#### 4.3.1.1 *Group 1 Keele Beds (natural Bedrock)*

##### 4.3.1.1.1 SUBGROUP 1 KEELE BEDS (NATURAL BEDROCK)

The solid geology on site consists of part of the Erbistock Beds, which locally forms the highest subdivision of the Carboniferous Upper Coal measures. The Erbistock Beds comprise the Keele and Enville Beds, which consist of red marls and sandstones. The Keele Beds were located in Borehole 1 at 26.5m below ground surface on the site of the Atlas Foundry (24.0m OD) and Borehole 1 on site revealed fissured at a depth of 21.9m (28.65m OD) red-brown mudstone, with laminated micaceous sandstone at 23.90m depth [427].

## 4.4 Open Area 2: Late Glacial channel(s)

### 4.4.1.1 Group 2 Late Glacial channel(s)

#### 4.4.1.1.1 SUBGROUP 2 LATE GLACIAL CHANNEL(S)

It is believed that during the Devensian glaciation (c 40,000-12,000 BP) that under and around the margins of the ice sheets, deep meltwater channels were cut into the underlying sandstone [428]. The varying depth and type of sediments recorded locally suggest there is a number of braided channels and perhaps some kettle holes.

### 4.4.1.2 Group 3 late Glacial Channel fills

#### 4.4.1.2.1 SUBGROUP 3 CHANNEL FILLS

During the Devensian the deep channel (base 24.0m OD) which underlay the site was infilled with generally low energy environment deposits sandy clays, silty fine and coarse sands (Borehole 1). All these sediments are red or reddish brown showing they are derived from the underlying sandstone. The presence of clay lenses in Borehole 4 [609] show there was standing water for short periods of time (top 44.66m OD). In Borehole 5 [605] there was a similar sequence of sediments, except the amount of gravel and coarse sand present sediments increased with depth showing the sequence started with a relatively high energy fluvial conditions, which over time changed to a low energy environment (top BH 43.85). Borehole 6 (top 43.70m OD) [602] low energy environment sediments with clay lenses. Augering below the Limit of Excavation of the controlled excavation adjoining the bridge arch revealed at 47.94m OD gravel clast [954].

## 4.5 Open Area 3: Holocene river and beach deposits

### 4.5.1.1 Group 4 Holocene River Severn channel

#### 4.5.1.1.1 SUBGROUP 4 HOLOCENE RIVER SEVERN CHANNEL

It is assumed that since the end of the Devensian c 12,000 BP the Shrewsbury stretch of the upper Severn has originated as a glacial meltwater stream channel, which simply following the line of the pre-existing channel(s) (SG 2). Topographically the site consists of a shallow natural inlet or bay on the inside of the Frankwell meander (there is no evidence that this inlet was created by tributary stream such as the Rea Brook. Due to the presence of meanders it is likely there has been a certain amount of channel migration within the vicinity of the site, topographically the site could be described as within the inside of the Frankwell meander, where deposition rather than erosion of sediments would be the norm.

### 4.5.1.2 Group 5 Holocene river sediments

#### 4.5.1.2.1 SUBGROUP 5 THE FORESHORE GRAVELS

The earliest riverine environment identified consisted of a series of wet, greyish-brown or grey sandy silts, containing some gravel clasts, reflecting slow flowing or standing water within the northern portion of the inlet, which is best described as a foreshore that was incorporated into the main river channel on a seasonal basis. It is likely that this environment was managed by dumping material to maintain the integrity of the foreshore, perhaps to allow it to function as a landing area (there was no evidence of quay structures).

BH 10 [588] top 46.48m, base 45.74m OD.

BH 12 [590] top 46.78m OD.

BH 13 [593] top 46.83m OD.

BH 9 [599] top 46.44m OD.

BH 6 [603] top 46.46m, base 43.70m, this sequence may include some dumped or redeposited material as it included fragments of brick and tile.

BH 5 [606] top 46.49m, base 43.85m OD, it contained a few small abraded brick fragments.

BH 4a [610] top 46.52m, base 44.66m OD, the sand/gravel clasts could represent dumped material.

## 4.6 Open Area 4: Saxon, medieval and post-medieval continued accumulation of river beach sediments

### 4.6.1.1 Group 6 Saxon sediments

SUBGROUP 6 SLOWING FLOWING SEDIMENTS AT THE MARGIN OF THE INLET (AD 7TH-8TH C )

Over time within the natural inlet there was a general transition towards the build-up of slow flowing or standing water sediments (grey fine sandy silts). Plant remains show vegetational development took place along the water's edge and organic lenses show water reduction allowed vegetation to colonise the foreshore.

BH 4 4.9-13 top 47.22m, base 46.52m OD including two organic sandy silt lenses, containing plant remains (top 46.88m OD) lower one [617] C14 dated to Cal AD 630-710 (Beta 216903, 1360+/- 40 BP), upper one [611] to Cal AD 540-660 (Beta 216902, 1460+/-40 BP).

BH 7 [583] top 47.44m OD.

BH 8 [585] top 47.11m OD.

BH 10 [587] top 46.48m OD.

BH 13 [592] top 47.45m OD.

BH 9 [600] top 46.86m OD.

[597] top 47.18m OD.

BH 12 [589]

This is the earliest subgroup with any dating evidence.

### 4.6.1.2 Group 7 the medieval and earlier post-med river beach

Later sediments and beach deposits (pre- 1795)

#### 4.6.1.2.1 SUBGROUP 7 THE RIVER BEACH

Until shortly after 1795, most of the site consisted of either shallow standing water (SG6) or river beach (defined as areas of orange/brown or greyish brown clean fine to coarse sands (generally stone free, but some times containing up to 40% small gravel pebbles), unlaminated sediments along the margins of the seasonally fluctuating area of standing water). This beach could have been used for the disposal of rubbish, landing or even building flat bottomed boats. Such beach deposits would have suffered from erosion during the winter floods, so periodically material may have dumped here to make good these losses (hence the presence of brick and tile frags).

[309] top 49.15m OD <22>.

[310] top 49.10m OD <23>.

[311] top 47.44m OD.

[607] top 47.15m OD.

[611] top 48.40m OD.

Dating uncertain these deposits probably accumulated from the Saxon period until the 17th century (sealed by G8).

## 4.7 Open Area 5: Medieval landsurface and overbank flood deposits

### 4.7.1.1 Group 9 medieval overbank flood deposits

#### 4.7.1.1.1 SUBGROUP 9 OVERBANK FLOOD DEPOSITS

These consisted of firm, mottled light grey or brown (stone free) clays or silty clays recorded only the north-east area. These deposits show evidence of oxidation and water-logging, indicating a seasonal pattern of flooding and drying out.

[598] top 49.51m OD.

[296] top 49.58m OD.

[253] top 49.78m OD.

Dating 12th to 13th-century pottery, and one residual sherd of 10th-century Stafford type ware.

### 4.7.1.2 Group 10 development of soil horizons

#### 4.7.1.2.1 SUBGROUP 10 REWORKED OVERBANK FLOOD DEPOSITS

These consisted of firm brownish-yellow silty or slightly sandy clays with evidence of oxidation and root activity, containing small fragments of degraded local sandstone.

[221] top 50.40m OD.

[265] top 50.37m OD.

[337] top 50.48m OD.

[547] top 50.42m OD.

[877] top 50.41m OD.

[923] top 50.29m OD.

[929] top 50.48m OD.

[945] top 50.36m OD.

Pre 1200-1300?

#### 4.7.1.2.2 SUBGROUP 141 REWORKED FLOOD DEPOSIT

Reworked or disturbed flood deposit [908].

## 4.7.2 Road 1 : Northern bridge approach

### 4.7.2.1 Group 23 Initial reclamation on the line of the bridge approach road

These deposits like Groups 29 and 30 are undated, but pre-date G31, so are probably are of 12th-century date.

#### 4.7.2.1.1 SUBGROUP 16 INITIAL RECLAMATION OF BRIDGEHEAD AREA

This activity could have been undertaken to create a higher flood-free approach to the Old Welsh Bridge or it could been to infill (undefined) soil, sand or gravel quarries dug on the edge of the river beach (the latter is suggested due to the absence of over bank flood deposits from this area). These deposits consisted of sterile, sandy silts, gravels all presumably quarried locally from the river margin. The earliest deposit [596] top 50.88m, consisted of a light grey sandy gravel, overlain by [595] [203] [174], [219] top 50.92m OD = [321] 50.51m OD.

Section 26 river beach/gravel dumps [188] [187] [186] [185] [184] [183] top 50.33m OD.

### 4.7.2.2 Group 24 External surface possible bridge approach road

#### 4.7.2.2.1 SUBGROUP 17 EXTERNAL SURFACE

An external surface [230] consisted of a mass of crushed sandstone fragments in sandy clay matrix (top 50.95m OD). The full extent of this surface is unknown, but it is in the correct position for part of a bridge approach road or it could served as temporary surface during the reclamation of the area.

#### 4.7.2.3 *Group 25 Further dumping on line of bridge approach road*

##### 4.7.2.3.1 SUBGROUP 18 FURTHER RECLAMATION OR DUMPING WITHIN THE BRIDGEHEAD AREA

These deposits consisted of sterile, mixed levelling dumps, consisting of sands, gravels and silty clay alluvium, sometimes containing frags of degraded sandstone, apart from [339] which was a mass of charcoal frags (top 50.60m OD).

[172] top 51.15m OD

[202] top 51.03m OD.

[293] top 50.88m OD

[318] top 50.39m OD

[304] top 50.47m OD.

[335] few mortar lumps, top 50.90m OD.

Animal bone from [314]

Section 26 [182] sandy gravel with degraded sandstone frags [181] [176] [175] top 50.80m OD; dumped river gravel [173]; dumped sandy silt [177]; [313] and [336] dumped river sand; clayey sand dumping [319].

### **4.7.3 *Building 1: Masonry gatehouse on northern bridge approach road***

#### 4.7.3.1 *Group 16 Masonry gatehouse on bridge approach road*

There is no associated finds dating for this structure, but it is interpreted as a gatehouse controlling access to the northern end of the bridge which means it is likely to be of 12th century date. Possibly this structure was associated with a timber bridge and was replaced by a complete rearrangement of the bridge fortifications linked with the construction of stone bridge complete with twin bastions and new gatehouse. The existence of a bridge here is first documented in 1121.

##### 4.7.3.1.1 SUBGROUP 19 NORTHERN ARM OF TRAPEZOIDAL BUILDING (GATEHOUSE?)

A truncated linear east–west construction trench over 1.74m long, over 0.38m wide [288] = [853], contained number of unmortared sandstone blocks [285] top 50.56m OD, it had been robbed out down the basal course, possibly foundation for timber-framed structure on E side of bridge approach. Post 1546? The construction trench [288] included a truncated E terminal (no sign of a return) consisted of a shallow trench-built cut over 1.74m long, over 0.38m wide top 50.56, base 50.17m. A fragment of the eastern portion of this wall [828] was uncovered during 2007 sandstone rubble with clayey earth mortar.

##### 4.7.3.1.2 SUBGROUP 20 NORTH-EAST PORTION OF TRAPEZOIDAL BUILDING (GATEHOUSE?)

Trench-built [616] = [853] cut, truncated E–W random sandstone rubble earth bonded, wall foundation [261], width 1.10m, exposed length 0.8m, top 50.48m OD. The eastern extent of this structure is uncertain, its eastern wall appears to have destroyed or at obscured by the new station power cables (SG 121).

#### 4.7.3.1.3 SUBGROUP 21 WEST AND NORTH PORTION OF TRAPEZOIDAL BUILDING (GATEHOUSE?)

Masonry within construction trench [613] cut for wall [208]=[285] Trench-built trapezoidal shaped foundation for substantial dark red and purple sandstone random rubble wall, [208] clay bonded, width of N arm 1.10m (SG 20) is E continuation of this wall, W arm 0.90m wide, top 50.46m OD. There was no evidence of superstructure and later the structure was truncated below floor level (SG 22). Along with SG20 this makes up the western portion of the foundations of demolished/truncated trapezoidal building occupying part of the northern bridge approach road, if this building had been standing while the Old Welsh Bridge was in use it would have hindered access to the bridge. The size of this building was considerable on its internal N-S length was 5.54m, (external dimension est. at 7.6m), while E-W its external width was over 4.40m. The eastern wall of this building was not seen presumably it lies under the mass of power cables serving the new substation. When the building was demolished it was truncated to a very low level, below the level of any internal surfaces and all superstructure was removed this process together with the impact of modern walls and services trenches means that there are no finds to date either its construction or destruction.

#### 4.7.3.2 *Group 26 Possible superstructure of gatehouse on bridge approach or its later reuse*

It is possible that this masonry (which is very fragmentary and badly truncated by the public toilets G95 is either part of the superstructure of the gatehouse (only fragment seen) or part the reuse of this earlier foundation. It is impossible to be certain.

##### 4.7.3.2.1 SUBGROUP 171 LATER MASONRY

Fragment of badly truncated sandstone masonry [947], possibly superstructure over [828] too fragmentary to be certain.

#### 4.7.3.3 *Group 56 demolition of trapezoidal building and levelling dumps*

##### 4.7.3.3.1 SUBGROUP 45 DEMOLITION OF TRAPEZOIDAL BUILDING AND LEVELLING DUMPS

After the demolition of the building (SG 21), sterile dumps of sandy silt, containing frags of mortar and red sandstone [312] top 50.92m OD.

## 4.8 Open Area 6: Later post-medieval river beach sediments

This OA was unsealed until the late 1790s, it doubtless has been truncated and reworked by various flood events, which would explain the presence of 17th and 18th-century finds in deposits that otherwise might be considered be of an earlier date.

#### 4.8.1.1 *Group 8 Post-med foreshore sediments and dumping*

##### 4.8.1.1.1 SUBGROUP 8 FORESHORE SEDIMENTS AND DUMPING

Within a number of places along the foreshore there was a continued accumulation of grey or orange/brown, clayey silts, clays and fine to coarse sands (sometimes containing glass, brick and tile fragments) indicating frequently changing conditions of deposition, possibly punctuated by erosion events. It is likely that these deposits have been reworked during the post-medieval period and also include a certain amount of material dumped on the foreshore. Some of these sediments could be described as river beach or sand bars, depending on their OD level (e.g. [425] and [383]).

[604] top 48.20m OD.

[601] top 47.70m OD.



[591] top 47.01m OD.  
 [586] top 48.09m OD.  
 [584] top 47.93m OD.  
 [582] top 47.75m OD.  
 [577] to [580] none.  
 [492] to [489] river silts, none  
 [450] river silt.  
 [470] + 471] river silt  
 [425 47.7m OD.  
 [377] standing water sediments top 49.0m OD.  
 [308] 49.83m OD, in channel sediments.  
 [234] 49.58m, slumped or redeposited river gravels.  
 [608] BH 12 unit 12.8  
 River silts GGAT [491, 492, 490, 489] [577, 578, 579, 580]  
 Dating: [579] + [580] 15th-century pot; [489] late 17th/18th-century pot, [480] 18th-century glass; and [308] 13th/15th-century pot.

#### 4.8.1.2 *Group 46 Post-med foreshore adjoining bridge*

##### 4.8.1.2.1 SUBGROUP 22 FURTHER ACCUMULATION OF FORESHORE SEDIMENTS (PRE 1793)

Most of these deposits were recorded in the sections of machine trenches during the 2005 evaluation, therefore both their date and interpretation is uncertain. The deposits consisted of mainly sands, silts and silty clays, the presence of lenses and bands of sand indicate conditions some times changed from still to flowing water. The presence of brick fragments and post-medieval pottery could be interpreted as the dumping of rubbish.  
 GGAT: [451] [452] [543] [454] [455] [461] 16th-century pot? [568] and [569].

##### *Subgroup 23 post-med dumping on the foreshore (pre 1793)*

Redeposited foreshore silts, silty/sands, sands and gravel.  
 [493] [575] [574] late 16th/17th C pot, [573] [572] [571] [527] [526] [525] [524]  
 [303] top 48.78m OD ENGS post 1670. This context probably represents the area of foreshore adjoining the western side of the bridge during the 18th century, the ceramic building material is probably intrusive.  
 Dating: post-medieval pot 1700-1900; and building material 1800-1900.

## **4.9 Open Area 7: Medieval settlement along east side of bridge approach**

This consists of 12/13th-century activity along approach road (R1 retained), roadside settlement (S1, S2, and B4). During this period there is stone bridge and a gatehouse consisting of a pair small square bastions. However, there is only evidence of the eastern one (B2) the existence of a matching west bastion is postulated. By this date the hospital cemetery OA8 would have been in existence.

#### 4.9.1.1 *Group 12 Disturbed alluvium*

No finds, of 12th century or later date.

##### 4.9.1.1.1 SUBGROUP 127 DISTURBED FLOOD DEPOSITS

[933] disturbed alluvium.

#### 4.9.1.2 *Group 15 Medieval pit and other scattered features*

Date uncertain probably pre-1400.

4.9.1.2.1 SUBGROUP 133 PIT FRAGMENT?

[910] frag rub pit, fill [909].

4.9.1.2.2 SUBGROUP 134 STAKEHOLE

Large vertical stakehole [912] withdrawn [911].

4.9.1.2.3 SUBGROUP 135 STAKEHOLE

Vertical posthole [914] withdrawn [913].

4.9.1.2.4 SUBGROUP 13 MED CESS PIT

S–W corner of unlined cesspit? [276], fill [277].

**4.9.1.3 Group 33 Med levelling dumps east of bridge approach road**

4.9.1.3.1 SUBGROUP 156 LEVELLING DUMPS

Dumped clayey silty sand [905].  
MP 1400-1500.

**4.9.1.4 Group 41 pit**

4.9.1.4.1 SUBGROUP 142 PIT

Sub-rectangular [907], clay filled pit [906] of unknown function or date (pre-19th century).

**4.9.2 Building 2: First East Bastion**

**4.9.2.1 Group 17 Construction of 1st East Bastion**

4.9.2.1.1 SUBGROUP 24 1ST EAST BASTION

An L shaped construction trench [273] was dug on the foreshore SG8, for a (Keele Beds) random rubble sandstone, mortared (very degraded) foundation, width 0.74m, top 49.8m OD [215=272]. The full extent of this structure is uncertain, but it is interpreted as part of the S and E walls of a square or rectangular bastion.

Date 12/13th-century (only dated by material sealing its remains see B3, G27) No sign of matching W bastion.

**4.9.2.2 Group 18 Demolition of First East bastion**

4.9.2.2.1 SUBGROUP 25 DEMOLITION OF FIRST EAST BASTION

A series of layers of crushed/degraded red sandstone fragments sealed the truncated remains of the 1st bastion, these are interpreted as debris from the demolition and cleaning of the upper portion of the masonry.

[216] top 49.80m OD, [267] [256] [513=82] top 50.43m OD.

**4.9.3 Building 4: Large masonry building east of bridge approach road**

**4.9.3.1 Group 21 Dumping prior to construction of masonry building G22**

4.9.3.1.1 SUBGROUP 143 DUMPING

[867] = [904] sandy silt levelling dumps.

#### 4.9.3.2 *Group 22 Substantial masonry building east of bridge approach*

##### 4.9.3.2.1 SUBGROUP 144 MEDIEVAL MASONRY BUILDING

N/S trench built wall construction trench [944] = [946], river cobble/sand found [943], W and S walls of substantial masonry building, superstructure consisted of facing courses of sandstone ashlar blocks with mortared rubble infill and external chamfer [823] W wall = S wall [825] both same build . Part of same building as SG 145.

##### 4.9.3.2.2 SUBGROUP 145 MED MASONRY BUILDING

Badly truncated frag of cobble/sand foundation [948], cut [987], probably N cont of foundations [943].

### **4.9.4 Structure 1: Cluster of postholes**

#### 4.9.4.1 *Group 13 Scattered postholes*

Part or more one or structures, hard to interpret.

##### 4.9.4.1.1 SUBGROUP 128 POSTHOLE

Large posthole [918] robbed [917].  
MP 1080-1500.

##### 4.9.4.1.2 SUBGROUP 129 POSTHOLE

Oval posthole [922] robbed [921].

##### 4.9.4.1.3 SUBGROUP 131 POSTHOLE

Oval posthole [916] robbed [915].

##### 4.9.4.1.4 SUBGROUP 132 POSTHOLE

Oval posthole [928] robbed [927].

### **4.9.5 Structure 2: Timber-framed structure**

#### 4.9.5.1 *Group 14 Beam slot*

##### 4.9.5.1.1 SUBGROUP 130 BEAM SLOT?

Short length N/S beam slot [920] internal wall or partition, robbed [919].  
MP 1080-1500.

## **4.10 Open Area 8: Cemetery of the Hospital of St George and the D shaped bastions**

The Hospital of St George was established by 1155 and its is documented that it possessed a chapel by 1278 (see 2.5). It is believed that these burials formed part of an external cemetery attached to the hospital chapel (which was not located it probably lay further east). The impression is that the hospital was located some distance back from the street frontage.

During the 13th or 14th century the existing gatehouse (B 2) was replaced by a pair of larger D-shaped bastions (B3 and B6), the new eastern bastion encroached on B4. The levelling dumps (G19) sealing the truncated remains of the first eastern bastion (B2) predating the construction of the second east bastion contained pottery of either late 12th

or 13th century date and the construction trench of B3 (G32) contained 13th/14th-century pot.

The layout of the west bastion during this period is still conjectural, but it is likely that it was rebuilt to match the other one. These new bastions obscured the northern-most bridge arch, so either this arch did not exist at this period or it was blocked by the bastions. In c 1543 the bridge was described as having six arches. However, by the 18th-century, when the bastions of the Welsh Gate had been shortened it possessed seven (see 2.5.1).

#### *4.10.1.1 Group 11 Cemetery of Hospital of St George*

Dating: medieval pot 1200-1500, and one C14 date of 1260-1395.

##### 4.10.1.1.1 SUBGROUP 11 MEDIEVAL GRAVE

During the evaluation a truncated, E–W supine grave was located [546], one length of (unsexed) relatively slender femur [545], fill [544] to c 50.6m OD.

##### 4.10.1.1.2 SUBGROUP 137 EMPTY MEDIEVAL GRAVE?

West end of empty med grave [872]. No burial, fill [873].

#### *4.10.1.2 Subgroup 138 medieval grave*

[856] W portion E–W grave, chest of supine (unsexed) adult skel [855], fill [854].

#### *4.10.1.3 Subgroup 139 medieval grave*

[931] central portion disturbed E–W grave, torso of supine (unsexed) adult skel [932], fill [930].

#### *4.10.1.4 Subgroup 140 medieval grave*

[926] E–W grave, chest of supine adult male skel [925]. Fill [924]. C14 date 2008, Beta 241622 [925] 690±40 BP, 1 sigma cal (68% prob) 1280-1300; 2 sigma cal (95% prob) 1260-1320 and 1350-1390.

#### *4.10.1.5 Subgroup 160 Medieval grave*

Badly disturbed/ truncated grave cut [960], tiny frag decayed pelvis [962], fill [961].  
Dating : medieval pot 1200-1500.

### **4.10.2 Building 3: First Western Bastion**

#### *4.10.2.1 Group 27 First West Bastion*

##### 4.10.2.1.1 SUBGROUP 34 NORTHERN PORTION OF FIRST WEST BASTION

Exposed in the base of GGAT trench 12 was a 2.50m length of N-S truncated red sandstone, mortared coursed rubble masonry with a W face edge [68], marked by a line of larger blocks. This masonry is interpreted as the northern continuation of the western wall of the bastion [32]. This would mean that the original phase of bastion measured N-S over 11.3m. Potentially SG 36 could be part of this phase of bastion, but is more likely to be part of its successor. Sealed by dumped deposits, dated post -1800. [68] = [675] N cont. of same bastion wall.

### **4.10.3 Building 6: Second East Bastion**

#### *4.10.3.1 Group 19 levelling dumps prior to construction of Second East bastion and Old Welsh Bridge*

##### 4.10.3.1.1 SUBGROUP 26 LEVELLING DUMPS PRIOR TO CONSTRUCTION OF 2ND EAST BASTION

Foreshore deposits: sands and sandy silts were dumped to level and raise the ground level. This activity pre-dates the construction or the rebuilding of the E side of the pier masonry.

[307] [514] CTP (clay tobacco pipe) stem intrusive? [80] top 51.11m OD; [81]; [121] medieval pot late 12/13th-century.

#### *4.10.3.2 Group 32 Construction of Second East bastion*

##### *4.10.3.3 Subgroup 29 Second East Bastion*

A large portion of a D-shaped, trench-built [248] bastion was uncovered over 5.66m long N-S and over 3.40m E-W, 0.9m wide, top 50.33m in plan [144], extended N and SW of the limit of excavation. It was uncovered by excavating two small trenches within the brick cellars to the E of the bridge masonry. The wall core was constructed of mortared, squared, coursed red sandstone blocks. The external (face was constructed of close jointed ashlar with evidence of dressing (enlongated diagonal gouges) only top 2 courses exposed. One red brick 120mm wide and 48mm thick (2") was present in the wall core (post 1500?). The change of direction was marked by a 30 degree change of angle. The relationship of this masonry to the E side of the bridge (SG 27) was not determined. Sherds of 13th -14th- century pot [249] were recovered from the backfill of construction trench [248].

The bastion was truncated to below the level of any internal surfaces by the early 19th C brick cellars.

##### 4.10.3.3.1 SUBGROUP 148 MED FOUNDATION PART OF SECOND EAST BASTION?

E-W trench-built wall foundation [964], squared coursed sandstone blocks [963] N wall of 2nd E bastion. Isolated frag of this structure.

Dating: medieval pot 1080-1500.

### **4.10.4 Building 7: The continued medieval and post-medieval usage of medieval masonry building (formerly B4)**

Retained B4 outline (after encroachment by B6), no new structural additions until the post-med.

## **4.11 Open Area 9: Post-medieval bastions, reopened arch quayside surfaces and environs**

In 1608 a barge quay was constructed at Frankwell directly to the west of the Old Welsh Bridge (OWB) where there was already a natural inlet. Two walls (S3) a retaining wall to the north-east of the bridge arch and (S4) another retaining wall on the north side of the quay are attributed to this OA. It is probable that this event prompted a rebuilding of the gatehouse which involved the shortening of the existing bastions (B8 and 11) and the creation of the present appearance of the northern-most arch of the bridge (B9) ('the dry arch') to provide access to the new quayside building (B14). In c 1539 Leland described the OWB as possessing six arches (see 2.5.1), but by 1795 it clearly possessed 'six arches and five piers' plus the 'dry arch' at the northern end of the bridge Ward 1935,

150-51). The presence of an extra arch can be explained by the reopening or creation of the 'dry arch' when the bastions of the Welsh Gate were shortened.

The refacing of the west bastion (B5) is probably contemporary with this shortening. However, it is documented that in 1672 a partial collapse of the gatehouse was caused by flood damage, so there several possible historical contexts for this refacing (Ward 1935, 133).

#### *4.11.1.1 Group 64 earlier quayside surfaces*

##### 4.11.1.1.1 SUBGROUP 169 QUAYSIDE SURFACE

[664] sand makeup for quayside mortar surface [663] S of building G166.

Dating: post-medieval pottery (PMP) 1580-1900 (pre -1795).

#### *4.11.1.2 Group 65 later quayside surfaces*

##### 4.11.1.2.1 SUBGROUP 170 QUAYSIDE LEVELLING DUMPS AND COBBLE SURFACE

[662] [661] sandy makeup for cobbled surface [660].

Dating : CTP 1780-1820; PMP 1770-1840, 1807-1830 (post 1795).

### **4.11.2 Building 5: Rebuilding of West Bastion**

This is undated (pre 1700) and is interpreted and is probably connected with extensive replacement of worn or flood damaged fabric.

#### *4.11.2.1 Group28 Dumping prior to construction of Second West Bastion*

##### 4.11.2.1.1 SUBGROUP 33 DUMPING PRIOR TO CONSTRUCTION OF SECOND WEST BASTION

This is interpreted as an attempt to raise the ground level before construction started by dumping sterile sandy gravel. [247] 50.65m OD, [326] 49.45m OD.

Two deposits within the actual bastion probably relate to this phase (or could be dumping within bastion 1): [166] sterile mass of horiz bedded sandstone rubble top 49.91m OD and [320] sandy gravel top 49.53m OD. Dating: building material (BM) post 1150.

#### *4.11.2.2 Group 29 North wall of Second West Bastion*

##### 4.11.2.2.1 SUBGROUP 36 NORTH WALL OF SECOND WEST BASTION

This is identified as the earliest element of the superstructure of the west 2nd bastion. E-W length 4.60m, width 0.94m, top 51.02m OD base 48.82m OD (no timbers). Work started with the digging of a construction trench [246], backfill fill [259] [245], the wall had a slightly wider internal sandstone rubble foundation [148], some of these stones had diagonal tooling marks implying they were reused (from bastion 1?). This interpretation means that the rebuilding of the bastion involved making it smaller, possibly this was done to allow the creation of a quay to the north. It was consisted of with an external facing course of squared close jointed red sandstone blocks with diagonal slashed dressing/tool marks, the internal face was constructed of less regular coursed rubble bonded by hard light grey lime mortar [74]. On the N-W corner of this masonry were a series of deep linear grooves interpreted as rubbing marks left by mooring ropes (see SG 38).

#### 4.11.2.3 Group 30 Foreshore material around Second West Bastion

##### 4.11.2.3.1 SUBGROUP 37 FORESHORE MATERIAL AROUND SECOND WEST BASTION

This wet pebbly gravel in a sandy clay matrix is probably a mixture of material that naturally accumulated on the foreshore was dumped and then was reworked. [303] top 48.78m OD. Dating: PMP (fabric ENGS) post 1670. This context is considered partly to pre-date the west bastion, but as it likely that it was either accumulating or being reworking after the construction of the bastion. Therefore it could in part be either is contemporary or later with the bastion, so it should not be taken as dating evidence for the construction of the bastion, but dating the construction of the cellars to the N of the bastion.

#### 4.11.3 Building 11: Shortening and refacing of Second West Bastion

##### 4.11.3.1 Group 38 Refacing of Second West Bastion

###### 4.11.3.1.1 SUBGROUP 35 REFACING OF SECOND WEST BASTION?

This is the earliest phase of external facing and was not fully exposed. It was constructed of greyish-red (Ginsil) sandstone, large squared close jointed rectangular blocks [117]. The external faces of these blocks showed evidence of a 'pocked' type dressing. Bonded by brown sand lime mortar. Part of the slightly wider internal wall core (top 50.55m OD) is attributed to this phase. Over time the bastion was apparently repaired and extensively refaced probably because of erosion and flood damage.

##### 4.11.3.2 Group 43 Shortening of Western Bastion

###### 4.11.3.2.1 SUBGROUP 124 REBUILDING OF THE WESTERN PORTION OF 1ST BASTION

It is assumed that when the bastion was rebuilt it was decided to reduce its northern extent, perhaps to allow the creation of a quay along the Frankwell foreshore (after 1608 and before 1739?). Three walls of a D-shaped bastion were uncovered representing the W and S walls, the north wall of this bastion consisted of [74] SG 36, which is interpreted as retained from an earlier phase. The changes of direction were marked by abrupt changes in the angle of the external facing. Length N-S external 7.74m, internal est. 5.50m, E-W width external 4.60m, internal 5.50m. The external facing consisted of rectangular grey and red sandstone (Keele Beds) blocks (6 courses exposed with 'pocked' type dressing and wide joints and peg tile used as levelling courses [32] SG34 bonded by hard lime rich grey-mortar mortar. The internal face [118] SG124 consisted of more irregularly coursed sandstone rubble, largely obscured by plaster/render.

###### 4.11.3.2.2 SUBGROUP 38 MOORING RING ON WEST BASTION

Until the 1790s redevelopment of the area the southern portion of the west bastion was situated within the actual river channel and on the S-W corner of the bastion, was circular forge iron 24cm diameter [163] secured by a short, horiz iron bar with a circular fitting at one end (holding the ring) and the other end was set in a small hot lead filled hole chiselled into the facing of the bastion [117] 49.75m OD. Left in-situ.

##### 4.11.3.3 Group 82 West Bastion structural additions/ modifications

No dating evidence, but the absence of brickwork suggests a pre 1790s date, probably connected with conversion into house (which it was by the mid 18th C according to pictorial evidence).

## 4.11.3.3.1 SUBGROUP 39 INFILLING AND INTERNAL WALLS OF WEST BASTION

The southern portion of the bastion was infilled with a solid mass of horis red and grey sandstone rubble bonded by pale brown sand/lime mortar [114] 50.79m OD. This infilling was linked with the construction of an internal arrangement of L shaped walls N-S arm [70] The N-S arm was founded on an another earth mortared sandstone foundation [71] top 50.45m OD. The standing masonry [70] red sandstone, mortared rubble with a dressed W (internal) face, top 50.79m OD. The E-W arm [75] consisted of red sandstone, mortared rubble masonry, coursed? (internal face obscured by render) bonded by light grey-brown sand lime mortar. The function of this internal wall is uncertain, but the southern area could have served as the base of a stairs.

## 4.11.3.3.2 SUBGROUP 40 PARTIAL REBUILDS OF INTERNAL BASTION WALLS

At some later date the internal wall (SG39) was partly rebuilt or repaired by more sandstone rubble masonry, bonded by hard pinkish brown lime mortar [72]. The upper portion of [70] (SG 39) was also rebuilt or repaired [73].

## 4.11.3.3.3 SUBGROUP 41 RENDERING OF INTERIOR OF WEST BASTION

Presumably to try and prevent rising damp the interior faces of the bastion walls [315] [193] and floor were rendered or plastered by successive? skim of cream or light greyish-brown coloured sand/lime mortar [164]=[190], this was generally fragmentary due to wear, below it were traces of a charcoal spread [165]. Plaster on internal N face of wall [75] is [190] = [164].

## 4.11.3.3.4 SUBGROUP 72 PARTIAL REBUILD OF WEST BASTION

[123] repair/refacing of west bastion with sandstone ashlar.

**4.11.4 Building 14: Quayside building west of arch**

This rectangular building was constructed on the former area of open space on the quayside which gave access to the W side of the bridge arch. As an anonymous watercolour of Frankwell Quay and the OWB (dated 1769) shows the northern-most arch of the bridge was still open, this building must have been constructed after this date, which would explain its absence from Rocque's map of 1746 (Baker 2005, figs 4 and 11).

**4.11.4.1 Group 62 Post-med quayside building**

## 4.11.4.1.1 SUBGROUP 166 WEST WALL OF PM BUILDING

[670] N/S west gable wall constructed of reused sandstone ashlar blocks (pre- 1796) to N of quayside.

## 4.11.4.1.2 SUBGROUP 167 COBBLE FLOOR

Cobble floor [669] within building SG 166.

**4.11.4.2 Group 63 Later modification to post-med quayside building**

## 4.11.4.2.1 SUBGROUP 168 JOIST SUPPORTS?

Series of sandstone rubble rectangular blocks of masonry built over [669] and up against the N face of wall [651], interpreted as supports for joists of suspended timber floor [652] [653] [654] and [655].



## 4.11.4.2.2 SUBGROUP 172 ROBBING OF MASONRY

Exactly when event this took place is uncertain (pre 1790s?), this wall may have served as the E gable wall of this building or this gable wall may have situated further E under the concrete ramp SG207. [988] cut for partial robbing of masonry [675], fill [677].

## 4.11.4.3 Group 70 Construction of building due west of arch

This rectangular building was constructed on the former area of open space on the quayside which gave access to the W side of the bridge arch. SGs 66 and 67 were originally interpreted as the extension to an existing building composed of existing masonry G29 and G36, but it in fact more likely that these existing walls were simply retained and reused and their westward extension was actually part of the primary phase of construction of this building.

## 4.11.4.3.1 SUBGROUP 66 EXTENSION THE NORTH WALL OF WEST BASTION (SOUTH WALL OF QUAYSIDE BUILDING)

[92] E-W sandstone ashlar cellar wall, W extension of [74], which marks the enlargement of the western quayside (S wall) building - 19th century (post 1795) ?

[92] = [642] [647] [649] W portion of terraced house to W side of bridge arch.

## 4.11.4.3.2 SUBGROUP 67 EXTENSION TO QUAYSIDE RETAINING WALL (NORTH WALL OF QUAYSIDE BUILDING)

[115] E-W sandstone ashlar cellar wall, W extension of [85] SG 42, which marks the enlargement of the western quayside (N wall) building - 19th century (post 1795) see SG66. [85] = [650] W cont of same masonry clearly all reused bridge or bastion ashlar blocks.

## 4.11.4.3.3 SUBGROUP 63 ROBBED FLOOR JOISTS

Earliest floor within building

2 parallel E-W robbed out joists slots for timber floor of cellared building constructed on the quayside (W of bridge) [299] cut, fill [300], [301] cut, fill [302].

**4.11.5 Structure 3: Post-med quayside wall**

## 4.11.5.1 Group 35 Levelling dumps on foreshore

## 4.11.5.1.1 SUBGROUP 154 LEVELLING DUMPS

Dumped flood deposits [965]. External prior to construction of 17th-century quay G 36? PMP 1580-1650.

## 4.11.5.2 Group 36 Quayside wall

## 4.11.5.2.1 SUBGROUP 155 QUAYSIDE WALL

Trench-built [936], E/W ashlar quayside retaining wall [935], NE of open bridge arch [977].

**4.11.6 Structure 4: post-medieval quayside wall**

## 4.11.6.1 Group 39 Quayside wall

## 4.11.6.1.1 SUBGROUP 42 QUAYSIDE WALL

To the N or landward side of the quay on the west side of the bridge (which was in existence before 1739) was a substantial E-W sandstone wall over 6.64m long (E end never defined), 1.50m wide. This wall was constructed by digging a deep foundation

trench [274] through existing landward deposits (SG 18). Mortar was spilt in this cut [99]. The northern side [97] (core) was constructed of roughly coursed irregular red sandstone rubble masonry, bonded by mid brown sand lime mortar. The S face [85=532] was constructed of 9 courses of dressed wide jointed rectangular red sandstone blocks. This wall was clearly constructed with reference to a lower ground level than cellar floor [53=59] SG71. There was clear W end to the masonry and no indication of any N or S returns, so it is assumed to be built as retaining wall built along the landward side of the quay which was later extended W [115] SG 67 and incorporated into cellared buildings. The ground level of any quayside surfaces is unknown because of the construction of later cellars. The rubbing marks left by mooring ropes on [74] span from 49.99m to 50.32m, implying that the quayside surface stood at c 49.9 m OD. Dating: CTP (clay tobacco pipe) after 1630.

## **4.12 Open Area 10: post-medieval activity (pre 1790s) east of the bridge approach road**

During this OA R2 replaces R1. Along the bridge approach B7 is still retained (with structural additions (G 31, 44 and 69). There are a series of new buildings (B10, B12, B13 and B15) all fragmentary and of uncertain function. There is evidence industrial activity (S5) an animal mill and (S6) scorching (the latter is undated).

### *4.12.1.1 Group 55 ditch property boundary*

#### 4.12.1.1.1 SUBGROUP 14 POST MEDIEVAL DITCH

E terminal of V profile ditch [251], fill [278] erosion/silts/rub, part of a property boundary fronting onto to bridge approach road? [251] = [881] W cont, primary fill [892] = [278]. Dating: CTP 1780-1800, and residual medieval pottery 1400-1500.

### **4.12.2 Building 7: Later internal additions**

#### *4.12.2.1 Group 31 Early post-medieval additions to masonry building*

##### 4.12.2.1.1 SUBGROUP 149 POST-MEDIEVAL? FOUNDATION ADDITION TO SG144

Trench built [903] foundation butting up against the E side of wall [823], an internal lining wall which appears to have been structurally unnecessary. Dating: medieval pottery 1200-1500, probably residual.

##### 4.12.2.1.2 SUBGROUP 150 INTERNAL MAKEUP

Internal gravel sterile makeup [888] for floor [886].

##### 4.12.2.1.3 SUBGROUP 151 MORTAR FLOOR

Frag of worn mortar floor [886] top 50.71m OD within masonry building.

##### 4.12.2.1.4 SUBGROUP 152 POST-PIT

Internal robbed post-pit or small pit [891], fills [887] [890]

Dating : CTP 1680-1714, PMP (post-medieval pottery) 1700-1900.

##### 4.12.2.1.5 SUBGROUP 182 ROBBING OF WALL [823]

Robbing of superstructure of wall [823], fill [833]. No finds.

#### *4.12.2.2 Group 44 Mortar floors within post-medieval phase of masonry building*

##### 4.12.2.2.1 SUBGROUP 163 MORTAR FLOOR

[878] makeup for worn cream mortar floor [859].

##### 4.12.2.2.2 SUBGROUP 164 MORTAR FLOOR

[861] light grey mortar floor, part of post-medieval building

#### *4.12.2.3 Group 69 Post-medieval additions to masonry building*

##### 4.12.2.3.1 SUBGROUP 180 PARTITION WALL

[860] N/S sandstone rubble partition wall added to E side of [823].

##### 4.12.2.3.2 SUBGROUP 181 LEVELLING DUMP

[832] redeposited alluvium.

#### *4.12.2.4 Group 54 Demolition of substantial masonry building*

Post-medieval demolition of B7, part of post 1790s replanning superseded by G76.

#### *4.12.2.5 Subgroup 165 Demolition material*

[866] [862] discarded demolition material (all reusable material removed) sandstone rubble derived from wall [823].

### **4.12.3 Building 10: Post-medieval building adjoining east side of bridge**

#### *4.12.3.1 Group 57 Post-medieval building adjoining E side of bridge*

##### 4.12.3.1.1 SUBGROUP 30 MASONRY TO SE OF BASTION

In the S trench within the cellar the earliest feature was a large block of mortared red sandstone rubble masonry [153]=[989] (WB record 2007) over 1.92m long E-W of unknown plan with a face edge along its S side, it might to be part of the same feature as [162, 280] SG 31. It consisted of red sandstone angular blocks (only top surface seen). A shallow hollow in the top of this masonry was infilled with crushed mortar [347]. The function of this masonry it could represent another phase of bastion or more likely it is part of the pre 1746 buildings on the E side of the bridge shown on the Rocque map.

#### *4.12.3.2 Group 58 Modifications to post-medieval building*

##### 4.12.3.2.1 SUBGROUP 31 MASONRY TO E OF BASTION PART OF POST-MEDIEVAL BUILDING

Part of this masonry [162] butted up against the E face of the second E bastion and is interpreted as part of two builds of an internal feature (stair base?) within the pre-1746 building on the E side of the bridge, the relationship of this masonry to SG 30 is uncertain, but they could be different elements of the same building. [280] Short length of red sandstone rubble masonry, hard grey mortar with face edge along N side top 50.11m OD, W end has vertical butt joint with [162]. There was an L shaped block (aligned N-S?) red sandstone rubble masonry bonded by soft pink mortar top 50.34m OD. Date pre 1746?

##### 4.12.3.2.2 SUBGROUP 32 POST-MEDIEVAL BUILDING

Part of the same building as SG 30, but a different (later) build to SG 30. Over the top of masonry SG 30 was a thin dump of sand, wood ash, charcoal and coal frags [158]. The

top surface of the underlying masonry was not very even so it seems unlikely it served as floor unless it was levelled up and paved (of which there was no sign). An E-W red sandstone rubble wall, the S external face was constructed of large squared rectangular blocks (white sand/lime mortar) [152], the masonry of the wall core on the N side was less regular, with a stepped profile which could have supported the joists for a suspended timber floor (est. level 50.0m OD). The wall core included a broken red 2" thick brick and was bonded by an earth mortar. Length over 2.00m long and up to 0.58m wide, top 49.96m OD. [152] = [808] WB ground beam.

#### 4.12.3.2.3 SUBGROUP 54 HEARTH

As this hearth pre-dates the 19th-century brick-built cellars, it presumably was an internal feature within an earlier building SG 30/31.

Cut [141], [122] brick lining (red unfrosted 4" wide, 2" thick) single course, disuse ash/cinder fills [142, 143].

Dating: BM (building material) 1800-1900.

### **4.12.4 Building 12: Fragments of one or more post-medieval masonry buildings constructed east of the bridge**

#### *4.12.4.1 Group 72 post-medieval building(s) east of the bridge*

Probable remains of one large or several smaller buildings, all pre 1790s.

##### 4.12.4.1.1 SUBGROUP 157 POST-MEDIEVAL BUILDING

Not part of [153] instead [804] is sandstone foundation of uncertain plan with a external face on its S side, part of PM building E of bridge on the foreshore.

Reclamation dumps linked with construction of wall SG157:

##### 4.12.4.1.2 SUBGROUP 158 POST-MED LEVELLING DUMPS

Dumped river beach [816], river silts [815] [814]. No finds.

##### 4.12.4.1.3 SUBGROUP 159 POST-MED LEVELLING DUMPS

Dumped sandy silts [812] [813] N of wall [804]. No finds.

##### 4.12.4.1.4 SUBGROUP 161 INTERNAL CELLAR FOUNDATION

Fragment of trench-built E-W mortared sandstone wall foundation [803] recorded in WB section.

##### 4.12.4.1.5 SUBGROUP 101 BUILDING ALONG EAST BRIDGE APPROACH

[205] E-W mortared sandstone rubble wall foundation, part of pre 1795 building E bridge approach?

##### 4.12.4.1.6 SUBGROUP 218 SANDSTONE WALL FOUNDATION

[829] short length E-W PM sandstone masonry, WB record plan unknown.

### **4.12.5 Building 13: Fragment of masonry post-medieval building**

#### *4.12.5.1 Group 59 Frag of post-medieval building east of bridge approach road*

##### 4.12.5.1.1 SUBGROUP 146 POST-MEDIEVAL MASONRY BUILDING

Short length E-W trench-built wall foundation [885], cobble/sand found [884].

Dating: PMP 1630-80, pre 1690, probably early/mid 17th century.

## 4.12.5.1.2 SUBGROUP 147 POST-MED POSTHOLE

[897] small pit or ribbed posthole, fill [896] contained coal frags, probably part of the same building as SG 146.

#### **4.12.6 Building 15: Fragment of masonry building along east side of bridge approach**

##### *4.12.6.1 Group 42 fragment of roadside building*

###### 4.12.6.1.1 SUBGROUP 82 SANDSTONE WALL

[305=210] frag of N-S mortared sandstone rubble masonry, probably part of building along the E side of the bridge approach, date probably post-medieval, Pre 1790s

#### **4.12.7 Road 2: Post-medieval northern bridge approach road surfaces and makeup**

##### *4.12.7.1 Group 67 Post-med bridge approach road surfaces*

Some of these surfaces are probably of pre-1796 date, which others which are later than G55 are clearly of 19th century date. The impression is that the medieval and earlier post-medieval road surfaces have been either relaid or disturbed by later activity so could not be identified as a discrete datable entity. These surfaces may have remained in use after 1795.

###### 4.12.7.1.1 SUBGROUP 43 POST-MEDIEVAL COBBLED SURFACE (BRIDGE APPROACH ROAD AND EXTERNAL SURFACES TO E)

On the eastern edge of the line of the bridge approach road were a number of areas of cobbled road surfaces, [232] top 50.68m OD served as bedding for cobbles [214] 50.64m OD. These surfaces clearly extended east of the direct line of approach to the bridge, so probably included the external area due north of the buildings to the east of the bridge (see Rocque map of 1746).

[214] = [863] [232] = [865] [876] later observations.

Dating: PMP 1660-1870. CTP after 1630.

###### 4.12.7.1.2 SUBGROUP 44 LATER POST-MEDIEVAL COBBLED SURFACE (BRIDGE APPROACH ROAD)

A replacement surface was laid over SG43, bedding [213], for cobbles [242] 50.85m OD.

Dating: PMP 1660-1870.

###### 4.12.7.1.3 SUBGROUP 97 PM BRIDGE APPROACH SURFACES AND LEVELLING DUMPS.

[170] = [523] GGAT 614 cobbled surface.

[201] makeup for [170]

GGAT T6

[522] = 624 cobble repair to surface [523].

[521] worn road surface =625.

[520] sandy silt levelling dump =613.

[530] cobbled surface = 623.

[528] silty clay dump, early/mid 18th-century pot = 619.

[529] mortared cobble surface = 622.

[531] sand dump, late 17th/ early-mid 18th-century pot = 610.

[120] cess stained trampled external surfaces.

[519] = 612 sandy silt dumping pot 13/14th C?.

[180] cess stained trampled gravelly external surfaces.

#### **4.12.8 Structure 5: Post-medieval animal mill**

##### *4.12.8.1 Group 60 Probable Animal mill base?*

###### 4.12.8.1.1 SUBGROUP 173 ANIMAL MILL BASE?

[826] W portion of circular construction cut (est. diameter 4.8m), [879] rub fill, [837] cobble surface, extending beyond LoE.

Dating CTP after 1630, probably mid/late 17th century.

##### *4.12.8.2 Group 61 Disuse of animal mill*

###### 4.12.8.2.1 SUBGROUP 174 DISUSE OF ANIMAL MILL

[827] rubbish fill.

Dating: CTP 1690-1720, PMP 1690-1730.

#### **4.12.9 Structure 6: External scorching**

##### *4.12.9.1 Group 45 External scorching*

###### 4.12.9.1.1 SUBGROUP 136 SCORCHED/BURNT AREA

Area of external intense heating /scorching of ground surface [868] – not hearth base. Date uncertain pre 1790s. Evidence of industrial activity not domestic.

#### **4.13 Open Area 11: Reclamation of the foreshore/river beach between the Old and New Welsh Bridges.**

The construction of the New Welsh Bridge During 1793-95 and its associated up steam barge quay or abutment (S9) were the first of a series of dramatic changes to the whole appearance of the Frankwell quay between the two bridges. Next appears it was decided to reclaim part of the inlet and construct new two quay walls (S3 and S5) in c 1795. Soon afterward it appears that this proposal was abandoned and instead it was decided to reclaim the whole inlet. This process is not well documented, but it was complete by 1832 according to cartographic evidence (Hitchcock's map). This work involved the extensive dumping of soil and other materials on the existing foreshore.

##### *4.13.1.1 Group 53 Western foreshore reclamation dumps*

###### 4.13.1.1.1 SUBGROUP 53 WESTERN FORESHORE RECLAMATION DUMPS

These deposits are interpreted as post 1795 pre 1832 reclamation dumps consisting clay/silts, silty sands, sand/gravel and brick and red sandstone rubble demolition rubble (containing 3" thick red bricks), which sloped from S to N showing the sequence of tipping; [329] 1.7 to 2m depth thick of mixed sandy silt containing freq, cinders broken Welsh slate residual Medieval floor tile and (top 50.85m OD); [378] [380] [381] [382] [413] [414] [415] [416] [417] [418] [379] [378] includes cinders, coal dust and mortar.

GGAT T4 : [494] [495] [496] [497] [498] [499] [500] [501] [502] T11: [570].

##### *4.13.1.2 Group 88 Eastern foreshore reclamation dumps*

External dumping around the Old Welsh Bridge.

###### 4.13.1.2.1 SUBGROUP 75 RECLAMATION DUMPS (POST 1795)

Dumping of sand, soil brick demo rubble to reclaim the area of former river foreshore.

GGAT T3

[472] GGAT 332, [473] bottle 18th C+ GGAT 321; [474] GGAT 318, [475] GGAT 320, [488] GGAT 319.

GGAT T10

[567] = GGAT 1006; [566] = 1006; [565] = 1005; [564] = 1004; [563] = 1003.

GGAT T2

[462] = GGAT 212; [463] = 211; [464] = 210; [465] = 209; [466] = 208; [467] = 206; [468] = 205; [469] = 201.

GGAT T1

[456] = GGAT 106; [457] = 105; [458] = 104; [459] = 101.

Area around W bastion

Sandy silt dumps [19] 19th-century pot.

4.13.1.2.2 SUBGROUP 76 PITS –19TH C

[478] cut = GGAT 316, fill [479] GGAT 317.

[476] cut =GGAT 309, fill [477] GGAT 310.

**4.13.2 Structure 7: Intermediate phase of masonry river wall c 1795.**

*4.13.2.1 Group 47 early 1790s intermediate phase of foreshore reclamation*

4.13.2.1.1 SUBGROUP 203 RECLAMATION RIVER WALL

E/W sandstone blocks and brick- built river wall [658], intermediate phase of post 1793 foreshore reclamation (not same as [690]).

4.13.2.1.2 SUBGROUP 204 RECLAMATION RIVER WALL

E/W sandstone block built river wall [690], intermediate phase of post 1796 foreshore reclamation (not same as [658]).

These two walls may represent part of the 'new quay' shown on a plan of 5th February 1795, which was described as 'to be taken out of the river', further S of the existing quay (County Record Office). Perhaps work started on this structure, but was soon abandoned when a more ambitious programme of land reclamation was decided upon, which was completed by 1832.

**4.13.3 Structure 8: Intermediate phase of foreshore reclamation east of bridge pier**

*4.13.3.1 Group 73 Intermediate foreshore reclamation east of the bridge pier*

4.13.3.1.1 SUBGROUP 175 EXTERNAL TRAMPLE

[638] trampled external surface.

4.13.3.1.2 SUBGROUP 176 RECLAMATION WALL?

Length of E-W sandstone masonry [637] too far S for part of pre-1796 cellared building E of bridge, probably part of a localised phase of intermediate 1790s foreshore reclamation. It was later reused as part of the foundations of the S wall of cellars SG56/ G74.

#### **4.13.4 Structure 9: New Welsh Bridge quay and masonry abutment**

##### *4.13.4.1 The New Welsh Bridge and associated works*

In 1791 Shrewsbury Corporation decided to replace the medieval Welsh Bridge, by building a new one slightly down stream (200 ft) of the existing structure. Tenders for the new design were to be submitted by 2nd April 1792, and a contract for the work was drawn up on 22nd February 1793, stating that the work was to be completed by 29th September 1795 (which it was). A foundation stone was laid on 13th May 1793.

##### *4.13.4.2 Group 48 Foreshore dumping on site of new bridge abutment*

###### 4.13.4.2.1 SUBGROUP 46 FORESHORE DUMPING

Before the riverwall [47] was constructed slightly gravelly sand [383] top 49.65m OD, [576] was dumped on the foreshore to raise the ground level on the site of the new bridge abutment. The previous level of this area of foreshore (OA6) was probably about 49.5 to 7m OD.

##### *4.13.4.3 Group 49 Bridge abutment platform*

###### 4.13.4.3.1 SUBGROUP 47 ABUTMENT PLATFORM AND DRAIN

It appears that the building of the Frankwell end of the new bridge involved the construction of a large platform on the foreshore which served as a foundation for the abutment. Certainly the N side of this platform probably served a barge quay during the construction of the new bridge. The N (upstream) side of this platform which consisted of a very substantial wall constructed of large (0.85 to 1.10m long), close jointed, dressed rectangular red sandstone (Keele Beds) ashlar blocks [119] top 50.78m OD. The external faces of these two courses ashlar blocks all showed a variety of short slashed diagonal tooling marks (vertical chevrons, intermittent dashes, and herring bone). A number of the ashlar blocks were set with their long axis at right end to the line of the wall, so protruded (up to 60cm) from the face of the wall. A N-S length of 29.25m was exposed, with a change of angle towards the S end, the wall cont S of the limit of excavation probably to the line of the present river side wall. The ashlar sat on a foundation plinth constructed of very roughly coursed red and light grey sandstone, mortared rubble, the E or external face of the plinth was marked by a 16cm wide off set (top 48.83m OD). The base of the wall was exposed in one slot at 48.50m OD. An integral feature of wall was a stone [338] lined drain, cut [426] capped by brick built arch. Function to drain water from the interior of the platform? Dating: BM 1800-1900.

###### 4.13.4.3.2 SUBGROUP 49 EARLIER DUMPING INSIDE ABUTMENT PLATFORM

The sequence of deposits on the internal side of the river wall [119] was examined in 2 hand dug trenches, unfortunately almost all the deposits here had been destroyed by the digging of N-S service trenches. This degree of disturbance means there a high risk of finds contamination due to slumping of relatively unstable deposits around the sides of the service trenches. No internal deposits relating to the construction of the platform were located. The lowest deposit [405] was fine/medium sand containing patches of sand mortar 49.52m, which may be a mixture of dumping and construction debris, this was sealed by dumped ashy silt [404] top 49.71m OD, CTP 1850-70, 1860-80, later levelling dumps [409=562], [408] [407] [406] [403] [402] [401], [400] [399] [386] [385] contained frags of broken salt glazed foul drain, [387] [561] [560] [384] [559] [374], [373] [548] [558] [331] [394]. The dates of these deposits suggest extensive later disturbance as the platform must have been out of use before 1832. Dating: CTP 1850-70, 1860-80, 1880-1910 ; PMP 1805-1900, 1850-1900, 1870-1890.



#### 4.13.4.4 Group 50 Abutment drain silts

##### 4.13.4.4.1 SUBGROUP 48 DRAIN SILTS

[328] silting up of drain [426] final use.  
CTP 1880-1910, PMP 1850-1900.

#### 4.13.4.5 Group 51 External dumping against external face of abutment platform

##### 4.13.4.5.1 SUBGROUP 50 DUMPING UP AGAINST EXTERNAL FACE OF ABUTMENT PLATFORM

These deposits seals brick capped drain (SG 47), so may have marked its disuse as it could no longer be cleaned out. Levelling dumps of sandy silts [331] [332] river sand [330]. Dating: PMP 1800-30.

### 4.14 Open Area 12: Post 1790s environs of Old Welsh Bridge (until the 1960s)

On 4th March 1795 the old bridge was sold by auction and the buyer was expected to demolish all the superstructure except the 'dry arch' and its adjoining buildings which were not included in the sale (B11 and 14) and were to be retained until the 1960s (see OA13). After the demolition the rest of the bridge, the approach road (R2) was retained, but was now downgraded to an alley or cul-de-sac (R3). About this time B7 was demolished. The area of the new bridge quay (S9) was now used for industrial purposes (G52). A series of new brick-built cellared buildings were constructed along the east side of the bridge approach (B16, B17, B18, B19, B20 and B21). On the west side of the bridge a Methodist chapel was constructed (B23) and further west were various industrial buildings (B22). By 1882 (OS 1:500 map) the area south of the 'dry arch' was public garden or open-space and a number of garden features were located within this area.

#### 4.14.1.1 Group 89 Garden features around Old Welsh Bridge

##### 4.14.1.1.1 SUBGROUP 92 BRICK-BUILT GARDEN FEATURES (PRE- 1882)

These features are all shown on the 1882 OS map and provided access via a series of steps from the alleyway down to an area of public open-space with a network of pathways.

[167] brick E wall of soakaway (for surface water from alleyway?)

[306] S wall of soakaway.

[168] [169] barrel vault of soakaway.

[239] earlier cement garden pathway.

[237] brick stair base (red unfrosted bricks L9", W4", T2.75") originally supporting [250] ex-situ part of stone steps (tread)

[229] brick retaining wall for S side of stairs approach.

##### 4.14.1.1.2 SUBGROUP 93 LATER ADDITIONS TO GARDEN FEATURES

[243] [238]=[240] later cement garden pathway surfaces over [239].

[161] ramshackle brickwall serving as blocking W wall of soakaway.

[250] ex-situ stone slab steps, showing ware on treads.

[235] one of a pair of brick pillars flanking steps [237] (other pier missing).

[486] = GGAT 307 sand bedding for [484].

[484] possible brick pathway = GGAT 306.

[236] brick retaining wall.

##### 4.14.1.1.3 SUBGROUP 95 BRICK DRAIN

GGAT T3 drain within garden to S-W of bridge arch

[480] cut = GGAT 314.  
[482] fill of [480] = 314.  
[483] brick-built drain in [480].

#### 4.14.1.1.4 SUBGROUP 201 EXTERNAL SURFACE

[643] brick paved external paving /pathway, [657] coal ash makeup for paving. Led S from house into garden , replaced by SG202.

#### 4.14.1.1.5 SUBGROUP 202 PAVED AND KERBED PATHWAY

[646] flagstone paved pathway 1.48m wide leading S from terraced houses on W side of bridge. [644] kerbing along W side of path, [645] kerbing along E side of path. It remained use until the 1960s.

### **4.14.2 Building 11: Continued usage**

#### *4.14.2.1 Group 83 Structural alterations within the west bastion*

It is assumed that soon after the demolition of the rest of the Old Welsh Bridge the pre-existing tiny house within the west bastion underwent a number of structural alterations.

##### 4.14.2.1.1 SUBGROUP 86 CONVERSION OF WEST BASTION IN CELLARS/HOUSE

[20] N-S wall, squared mortared sandstone blocks E wall of cellar, incorporating [74] Post 1795?

##### 4.14.2.1.2 SUBGROUP 87 INFILL OF WEST BASTION

[07=100] sandy gravelly levelling dump infilling interior of W bastion, residual pot late 12-13th C.  
PMP 1700-1900.

##### 4.14.2.1.3 SUBGROUP 73 BRICK ADDITION TO WEST BASTION

[124] brick rebuilt of part of S side of W bastion served as a retaining wall (red unfrogged bricks L9", 4 4.25", T 3.75-4.0" square in cross-section).

#### *4.14.2.2 Group 84 Later modifications to West Bastion house*

20th century additions. This cottage was lived in until the 1960s, any demolition fill/modern material present was removed without record.

#### *4.14.2.3 Subgroup 88 Internal features of recent date in west bastion*

[04] N-S internal brick wall  
[217] [218] salt glazed foul drains  
[05=06=113] frags of red earthenware quarry tile floor.  
[160] concrete door threshold.

### **4.14.3 Building 14: Continued usage**

#### *4.14.3.1 Group 71 modifications to quayside building*

Later floors within building

##### 4.14.3.1.1 SUBGROUP 64 LEVELLING DUMPS

Levelling after robbing of joist SG 63, serving as makeup for [289].  
[290] [295] sandy silt dumps.

Dating: PMP 1770-1800.

4.14.3.1.2 SUBGROUP 65 MORTAR FLOOR

[289] worn white mortar cellar floor (W of bridge).

Dating: PMP 1770-1830.

4.14.3.1.3 SUBGROUP 68 DUMPING WITHIN EXTENDED WESTERN CELLAR

Series of mainly sandy/silt levelling dumps, this includes material which seals wall [68] SG 34 after its robbing /truncation linked with W extension of building. Pot 1800+. [57] [58] brick slate frags demo mat/domestic rub; [62] [63] silty sand, [64] [65= 581 was GGAT 1223; [66] [67].

Dating: PMP 1855-64, 1805-1900.

4.14.3.1.4 SUBGROUP 69 LATER JOIST SUPPORTS IN WESTERN CELLAR

The mortar floor SG 65 was replaced by a sandy/clay levelling dump [284], on which were laid two 2 parallel E-W concentrations of horiz bedded sandstone rubble frags interpreted as supports (avoiding damp) [282] [283].

Dating: PMP 1700-1900; CTP 1680-1714.

4.14.3.1.5 SUBGROUP 70 FURTHER DUMPING WITHIN EXTENDED WESTERN CELLAR

Levelling dumps prior to construction of final floor [53=59] SG 71, [56] [268] sandy silts.

Dating: CTP 1850-70; PMP 1855-64, 1850-80.

4.14.3.1.6 SUBGROUP 71 BRICK PAVED FLOOR IN WESTERN CELLAR

This floor extended under the bridge arch and was in use until c 1960. See SG89 for ground storey joists.

[54] sand bedding.

[55] bitumen damp proofing.

[53=59] red brick pavers, red unfrogged bricks (L9-9.25", W 4.5", T 3").

Dating: BM 1800-1900.

4.14.3.1.7 SUBGROUP 74 BRICK BLOCKING OF EAST SIDE OF BRIDGE ARCH

[196] Brick blocking wall (with top air/light vent) sealing off E side of bridge arch, to incorporate this space into the W cellar.

[196] = [934] brick vent fully uncovered during 2007.

4.14.3.1.8 SUBGROUP 89 SUSPENDED FLOOR FOR GROUND STOREY OVER WEST CELLAR

The ground floor joists of the property over the west cellar (2 up/down terraced brick-built house) was fixed to the W face of the bridge arch [21] by a series of 8 shallow recesses [24, 25, 26, 27, 28, 29, 30, 31]. Associated cellar floor SG 71.

4.14.3.1.9 SUBGROUP 90 SUSPENDED FLOOR FOR GROUND STOREY OVER WEST CELLAR

Series of 6 recesses for ground floor joists in N face of [74]. These sockets are at different level to SG 89, so presumably relate to a lower and earlier phase of ground floor [102, 103, 104, 105, 106, 107]. Three shallow slots [88] [89] [686] cut into the S face of [87=97] is interpreted as part of the same phase of suspended floor.

4.14.3.1.10 SUBGROUP 91 INTERNAL WALL IN WEST CELLAR

[108] short length of internal N-S sandstone rubble wall built over cellar floor [53], removed during excavation of trench in front of bridge arch.

4.14.3.1.11 SUBGROUP 99 PROPERTY WEST OF ALLEYWAY

[150] brick foundations for [129].

[129] Brick work basal portion of E wall of cellared house on W side of arch.

[46] L-shaped frag of brickwork, part of E wall of cellared house on W side of arch.

4.14.3.1.12 SUBGROUP 110 WESTERN CELLAR HOUSE SUPERSTRUCTURE

[116] E-W Red brick (unfrogged L9", W4", T 3"), built on [115], part of house over western cellar.

4.14.3.1.13 SUBGROUP 200 TERRACED HOUSE FOUNDATIONS

[679] 2.5" thick brick work, W wall of terraced house incorporating the bridge arch into its cellar. [651] 2.5" thick brick addition to wall [650].

4.14.3.1.14 SUBGROUP 205 PARTIAL REBUILDING OF WALL

[648] brick and sandstone block partial rebuilt of wall of [647/49] probably part of threshold?

### **4.14.4 Road 3: Final alleyway surfaces makeup and service trenches**

#### **4.14.4.1 Group 81 dumps and surfaces on bridge approach road/alley**

4.14.4.1.1 SUBGROUP 79 LEVELLING DUMP

[298] sand levelling dump.

Dating: PMP 1800-40.

4.14.4.1.2 SUBGROUP 80 SANDSTONE SURFACE

[294] frag of temp sandstone rubble/brick external surface.

4.14.4.1.3 SUBGROUP 81 LEVELLING DUMPS

Area to N of bridge approach, sterile soil levelling dumps.

[266, 275, 286, 287, 297].

Dating: PMP 1805-70, 1870-1900.

#### **4.14.4.2 Group 85 Alley cobbled surfaces**

These surfaces covered the former bridge arch and pier and were in use until the 1960s, having been relaid many times for the installation of services gas pipe (disused), electric cable and phones lines (both live).

4.14.4.2.1 SUBGROUP 103 BRIDGE ALLEY COBBLED SURFACES

Series of 19th/20th cobbled surfaces over bridge arch, relaid many times (live services below) in use until c 1960.

[133] stretcher bond brick pavers.

[134] + [135] cobbled surfaces.

[136] soil bedding for [134].

[151] stretcher bond brick pavers.

[84] cobbled surface.

[125] stretcher bond brick pavers.

[271] makeup/bedding for [241].

[241] stone cobbles, few bricks/limestone blocks.

[132] stone cobbles.

[131] area of disturbed brick pavers = [518] GGAT 515.

[171] recent brick repair to [84]

[128] Brick/sandstone repair to [84].  
[130] soil infill modern dist of [84]  
[78] [207] [516] soil bedding for cobbles [84].  
[516] = GGAT 514 soil bedding for cobbles [84].  
Dating: PMP 1873-1900.

#### 4.14.4.2.2 SUBGROUP 114 MODERN SERVICE TRENCHES ALONG BRIDGE ALLEY/APPROACH

[200] cut for manhole and N-S trench (foul drain).  
[345] brick manhole lining fill of [200].  
[346] concrete plinth under [345] fill of [200].  
[199] = [327] fill of [200].  
[77]; [517 ] = GGAT 514, backfill of various services trenches (no cuts assigned).  
[194] NE-SE foul drain trench, fill dug as [+].  
Dating: PMP 1820-1900.

### **4.14.5 Structure 9: Later usage**

#### *4.14.5.1 Group 52 later dumping and surfaces inside platform*

##### 4.14.5.1.1 SUBGROUP 51 LATER DUMPING INSIDE PLATFORM

The higher level dumping within the platform contained mortar, sand plus frequent frags of coal, charcoal and cinders which served as the makeup for a series probable external surfaces SG 52, these could have been quayside surfaces, but judging by the evidence dating they relate the late 19th C industrial activity on the western portion of the site (OS 1882 Smithy, later there was a forge nearby). Dumps [557] [556] [555] [372] [554] [367] [370] [371] [361] [368=549] [553] [362] [393] [389] 388] [371].  
Dating: PMP 1825-1900, 1840-1900, 1848-1900; CTP 1850-70.

##### 4.14.5.1.2 SUBGROUP 52 QUAYSIDE/PLATFORM SURFACES

Surfaces [364] black coal/dust silty/sandy top 50.49m OD, [363] top 50.49m OD, [355] top 50.60m OD.  
[552] black grit/coal dust = GGAT 903..  
Dating: PMP 1830-1900.

### **4.15 Open Area 13: Demolition of the alleyway buildings around the former Old Welsh Bridge during the 1960s and subsequent landuse until 2005 (including buildings)**

#### *4.15.1.1 Group 86 Backfilling of cellared buildings East of bridge*

##### 4.15.1.1.1 SUBGROUP 190 PM INFILL OF CELLAR SG187

Soil infill of cellar [898] [899].  
Dating: PMP 1740-1830, 1807-1830; residual medieval pottery and earlier PMP

##### 4.15.1.1.2 SUBGROUP 125 DEMOLITION RUBBLE FILL OF EAST CELLAR

Demolition of brick rubble superstructure and final use of east cellar SG56 *circa* 1960.  
bits of old car, 303 bullet cases etc  
[01] = [509] GGAT 518.  
Dating: CTP 1850-1950, PMP 1880-1920

##### 4.15.1.1.3 SUBGROUP 211 CELLAR INFILL

[830] [838] brick/rubble demolition material infill of cellar. 19th C, G 75.

Dating: CTP after 1630; PMP 1770-1800.

4.15.1.1.4 SUBGROUP 214 DEMOLITION INFILL OF CELLARS

[893] demolition rubble infill of cellar SG 184. mid 20th century  
[956] demolition rubble infill of cellar SG 197. mid 20th century.

*4.15.1.2 Group 87 Backfilling of cellared buildings west of bridge*

4.15.1.2.1 SUBGROUP 112 DEMOLITION RUBBLE INFILL OF WESTERN CELLAR G71

[08] soil/brick/sandstone demolition rubble infill of western cellar c 1960.

4.15.1.2.2 SUBGROUP 104 RUBBLE INFILLING OF BRIDGE ARCH G71

In c 1960 after the demolition of the superstructure of the 19th C buildings either side of the bridge alley (SG 103), the bridge arch was infilled with brick rubble [23], retained by a ramshackle blocking wall [22] constructed of reused, unmortared brick and stone blocks.  
Dating: PMP 1919-36.

*4.15.1.3 Group 94 Car parks and levelling dumps (post 1960s demolition)*

4.15.1.3.1 SUBGROUP 217 RECENT LEVELLING AND CAR PARK SURFACE

[841] = [895] [809] tarmac surfaces,  
[858] modern car park makeup and surfaces (post 1960)  
[949] [842] levelling dumps of recent date including backfilling of cellars.  
Dating: PMP 1862-1900.

4.15.1.3.2 SUBGROUP 106 DUMPING OVER AREA OF GARDEN

GGAT T 3

[485] levelling dump = 305  
[487] levelling dump = 304  
[109 = 90 = 76 = 204] finds rich silty levelling dumps. [76] was also the infill of the brick soakaway (SG 92) 18th-century pottery.  
Dating: CTP 1880-1950; PMP 1902-30.

4.15.1.3.3 SUBGROUP 102 WESTERN ACCESS MODERN ROAD SURFACES

[460] grit/cinders compact surface = GGAT 100

4.15.1.3.4 SUBGROUP 123 MODERN EXTERNAL SURFACES

Modern levelling dumps/external surfaces within W part of site.  
[375] modern levelling dump.  
[376] series of superimposed modern external surfaces coal dust/cinders.  
[351] [350] [410] modern dumping.

4.15.1.3.5 SUBGROUP 120 RAMSHACKLE REPAIRS TO REMAINS OF WESTERN CELLAR

These repairs probably post date the demolition of the building and relate to the Subsequent retention of wall [85=97] as a terrace wall.  
[86] = [96] ramshackle brick repairs to top of existing wall [85=97].

*4.15.1.4 Group 95 Public toilets*

4.15.1.4.1 SUBGROUP 109 20TH CENTURY PUBLIC TOILETS

[615] cut for toilet foundations.  
[262] concrete plinth in [615].

[263] brick wall in [615].  
[333 =342] [334] fills of [615].  
[61] = [852] cut for W wall.  
[211] = [536] GGAT 707 brick wall in [61].  
[223] toilet foundations and foul drains within [61]  
[226] fill of [161] drains. = [533] GGAT 509.  
Later observations: [211] = [871] = [901] brick foundations

#### 4.15.1.4.2 SUBGROUP 215 MANHOLE

[882] brick lined manhole connected with public toilets Sg109.

#### 4.15.1.4.3 SUBGROUP 216 BRICKWORK

[889] N-S brick wall part same structure as [871] ?

### 4.15.1.5 Group 96 Modern services

#### 4.15.1.5.1 SUBGROUP 115 EARLIER SERVICE TRENCH WITHIN FORMER QUAY AREA

A deep N-S foul drain was located  
[356] cut.  
[359]; [358] = [398] fills of [356].

#### 4.15.1.5.2 SUBGROUP 116 LATER SERVICE TRENCH WITHIN FORMER QUAY AREA

A deep N-S foul drain was located  
[352] cut = [397] = [412]  
[357] [398] fills of [352].  
[396] fill of [397].  
PMP 1805-1900.

#### 4.15.1.5.3 SUBGROUP 207 CONCRETE FOUNDATIONS AND FOUL DRAINS

Concrete foundations for tyre centre toilets [674].  
[672] [673] modern ceramic foul drains.

#### 4.15.1.5.4 SUBGROUP 212 BRICK DRAIN

Short length SW-NE [659] brick lined drain or soakaway. Post-dates SG211.

### 4.15.1.6 Group 97 Electrical Substation

Built 2001? To supply flood defence pumps

#### 4.15.1.6.1 SUBGROUP 121 CONSTRUCTION OF SUBSTATION

2001 Electrical substation for new flood defence pumps  
[227] construction cut.  
[228] [255] fills of [227].

### 4.15.1.7 Group 98 GGAT trench and 2006 conservation

#### SUBGROUP 122 GGAT TRENCH T7

[224] cut NW corner GGAT T7 (dug 2005).  
[225] fill of [224].  
[258] layer of bark chips ground cover sealing T7.

4.15.1.7.1 SUBGROUP 107 2006 CONSERVATION WORK  
[316] rebuilding of wall [46] April 2006 with old bricks.

#### *4.15.1.8 Group 99 demolition of industrial buildings*

4.15.1.8.1 SUBGROUP 119 DEMOLITION OF INDUSTRIAL BUILDINGS  
Post 1960.  
[420] [424] [375] brick/roof slate demolition rubble dumps.

### **4.15.2 Building 16: Brick building on east side of bridge approach**

#### *4.15.2.1 Group 66 Post-medieval truncation and levelling dumps north-east of bridge approach*

Makeup for Building G68, after period of post-med truncation or soil quarrying.

4.15.2.1.1 SUBGROUP 77 TRUNCATION HORIZION  
[543] post-medieval truncation horizon = GAT 711, area to N-E of bridge approach.

4.15.2.1.2 SUBGROUP 78 LEVELLING DUMPS  
levelling dumps area to N-E of bridge approach  
[542] pottery mid 17th-early 18th century = GGAT 712.  
[541] = GGAT 710.  
[540] = GGAT 709.

#### *4.15.2.2 Group 68 Post-medieval building east of bridge approach road*

This wall is assumed to be of post 1790s, like the other examples of 2.5" thick brickwork.

4.15.2.2.1 SUBGROUP 83 BRICK WALL  
E-W late 18th or early 19th-century brick wall [538] = GGAT 704, cut [539] =GGAT 715.  
Probably part same building as [212].

4.15.2.2.2 SUBGROUP 84 BRICK WALL  
N-S ramshackle brick (red L9", W 4.5", T 2.5") late 18th/early 19th C? containing sandstone rubble (reused) [212], with cut [60] Frag of house on E side bridge approach.

### **4.15.3 Building 17: Brick-built cellar due east of bridge arch**

#### *4.15.3.1 Group 40 quayside levelling dump*

4.15.3.1.1 SUBGROUP 179 QUAYSIDE LEVELLING DUMP  
[940] silty levelling dump E of bridge arch, reclamation N of quay.  
1790s Makeup for G75. ?  
Dating: CTP 1660-80.

#### *4.15.3.2 Group 75 Brick-built cellar due east of bridge arch*

Pre-dates SG74

4.15.3.2.1 SUBGROUP 100 PROPERTY EAST OF ALLEYWAY  
[209] E-W brickwall foundation (2.75" T) part of housing directly to E of bridge arch.



4.15.3.2.2 SUBGROUP 187 PM CELLAR

[939] cut for N/S trench-built cellar wall (due E of brick arch), 3" brick cellar wall [938].

4.15.3.2.3 SUBGROUP 188 PM CESSPIT

[937] 3" brick lining walls (Wand S) of cesspit built in N-W corner of cellar SG187.

4.15.3.2.4 SUBGROUP 189 PM CELLAR FLOOR

[959] internal makeup within cellar SG187 contained 1d token? For ramshackle brick paved floor [958].

Dating: PMP 1740-1830.

4.15.3.2.5 SUBGROUP 210 LEVELLING DUMPS

[864] sand clay, [831] clayey silt levelling dumps for [824] SG213. Finds all residual post 1790?

Dating: CTP 1680-83; PMP 1660-1700, 1480-1600.

4.15.3.2.6 SUBGROUP 213 BRICKWORK

Frag of 2.5" thick brick wall [824], built over [825] mostly removed by demolition.

4.15.3.2.7 SUBGROUP 219 RAMSHACKLE WALL FOUNDATION

[942] trench-built N-S wall foundation

[941] foundation constructed of reused sandstone blocks, built over [864]. Internal wall?

*4.15.3.3 Group 91 Final use of G75 building and its cesspit*

4.15.3.3.1 SUBGROUP 191 CESSPIT FILL

[971] coarse sand use fill of cesspit [937] SG 188, later use cess/rub [970]

Dating: PMP 1840-80.

4.15.3.3.2 SUBGROUP 192 LATER CESSPIT FILL

[969] finds rich final use organic household waste fill of cesspit [937].

Dating: CTP 1880-1900, PMP 1860-95.

**4.15.4 Building 18: Block of brick-built cellars east of bridge pier**

Group 74 Block of brick-built cellars east of bridge pier. The final infill of these cellars is G86.

4.15.4.1.1 SUBGROUP 162 BRICK LINED WELL

Circular brick lined well [801] bisected by cellar wall [636] to allow water to be extracted by hand-pump (of which no trace survives). This well appears to have been constructed as part of the cellars which is puzzling as it could have been sited in a more convenient position.

4.15.4.1.2 SUBGROUP 55 LEVELLING PRIOR TO THE CONSTRUCTION OF THE BRICK CELLARED BUILDING (EAST OF BRIDGE PIER)

[145] sandstone rubble infill of bastion, [94, 110] sandy /silt levelling dumps, [323] dumped sand/river sediments, [512] dumping was GGAT 507 glass late 18/19th C. [154=348] sandy gravel dumping; [155=325] brick demo rubble/ soil dumps, [111=324] brick demo rubble/ soil dumps.

[325] = [818], mixed dumping [668] [810] [811] [817], brick rubble, rubbish /ash [688] WB.

Dating: CTP 1670-80 (residual); PMP 1807-30, 1820-40, 1840-1900.

## 4.15.4.1.3 SUBGROUP 56 CONSTRUCTION OF THE BRICK CELLARED BUILDING (EAST OF BRIDGE PIER)

This consisted of two rectangular cellars, separated by a central corridor.

Work started with the excavation of wall foundation trenches: [139, 146, 340, 511 GGAT 510]. [341] fill of cut [340]; [95] fill of cut [139]; [147] fill of [146]; [411] construction debris from wall [15]; Trample [411] [344].

Cellar walls: [09=510] was GGAT 510] the lower portion of the W and S lining walls were constructed of reused, squared sandstone blocks, the upper portion was constructed of red unfrogged brick work [11] (L 9", W 4.5", T 3"), stretcher courses, bonded by reddish/pink coarse sandy mortar, with traces of whitewash (no plaster) on the internal faces. [15] E and N wall of cellar, same brick work as [11], stretcher courses, every 4th was a header course, traces of blue painted coal/dust soot, there is a vertical butt joint between this wall and [09/11], implying that this element was built slightly later.

[47] vent/window built into W wall of N cellar [11].

[45] S and E brick lining walls of cellar founded on brick plinth [191], same brick work as [09].

[35] reused sandstone squared blocks serving as lower portion of N brick cellar wall [36].

[197] brick built coal chute leading down into corridor between N and S cellars.

[16] twin brick piers for stove base built up against E wall of S cellar, [17] brick base of stove.

[38] twin brick piers for stove base built up against E wall of N cellar, [39] remains (enclosed grate) cast iron stove brick base of stove.

[14] internal brick wall part of door in S wall of corridor, light blue paint.

[34] internal brick wall part of door (hinge fittings) in N wall of corridor.

[192] threshold of S corridor door, earthen ware tiles and slate.

[12] remains of L shaped brick stairs, with stone slab treads in S-W corner of S cellar.

[43] well preserved L shaped brick stairs, with stone slab treads in N-W corner of N cellar, supported on brick pier foundation [42].

[665] sandstone foundations for [631]=[15]=[633]=[802] brick wall S side corridor between 2 cellars.

[682] = [689], [683] = [688] construction debris.

2007 observations:

[807] brick found for standing wall [806] =[15] =[808].

[35] = [636] = [641] = [680] putlock hole, brick-built, and reused sandstone blocks S wall of cellar.

[36] = [622] = [625] = [627] = [628] N wall of cellar corridor.

[623] [624] stair foundation in N-E corner of cellar.

[42] = [656] part of stairs in N-W portion of cellar.

[634] = [800] brick stair base in S-E corner cellar.

[626] hearth base.

Dating: BM 1800-1900; PMP 1660-1750.

## 4.15.4.1.4 SUBGROUP 57 INTERNAL LEVELLING WITHIN CELLARS

This material may relate to repairs of the cellar floors SG 59, so is it potentially later than the construction.

Levelling dumps: [189] mortar; [112] sandy silt; [233] silt/sand; [140] sandy/silt.

Dating: CTP 1660-80; PMP 1700-50.

## 4.15.4.1.5 SUBGROUP 58 INSERTION OF FOUL DRAINS INTO CELLARS

Post 1840s salt glazed foul drain (which involved relaying parts of the flooring SG 59).

[156] N-S drain cut (tunnelled under walls 15, 45), fill [157]

## 4.15.4.1.6 SUBGROUP 59 CELLARS FLOORS

[120=159] coal dust bedding for floor [13].

[281] coal dust bedding for floor tiles [33].

[13] Staffordshire blue brick paving of S cellar, central portion damaged by intense heat [18]. This floor has patched/repared with reused malting house floor tiles.

[37] blue brick paving of N cellar, central portion damaged by intense heat [44].

[635] blue brick paving S-E cellar.

[629] blue brick paving N-E cellar.

These tiles had obviously been patched and relaid a number of times (i.e. the insertion of services SGs 221, 222).

Dating: BM 1800-1950

#### 4.15.4.1.7 SUBGROUP 60 BLOCKING CELLAR/ VENTS RECESSES

[10] ramshackle brick blocking of uncontexted recess in W arm of [11]

[40] brick blocking of low level air vent or recess in E arm of [45]

[41] brick blocking of low level air vent or recess in E arm of [45]

#### 4.15.4.1.8 SUBGROUP 61 DISUSE OF CELLAR STOVES

[69] ash/silt fill of stove base [39].

Dating: BM 1800-1900

#### 4.15.4.1.9 SUBGROUP 94 LIGHTWELL /VENT BASE

[244] base of brick floored external vent or lightwell to W of uncontexted access blocked by [11] in S portion of E cellar. This vent was later blocked by ramshackle brickwork [98].

[244] = [687] later observation of brick paving

#### 4.15.4.1.10 SUBGROUP 98 PROPERTY EAST OF ALLEYWAY

Part of group of 19th C terraced properties along E side of Old Welsh Bridge alleyway.

[198] E-W brick wall, prop boundary.

[126] part of truncated step/threshold leading into prop.

[3] slate slab and brick paved floor

[2] frag of brick threshold.

#### 4.15.4.1.11 SUBGROUP 177 LEVELLING DUMP

[981] cess stained dumping. No finds.

#### 4.15.4.1.12 SUBGROUP 178 RAMSHACKLE WALL FOUNDATION

Trench-built cut [985] for E-W ramshackle sandstone rubble wall [984]=[621], earth foundations [980]. N wall of cellars

Dating: PMP 1600-1900

#### 4.15.4.1.13 SUBGROUP 126 PLASTERING OF EAST BASTION CELLAR WALL

Post medieval cellar?

[369] partial replastering of E face of wall [390] done when masonry incorporated into cellar.

[93] dumped river sand.

#### 4.15.4.1.14 SUBGROUP 193 FOUL DRAIN

Cut [684] for ceramic foul drain [685] laid under fl SG194.

#### 4.15.4.1.15 SUBGROUP 194 PAVING OF CELLAR CORRIDOR

[681] bedding for blue brick paving [630]. = [33].

#### **4.15.5 Building 19: Brick cellar east of approach road**

##### *4.15.5.1 Group 76 Brick-built cellar east of bridge approach road*

###### 4.15.5.1.1 SUBGROUP 197 BRICK LINED CELLAR

[952] construction cut for rectangular cellar, lined with 2.5" thick brick walls, [955] bricks stairs in NE corner, [954] brick paved floor, [953] vent or opening (coal hole?) in west arm of cellar wall [951].

##### *4.15.5.2 Group 77 Use and modification of cellar G76*

###### 4.15.5.2.1 SUBGROUP 198 USE OF BRICK LINED CELLAR

Use of cellar Sg 197 for coal storage, [957] coal dust on paved floor [954].  
Dating: CTP 1850-1910; PMP 1884-1910.

#### **4.15.6 Building 20: Brick cellar east of approach road**

Constructed soon after B19.

##### *4.15.6.1 Group 78 Brick-built cellar east of bridge approach road*

###### 4.15.6.1.1 SUBGROUP 183 CELLAR WALLS

[966] trench construction cut for E/W 3" thick brick and reused sandstone block wall [968], fill [967]. The northern return of this wall is [844] = [847], all within cut [846].  
[845] N end of [847]; [976] E return of [847].

###### 4.15.6.1.2 SUBGROUP 185 POST-MEDIEVAL CELLAR

[986] construction cut for cellar, 3" thick brick lining walls [975]. Part of same building as SG183

###### 4.15.6.1.3 SUBGROUP 208 CELLAR FLOOR

[849] frag of 2.5" thick brick paved cellar floor SE corner (rest machined out by GGAT), bedded on [850] pebbly sand and dumping: [843] = [851].

##### *4.15.6.2 Group 90 Additions/final use of G78 brick cellars*

###### 4.15.6.2.1 SUBGROUP 195 CESSPIT

[973] cut for 2.5" brick lined cesspit [974].

###### 4.15.6.2.2 SUBGROUP 196 FINAL USE OF CESSPIT

[972] finds rich organic rubbish final fill of cess pit [974]  
Dating: CTP after 1630; PMP 1864-80.

###### 4.15.6.2.3 SUBGROUP 209 COAL DUST ON CELLAR FLOOR

[848] coal dust on cellar floor [849], final use.

#### **4.15.7 Building 21: Large rectangular brick cellar east of bridge approach**

##### *4.15.7.1 Group 79 Large rectangular brick-built cellar east of bridge approach road*

###### 4.15.7.1.1 SUBGROUP 85 LEVELLING DUMPS

Area to NE of bridge approach pre-construction of cellars?  
[220] reworked flood deposits

[535] levelling dump = GGAT 706.  
[534] levelling dump = GGAT 703.  
[537] levelling dump = GGAT 705.

#### 4.15.7.1.2 SUBGROUP 184 POST-MEDIEVAL CELLAR

[978] construction cut for cellar, 2.5 to 2.75" thick brick and reused sandstone block lining walls [870], [979] 2.5-2.75" thick brick paved cellar floor.

#### 4.15.7.1.3 SUBGROUP 186 POST-MEDIEVAL CELLAR WALL

Trench-built wall construction cut [869], 2.5" thick bricks and reused sandstone blocks W and S lining walls of cellar [900], due S of SG184 part of same building but no floors survive due to truncation by public toilet SG 109.

#### 4.15.7.1.4 SUBGROUP 105 PROPERTY TO EAST OF BRIDGE APPROACH

[614] construction cut for [260] [343] [264]  
[260] N-S external brick (2.5" T) part of prop E bridge approach  
[343] foundation of [260] brick and reused sandstone rubble  
[264] E-W internal brick (2.5" T) wall.  
Subsequently found that [260] = [900] [264] = [870].

### *4.15.7.2 Group 80 Use and modification of cellar G79*

#### 4.15.7.2.1 SUBGROUP 199 BLOCKED DOORWAY

[874] brick blocking of doorway in N wall of cellar [978].

#### 4.15.7.2.2 SUBGROUP 220 COAL DUST ON CELLAR FLOOR

Coal dust [894] on cellar floor [979].

## **4.15.8 Building 22: Fragments of industrial buildings**

### *4.15.8.1 Group 92 Industrial buildings on western portion of site*

#### 4.15.8.1.1 SUBGROUP 96 INDUSTRIAL BUILDINGS

[423] Construction cut for 19th/20th C industrial buildings.  
[422] E-W (S) brick wall foundation in [423].  
[419] E-W (N) brick wall foundation in [423].  
[421] mass concrete floor between [422 + 419].

#### 4.15.8.1.2 SUBGROUP 108 19/20TH EXTERNAL SURFACES

Yards etc around industrial buildings

GGAT T4

[503] cinders surface = 404.  
[504] levelling dump = 403.  
[505] sand levelling dump = 402.  
[506] modern makeup for [507] = 401.  
[507] concrete yard surface = 400.

#### 4.15.8.1.3 SUBGROUP 113 LATER INDUSTRIAL DUMPS/SURFACES .

By 1882 this area of former bridge quay was external serving yards and access to the industrial buildings (Smithy etc) built here.

[360] dumped ferrous slag  
[551] clay dump = GGAT 902.  
[550 ] = GGAT 801; [354] [353] coal dust and mortar surfaces.

Dating: PMP 1805-30,1850-1900.

4.15.8.1.4 SUBGROUP 117 TERRACE RETAINING WALL

[48] N-S sandstone rubble terrace retaining wall built over [119].

4.15.8.1.5 SUBGROUP 118 LATER ADDITIONS TO TERRACE RETAINING WALL

Parts of industrial buildings built up against wall [48]

[49] robbed out brick fireplace surround.

[50] brick rebuild.

[51] Concrete refacing of [48].

[52] shallow recess in E side of [48] fireplace remains?

### **4.15.9 Building 23: Chapel house**

#### *4.15.9.1 Group 93 Chapel House*

The Calvinistic Methodist Chapel opened April 1865 and closed 1909, and the entire premises then passed into secular hands. There was a School Mistress's house to rear of the chapel, which by early 20th century was used as a lodging house for men working in the local foundries and workshops demolished c 1960.

4.15.9.1.1 SUBGROUP 206 BRICK ACCESS RAMP

[676] brick access ramp 20th-century addition to house (to S of Chapel). Associated brickwork [671].

4.15.9.1.2 SUBGROUP 111 CONCRETE RAMP

[87] part of concrete ramp access to lodging house.



Fig 14 Photo of early 19th-century cellar (B18) due east of the bridge arch, showing the trenches excavated through the floor (looking north)

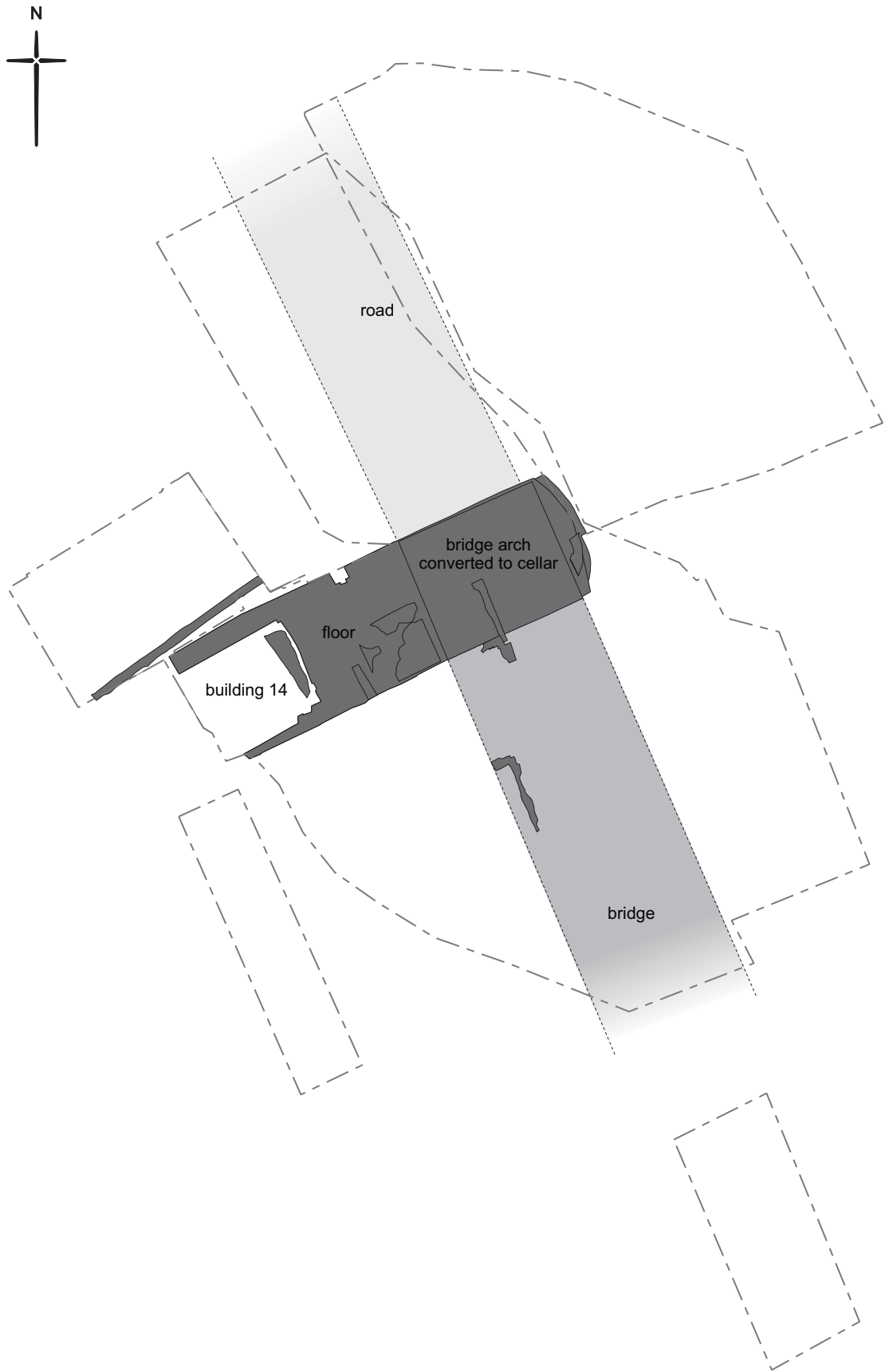


Fig 15 Early 19th-century cellars due west of the bridge arch in B14 and later structural alterations





SHR01002PXA10#16

NEV06 Post-excavation assessment © MOLA 2010

Fig 16 Photo of the western side of the bridge arch, showing the ramshackle blocking wall constructed during the 1960s out of demolition material (looking east)

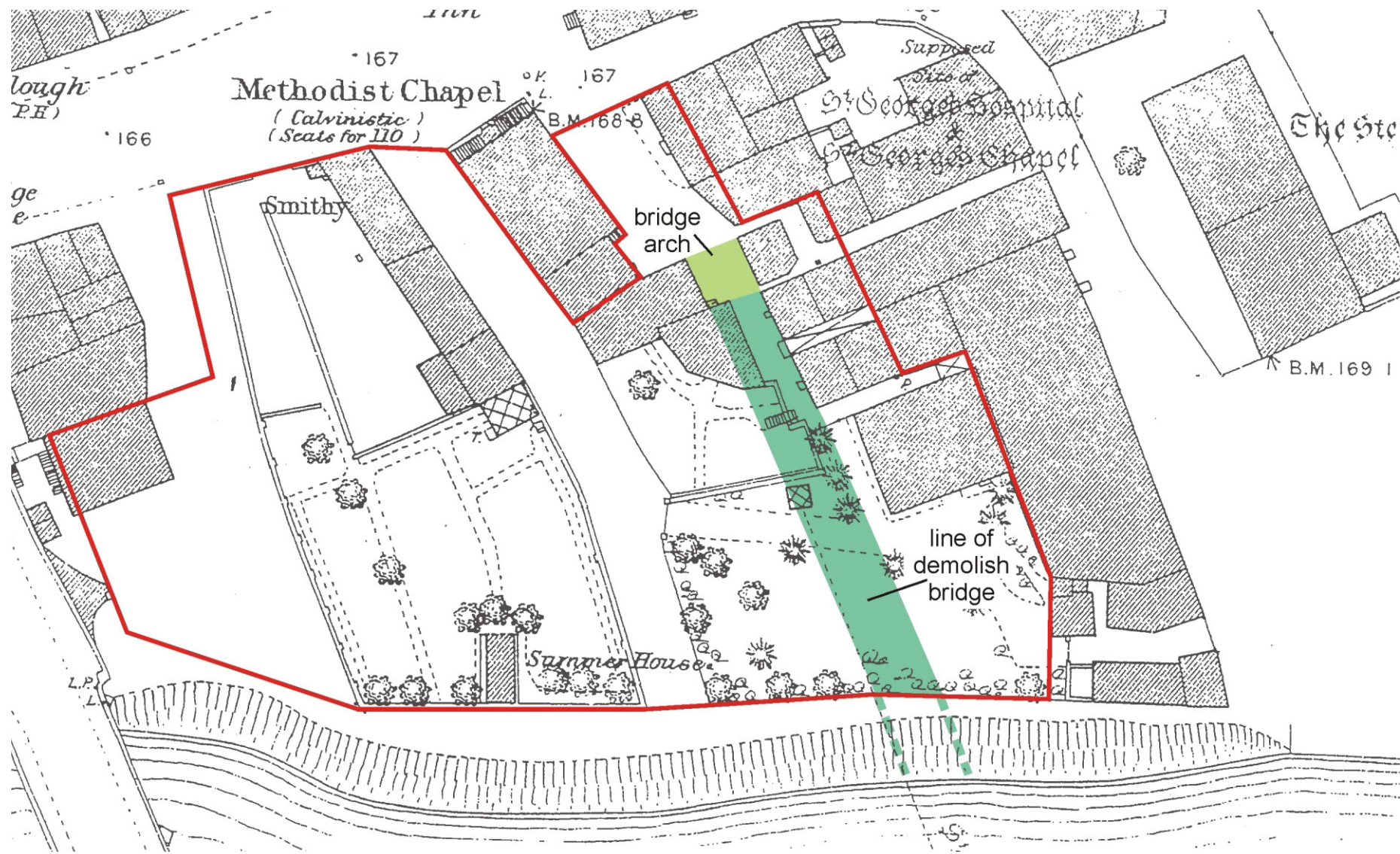


Fig 17 Large scale (1:500) OS map of 1882 showing the gardens and buildings around the site the former Old Welsh Bridge

## 5 Quantification and assessment

### 5.1 Post-excavation review

Review of post-excavation progress to date:

- Site context, subgroup and group matrices compiled on Bonn and Arch Ed.
- Subgrouping and grouping completed and all subgroups described in landuse text and all contexts entered into Oracle data base up to landuse and period level.
- Subgrouped and grouped features and deposits dated using results of finds assessment
- Plans digitised.
- All provisional finds dating and study completed.
- Assessment work on work on finds environmental samples completed.

### 5.2 The site archive and assessment: stratigraphic

These reports do not include the material from 2005 evaluation which has been separately assessed (see Evans et al 2006).

*Table 1 Stratigraphic archive*

Stratigraphic archive			
Type	Description	Quantity	Notes
Contexts	Evaluation 2005	167	Contexts [450-617]
	Excavation 2006	429	Contexts [1-429]
	WB 2006-07	70	Contexts [620-690]
	Excavation 2007	189	Contexts [800-989]
	<b>Total</b>	<b>855</b>	
Plans	'A4' 1:20 (no. of sheets)	300 (approx)	2005 evaluation not included Includes a number of multi-context plans
Sections	'A4'	84	
Matrices		3	Digital and paper copies
Photographs	Digital on CD	270	

### 5.3 Site archive and assessment : finds and environmental

*Table 2 Finds & Environmental Archive General Summary*

Building material	Seven crates plus registered finds Total 36.55kg
Late Saxon and medieval pottery	32 sherds. Total 0.9 kg
Post-medieval pottery	2362 sherds. Total 73.7 kg
Accessioned finds	55 objects (including 19 copper alloy, 2 lead, 13 iron, 6 coins, 5 bone/ivory, 10 stone); all have been stabilised by conservation and packed in suitable containers for

	archiving. Slag; total weight 7262g Glass; 41 archive boxes, inc. complete bottles
Clay pipes	3 boxes (1.5 bulk, 1.5 accessioned) = 244 fragments
Bulk Soil Samples	Flots and residues from two samples <13> <14>
Animal Bone	Estimated 247 fragments. Total 2.047 kg.
Human Bone	5 contexts number of boxes: 1 (skeleton)

## 5.4 The building material

*Terence Paul Smith and Ian M. Betts*

*Table 3 Building material (including worked stone)*

Material	Count	Count as %	Weight (kg) *	Weight as %
Medieval and post medieval ceramic building material	73	57	22.95	62.7
PWP	1	1	0.02	0.1
Mortar	35	28	0.83	2.3
Stone	18	14	12.75	34.9
<b>Total</b>	<b>127</b>		<b>36.55</b>	

\* Excludes brick samples, most mortar samples, and some materials too heavy to weigh

### 5.4.1.1 Introduction/methodology

The building material, from a total of 51 contexts, has been recorded using standard Museum of London (MOL) recording forms. Fabrics have been examined using a binocular microscope (x10). Where fabrics are similar to those found in London their fabric codes have been used; this does not, of course, imply any direct connection but rather the use of similar superficial clay deposits. In most cases the materials are very late and have no London fabric codes: these have been recorded using the non-specific fabric number 3498. Data from the recording forms have been added to the MOLA Oracle database. Most material has been discarded after recording.

### 5.4.1.2 Roman?

One complete square brick measuring 196 x 191 x 39–48mm was recovered from context [878]. This is almost exactly the standard size for a Roman *bessalis* brick. There is very little evidence for Roman occupation in Shrewsbury, so it is possible that if this brick is indeed Roman it may have been brought into Shrewsbury in the post-Roman period.

### 5.4.1.3 Medieval and post-medieval ceramic building material

Contexts: [1], [3], [5], [7], [9], [13], [16], [23], [58], [59], [69], [76], [90], [98], [100], [111], [122], [161], [166], [167], [204], [232], [252], [260], [264], [271], [278], [295], [303], [325], [329], [338], [353], [354], [361], [668], [823], [825], [830], [876], [892], [911] [947] and [969]

#### 5.4.1.3.1 NIB TILE

Contexts: [7], [295]

Nib tile fragments come from contexts [7] and [295]. The former is in a variant of MOL fabric 2586, but this indicates no more than the use of similar superficial clay deposits; the latter is in a red fabric with some sand, small stones, and silty patches. In both cases the nib has been formed by hand in the upper face, either whilst the tile was still

in the mould or immediately after demoulding. This would have meant fixing the tile to the roof with the sanded side uppermost – a not entirely satisfactory arrangement but one known from elsewhere. They are 15mm thick; other dimensions are not preserved. Nib tiles begin in the 12th century but ceased to be made in most areas during the 14th century, although they persisted in a few areas such as the Severn Valley down to the 17th century: these examples, however, are glazed, and there is no sign of glaze on the NEV06 examples. They may, therefore, be (residual) medieval products.

#### 5.4.1.3.2 OTHER ROOFING TILES

Contexts: [166], [232], [252], [271], [278], [361], [668], [892], [911]

What may be further roofing tiles, in a red sometimes fairly sandy, fabric come from contexts [166], [232], [252], [271], [278], and [361]. They may be from nib tiles or peg tiles; alternatively some may be a form of kiln shelving.

#### 5.4.1.3.3 MEDIEVAL FLOOR TILE

Contexts: [329], [892]

A floor tile from context [329] is in fabric 2851 though mostly reduced due to a lack of oxygen in firing. Its top face is quite worn but shows a floral design. It measures ? x 122 x 29mm. It is probably of 14th- or 15th-century date. Place of manufacture is not clear.

A very worn plain brown floor tile was recovered from context [892] (fabric 2894). This measures 114–116mm square by 24–26mm in thickness and has two large (c 4mm diameter) nail holes near the corners of one edge. These may represent nails protruding down from a wooden block which was used to cut off excess clay during tile manufacture. This was the standard technique used to make Flemish floor tiles, although here the nails were much smaller. The plain NEV06 floor tile is probably of similar date to the decorated example.

#### 5.4.1.3.4 POST-MEDIEVAL FLOOR TILES

Contexts: [5], [7], [100], [252], [303], [353], [354]

All other floor tiles, from contexts [5], [7], [100], [252], [303], [353], and [354], are unglazed post-medieval types in varying fabrics; most have vertical rather than bevelled sides. Only one, from context [5], preserves its full dimensions of 124 x 123 x 35mm, though another, from context [329], preserves a width of 122mm and a thickness of 29mm. Thicknesses (including these two) range from 18mm to 36mm with a median of 24mm. It is likely that all are of 19th-century date.

#### 5.4.1.3.5 MALTINGS TILES

Contexts: [13], [23], [111], [830]

Complete or fragmentary maltings tiles – six in all – come from contexts [13], [23], [111] and [830]. All are in a similar dark red fairly sandy fabric. All show the usual arrangement of round holes in the underside, but three patterns of perforations in the top faces are present: one type has a series of eight tiny holes arranged in circles and with a ninth hole in the centre; the second has the groups of nine tiny holes arranged in diamond shapes of 3 x 3 holes; whilst the third has clusters of three tiny holes. Three examples preserve their full dimensions of 304 x 303 x 48mm, 305 x 304 x 46mm, and 309 x 306 x 41mm; thicknesses (types one and two) range from 41mm to 48mm with a median of 45mm. Two of the complete examples show the circular pattern with 9 rows of either 8 or 9 patterns each and 17 rows of either 4 or 5 patterns each, and one shows the diamond patterns with 13 rows of either 6 or 7 patterns each. The third type ([830]), with clusters of three holes, is much thinner measuring only 20mm.

These discrepancies suggest that the tiles were obtained from a number of manufacturers. They are machine-made products dating from the 19th century. They

were used to form the floors of maltings, the holes and the tiny perforations allowing heat to enter from below without the barley falling through. Some have mortar blocking the holes and have thus been reused or used from the first for something other than their intended purpose.

#### 5.4.1.3.6 WALL TILES

Contexts: [1], [23], [58], [100], [204], [325], [354]

Wall tiles were recovered from contexts [1], [23], [58], [100], [204], [325], and [354]. They include, from contexts [100], [325], and [354] overfired wasters from recent tiles and, from context [204], a modern white-glazed bathroom or kitchen tile. From context [58] comes a fragment of tin-glazed blue on white tile with a floral design. It is 7mm thick; other dimensions are not preserved. It is probably a 19th-century product. All others, two from context [1] and four from context [23] are certainly 19th-century products. They include, from context [23] a slightly embossed printed tile with a floral design in green and blue (accession <35>; it has a ridged back with a raised capital C. It preserves only its thickness of 11mm. All others are flat printed tiles. One from context [1], accession <36>, has a polychrome floral design and a ridged back, where also is a catalogue or similar number: 5024. It measures 157 x 155 x 10mm. The other from context [1], accession <33>, is printed in brown on white with a floral design within a frame, and a ridged back with a raised capital M. It measures 155 x 155 x 10mm. One from context [23], accession <37>, has a polychrome grid and floral design, with a circular ridged back and, written in ink in three lines: R<sup>J</sup> N<sup>o</sup> 127422 / S.F. & J. / B / 12(?). It measures 155 x 154 x 9mm. Another, accession <34>, has a polychrome but mostly brown on white vase design, with a ridged back. Only its thickness of 9mm is preserved. The last example, accession <39>, has a reddish-brown and yellow on white floral design, with a ridged back stamped (in raised letters): [ ] WORKS / STOKE ON TRENT and in one corner the MINTON company's circular stamp: the full stamp would read MINTON'S / CHINA WORKS / STOKE ON TRENT. It measures ? x 155 x 11mm. The Minton company was making such tiles in the second half of the 19th century.

#### 5.4.1.3.7 BRICKS

Contexts: [3], [9], [13], [16], [59], [69], [98], [100], [122], [161], [167], [260], [264], [338], [876]

Bricks were recovered, mostly as samples, from contexts [3], [9], [13], [16], [59], [69], [98], [100], [122], [161], [167], [260], [264], [338] and [876]. Most are in varieties of red or orange-red fabric, although those from context [3] are pinkish buff, whilst those from context [13] are 'blue' (actually virtually black) engineering bricks; one of these is a paviour with the usual diamond pattern (known as a 'chequer brick') to provide a grip and with a double-square frog with screw-marks in the lower bedface; the other is a plain paviour. The former would have been made by machine pressing, the latter probably as an extruded wire-cut products. They were made from material on the Coal Measures in the West Midlands, with Staffordshire being especially important in their manufacture. More curious are the bricks from contexts [161] and [167], which have an almost square format. They may have been intended for some specific industrial use; alternatively they may be 'Tax bricks' – large bricks designed to save on the Brick Tax of 1784 and payable on the number of bricks produced: this led to some unusually large bricks being made until 1801, when the Tax was increased for bricks larger than 10 x 5 x 3 inches: but a 19th-century date and an industrial use is more likely.

Most of the bricks from the site are probably of 19th-century date. Certainly the blue engineering bricks are later than c1830, when such bricks were first manufactured.

The partially complete brick from [876] has rather irregular sides suggesting it may be slightly earlier in date than the other bricks recorded. It is also slightly smaller in breadth

and thickness, which would suggest a pre-19th century date. Dimensions and other details are given in (Table 4).

#### 5.4.1.3.8 INDUSTRIAL COMPONENT

Context: [76]

A quite large item, 76mm thick, from context [76] is of fireclay. It is rectangular and has a serrated rim with a series of small pyramidal projections rising from the base, inside the rim. It presumably served some sort of industrial function, though its precise purpose is not clear.

#### 5.4.1.3.9 SANITARY OR SIMILAR FITTING

Context: [90]

A fragment of the rim of a modern white glazed sanitary or similar fitting comes from context [90].

*Table 4 Brick dimensions and details*

Context	Dimensions (mm)			Comments
	L	B	T	
[3]	228	105	75	Pinkish buff with quartz and stones
[3]	227	107	74	Pinkish buff with quartz and stones
[9]	245	120	80	Orange-red, fairly fine with some quartz
[13]	260	128	55	Blue engineering chequer paviour with frog
[13]	273	140	55	Blue engineering plain paviour
[59]	245	120	72	Red, fairly sandy; sharp arrises
[59]	228	108	70	Red, fairly sandy; sharp arrises
[69]	232	113	71	Orange-red, fairly sandy
[98]	246	120	81	Orange-red, moderately sandy; sharp arrises
[100]	?	114	?	Red, sandy; fragment with mortar on broken edge
[122]	?	113	54	Red, fairly sandy; probably paviour
[161]	230	111	109	Red, very sandy; almost square format
[167]	236	109	107	Red, very sandy; almost square format
[260]	238	124	62	Red, very sandy with pebbles; poorly made
[264]	230	108	55	Red, fairly sandy; quite sharp arrises; perhaps paviour
[338]	236	112	70	Red, moderately sandy
[876]	?	98	45–47	Red, moderately sandy

#### 5.4.1.4 . Undated stone

##### 5.4.1.4.1 ROOFING?

Contexts: [+], [883]

Thin fragments of fine grained sandstone, which may be roofing slabs, were found unstratified in Area X and in context [883]. The former is only crudely laminated but does have a round nail hole 17mm in diameter.

#### 5.4.1.4.2 PAVING?

Contexts: [880], [892], [970]

Fragments of what may be crude paving material cut from a type of siltstone were found in contexts [880] and [892].

A broken, but probably originally rectangular shaped stone slab was found in context [970]. This is made from a fine grained cream sandstone and measures 80mm in breadth by 30mm in thickness. The sharp and precisely cut edges would suggest a 19th or 20th century date

#### 5.4.1.4.3 BLOCK?

Context: [935]

A petrological sample was taken from a stone (block?) ([935], sample 6). This is made from a whitish-grey medium grained sandstone.

#### 5.4.1.4.4 RUBBLE

Contexts: [892], [935]

The building rubble collected comprises a medium grained reddish-purple sandstone ([935], a light greenish-grey fossil rich fine grained sandstone ([892], and a reddish-grey fine grained sandstone ([892]).

#### 5.4.1.4.5 BASIN?

Context: [76]

Part of a large basin with a lug in grey limestone(?), perhaps a garden ornament, was recovered from [76].

#### 5.4.1.4.6 MARBLE WASHSTAND?

Contexts: [76], [657]

From contexts [76] and [657] are fragments of recent washstand or similar component in white marble. The marble may be a type of Carrara marble from Italy.

#### 5.4.1.4.7 COBBLE STONE?

Context: [170]

From context [170] comes a quite large cobble, perhaps a road cobble rather than building material.

#### 5.4.1.4.8 OTHER STONE

Contexts: [+], [876]

Other stone, of uncertain function, includes a fine (near medium) grained sandstone with possible tooling or decoration, although it is difficult to be certain as it is abraded. This was found unstratified in Area X. Other stones include more of the probable siltstone mentioned above.

A coarse cream sandstone (gritstone) fragment from context [876] may be part of a quern stone.

#### 5.4.1.4.9 MORTAR SAMPLES

Contexts: [6], [9], [21], [70], [72], [74], [75], [114], [117], [118], [119], [144], [148], [152], [153], [164], [190], [193], [291], [315], [365], [366], [369], [390], [392], [823], [825], [947]



Thirty-five mortar samples from a total of 29 contexts were examined visually (microscopically x10) and placed into seven category types. The types are shown in Table 5. Some examples of type 1 (context [366], sample 42; context [392], sample 44) are very soft and crumbly.

*Table 5 Mortar types*

Type	Description
1	Brown, very sandy
2	Greyish white, very sandy with large inclusions
3	White, sandy with an abundance of lime
4	White, sandy with an abundance of lime inclusions larger than in type 3
5	Brown, moderately sandy with an abundance of calcium carbonate specks
6	Greyish, very sandy
7	Brown, very sandy and with large pebble inclusions

Some types – specifically types 1 and 7 and types 3 and 4 – may be no more than variants of one another.

Table 6 shows the contexts in which each occurs, with sample numbers shows the type to which each sample belongs.

*Table 6 Mortar types by context, with sample numbers*

Type	Context(s)	Sample number(s)
1	[75], [117], [119], [153], [291], [365], [366], [390], [392], [823], [825], [947]	1, 5, 33, 41, 42, 44, 45, 47, 50, 53, 54, 55
2	[72], [152]	6, 46
3	[9], [21], [74], [118], [144], [148], [164], [190], [193], [315]	2, 3, 4, 7, 10, 11, 34, 35, 38, 48, 49
4	[70], [72], [74], [144], [349]	9, 36, 37, 39, 40, 51
5	[369]	43
6	[6]	15
7	[114]	8

#### 5.4.1.5 Wall plaster

From context [969] is a mortar corner fragment with whitewash on the outer face and what appear to be the remains of two (horizontal?) wooden lath impressions in the mortar interior. One of the latter measures 21mm across.

## 5.5 Medieval pottery

*Victoria Bryant*

### 5.5.1.1 Introduction/methodology

The aim of the assessment was firstly to determine vessel form, fabric type and date range of the ceramics and then comment on the nature of the assemblage and identify any sherds which needed illustration.

All pottery submitted by MOLA was examined. Sherds were identified, quantified and dated. A *terminus post quem* date was produced for each context (Table 7).

Where possible pottery fabrics are referenced to the fabric reference series developed from excavations at Shrewsbury Abbey (Bryant 2002). Not all fabrics identified on this

site were also found at Shrewsbury Abbey, however, and unfortunately there is no general fabric series for Shropshire or Shrewsbury. The type series compiled by Stephanie Ratkai (2006) was not available to the author.

*Table 7 Medieval pottery by form and fabric*

Context	Fabric (numbers refer to fabrics in Bryant 2002).	Form	Date	Count	Weight (g)
7	Early glazed sandy ware; 3	Glazed pitcher	Late 12th to 13th century	1	10
121	Early glazed sandy ware; 4	Glazed pitcher	Late 12th to 13th century	3	47
204	Post-medieval buff ware with black glaze; 55	Pancheon rim	18th century	1	295
232	Cistercian-type ware; 30	Tygs	Late 15th to 16th century	4	37
232	Late medieval redware	Base of bowl or cistern	14th to 15th century	2	55
232	Late medieval redware	Bowl or jar	14th to early 16th century	5	56
232	Over-fired late medieval redware or Midlands Purple; 16	Jar	15th to 16th century	1	25
232	Unidentified medieval buff ware (same as in context 252)	?Jug	13th to 15th century	1	9
232	Post-medieval redware	Jar	17th to 18th century	2	50
232	Post-medieval buff ware with feathered slip decoration	Jar/bowl	Later 17th to 18th century	2	17
232	Post-medieval redware with trailed decoration	Dish	Mid 17th to early 18th century	1	11
232	Late buff ware with yellow glaze	Dish	Late 18th to 19th century	1	28
232	Fine post-med redware	?	18th to 19th century	1	6
249	Early glazed sandy ware; 3	Jug	13th to 14th century	1	1
252	Over-fired late medieval redware or Midlands Purple; 16	Jug	14th to 15th century	3	177
252	Unidentified medieval buff ware (same as in 232)	Jug	13th to 15th century	1	4
252	Early glazed sandy ware; 3	Jug	13th to 14th century	1	4
252	Coarse tempered ware; ?5	?	13th to 14th century	1	5
252	Post-medieval redware	Cup/tankard	16th to 17th century	1	32
252	Buff wares; 79	Jug/pipkin	14th century	1	10
252	Late medieval redware	?	14th to 16th century	1	5
252	Late medieval redware	Jug	14th to 16th century	1	25
253	Stafford type ware?; 27	Bowl/jar	10th century	1	4
253	Local unglazed ware; 80	Cooking pot	12th to 13th century	7	18
278	Cistercian type ware; 30	Tyg	15th to early 16th century	1	6
278	Late medieval redware	Jar	15th to 16th century	1	8

278	Unidentified medieval white ware	?	12th to 13th century?	1	2
Totals				47	947

## 5.6 The post-medieval pottery

*Nigel Jeffries*

### 5.6.1.1 Introduction/methodology

The medieval and post-medieval pottery was examined macroscopically, using a binocular microscope (x 20) where appropriate, and recorded on paper and computer, using standard Museum of London codes for fabrics, forms and decoration. The numerical data comprises sherd count, estimated number of vessels and weight and entered onto the MOLA ORACLE database. This assessment aims to evaluate the character and the date range of the assemblage, determine the research questions the material has the potential to address and identify any areas of further work.

It should, however, be noted that the few sherds of medieval pottery from the first phase of excavation (up contexts [409]) together with some later 17th-century pottery from context [232] was sent to Worcestershire Archaeological Services to be spot dated and assessed by Victoria Bryant and is therefore not recorded on Museum of London systems nor considered in this text.

This text considers the pottery retrieved from the archaeological excavation at NEV06 retrieved from two phases of excavation. Weighing 73.7 kg (average weight per vessel of 64.2 grammes), up to 2394 sherds from a minimum number of 1163 vessels (Estimated number of vessels: ENV) were recovered from 100 contexts (Table 8). The assemblage consists of 81 small (contexts yielding fewer than 30 sherds), with 14 medium-sized (between 30-99 sherds from [19], [58], [109], [268], [374], [384], [385], [389], [399], [402], [404], [406], [827], [830] and [969]) and five large-sized groups also found (between 100 and 499 sherds from [56], [76], [204], [970] and [972]). 19th-century pottery was found in 58 contexts.

Although most of the pottery is recovered in a good condition, reflecting the durability and dominance of the factory made and stonewares in this assemblage, certain contexts yielded fragmented smaller-sized sherds only (for example [374] and [405]), although these groups seem closely related to the dumping on the abutment platform. This contrasts to other deposits relating to the disuse of buildings/cellars and the soakaway and privy (for example [23], [76], [970] and [972]) that contained the better preserved and more reconstructable pottery groups.

The occurrence of precisely dated contexts (for example 1855 to 1864, or 1919 to 1936), is based on the identification of the various factory/makers impressed or transfer-printed marks present on much of the pottery, which enabled the *terminus post-quem* and *terminus ante-quem* to be accurately made. Vessel links have also been identified between a number of different contexts - [56] with [58] and [268]; [384] with [387]; [385] with [386]; and [408] with [409]; and [969] and [970] – which suggests that the pottery found was once derived from the same source and deposited at the same time.

### 5.6.1.2 Pottery fabric and forms

Table 8 displays the broad sources of supply for the pottery found from this site. The overwhelming majority are 19th-century industrial finewares, non local earthenwares (predominantly the buff bodied, black-glazed variety) and British made stonewares. Pottery from other sources is scarce, for example, imported wares are limited to a blue and white Chinese porcelain teabowl in contexts [295] and [970] with pieces of continental porcelain in contexts [56] and [76].

*Table 8 Sources of supply for the post-medieval pottery from NEV06 by sherd and vessel count*

Sources of supply for the post-medieval pottery	Sherd count	Estimated number of vessels
British made tin-glazed earthenwares	10	10
British made porcelain	15	3
British made stoneware	244	133
Imported wares: Continental	10	8
Imported wares: Far Eastern	8	3
Industrial finewares	1495	672
Non local earthenwares	532	272
Locally made coarse red earthenwares	23	20
Miscellaneous	25	20
<i>Total</i>	<i>2362</i>	<i>1141</i>

### 5.6.1.3 Britishmade stoneware

Whilst most of the Britishmade stoneware from this site is derived from contexts [1], [56] (sandy silts within western cellar) and [76] (fill of soakaway), stoneware is often found among most contexts that contained pottery. Context [76] yielded a large quantity of well preserved drab-coloured glazed stoneware jars, all stamped with William Hartley's of Aintree Liverpool and Bermondsey (London) on the base. The presence of the stamps bearing the Bermondsey address of this famous jam and preserve manufacturer is significant as these premises were opened in 1902 and they therefore provides an important dating evidence for the disuse of this feature. Other forms in this deposit are a complete black leading bottle which once contained black polish for shoes and ovens and an ink well made by the Doulton works in Lambeth, London. Other marked examples include an upright bottle found in both contexts [970] and [972] bearing the wine retailers name of 'BEMAN & WASHBOURN' 'LATE MARTIN WASHBOURN AND LLOYD' the last of which are present in Pigot's commercial and trade directory for Gloucester in 1830. Beyond the 19th-century stonewares found, Midland purple stonewares provide much of the remainder of this type of pottery: it provides a frequent component in earlier dated post-medieval contexts exclusively in jar forms.

### 5.6.1.4 Industrial finewares

The rapid growth during the mid 18th century of the Midlands industries making mass-produced durable, refined earthenwares (from the creamware and pearlware found), and later the various kinds of heavier bodied ironstone chinaware, granites and so on, as well the overwhelming success of transfer-printing as a major force in the field of decoration,

all combined to transform the production, marketing and use of pottery in Britain. With much of the material from this site dating after the second quarter of the 19th century, identifying specific body types is less useful, beyond dividing between bone china and refined whitewares bodies. As the Victorian period progresses, decorated whitewares become denser and more vitrified and are increasingly marketed under different terms such as 'Stone China', 'Ironstone' and 'Stoneware' as a means of differentiation. Pottery during this period was sold according to decoration - i.e printed, painted, edged and dipped - and consequently 'refined whiteware' is applied to this group of pottery. Consequently, it is the various transfer-printed and painted styles that provide the chronologies for most of the contexts that cannot be dated solely on makers' or factory marks.

Most frequent among the blue-printed whitewares are Chinese inspired prints, in particular the 'Willow pattern' and 'Broseley' prints which are as likely to be found in contexts dating from the late 19th century as they are from the beginning of the century. Bulk purchases are evidenced by the group of dining wares decorated with the 'Asiatic Pheasants' print from context [76] (soakaway fill) and the plates with the 'Willow pattern' print from context [58] (dumping within extended western cellar: all these wares were marked with Lockhart and Arthur factory print dating made between the mid 1850s and 1860s) and the similarly decorated plates from context [972] marked with H Wileman Foley. The transition between transfer-printed patterns depicting English/European landscapes to the Romantic styles that occurs during the first half of the 19th century to Arts and Crafts influenced green, grey and black coloured prints showing simpler geometric and floral patterns that dominate during the second half (for example plates with rim decoration only and no central pattern, with pattern names such as 'Grecian' and 'Dice' to jugs with prints depicting flowers and/or birds) are all present from NEV06. The presence of prints conforming to the last group supplies the broad c1850 to 1900 date to around a third of the contexts that yielded pottery from this site. As noted, the presence of numerous identifiable makers' marks also provided some of the more precise dating to many other contexts. Sheet patterns such as 'fibre' 'seaweed' and 'coral' are also found on some ceramics.

Most of the 135 sherds of bone china are teacups and plates with overglaze enamelled painted decoration, often rather simply with gold banded decoration (or liquid gilt to provide its contemporary name) applied to the rim and are found in contexts dating after the mid 19th century. Finally, the last group among the industrial fineware group are refined whitewares with industrial slip decoration, most commonly with banded decoration resembling the Cornish or Poole pottery produced today and found from NEV06 in rounded bowl and mug forms.

#### 5.6.1.5 *Coarse red earthenwares and non local earthenwares*

For the purposes of this assessment, the most frequently found fabric in this category from this site, comprising 177 sherds of the 532 found, are a particular range of buff bodied earthenwares that supply the bulk of the kitchen and storage wares (deep bowls in particular) are recorded as 'Buckley wares' (dated here between 1700 and 1900). Although it is acknowledged that this is a misidentification for the source of the Shrewsbury material, it is a well understood term for describing buff-bodied, black-glazed 'country pottery style' that is made throughout Staffordshire, north Wales and the north-west of England. Buckley wares constitute a large portion of the ceramics found from this site and are found in most contexts dating from the 18th to the early 20th century. Also dating from this period and commonly found in later dated contexts are Rockingham and Yellow wares, both of which represent the development of various 'country pottery' traditions in the Midlands area into producing durable teapots

(Rockingham ware) and kitchen and sanitary ware forms (Yellow ware) on a more industrialised scale which continued into the 20th century. This contrasts to the less frequent coarse red earthenwares found, which are limited to unglazed flower pots retrieved in 19th-century and later deposits.

Representing relatively well published pottery, a large proportion of the remainder of non-local earthenwares are found in earlier post-medieval deposits dating to the 17th and 18th centuries. Here Staffordshire-type slipwares (mugs and dishes with combed and feathered decoration), Staffordshire-type mottled wares (in tankard and posset pot) and black-glazed wares (mostly in cup forms) and produced throughout the west Midlands area, dominate (Table 8). Though classified among the miscellaneous category, the 14 sherds of red earthenware with slip trailed decoration (in dish forms) and classified as MISC SLIP on the recording forms and Oracle database also represent pottery produced at a regional source but have yet to be attributed to a particular pottery.

#### 5.6.1.6 Discussion

Nearly half the sherds in the post-medieval assemblage was derived from a small group of features, notably from individual cellar and building disuse dumps (contexts [1], [23], [56] and [58]), a soakaway (context [76]), levelling over garden area (context [204]), and the various abandonment episodes of two privies (contexts [969], [970] and [972]). Much of the remaining pottery was derived from the levelling and raising of the abutment platform (numerous contexts within subgroups 49 and 51).

##### 5.6.1.7 16th and 17th century pottery

Some nine contexts can be dated to the 16th and 17th century by the pottery and are particularly frequent in deposits from the second phase of excavation ([657]-[980]). The two earliest dated post-medieval contexts ([831] and [883]) are dated by the black-glazed sherds of Cistercian ware found, made in a variety of north Midland's pothouses such as Ticknall, and further north in Wrenthorpe Yorkshire (among others): Cistercian ware represents one of the key types of pottery that mark the transition from medieval to post-medieval traditions. Generally contexts [827] and [830] characterise well the variety of 17th-century vessels found from this site, containing a range of Staffordshire-type slipwares and mottled wares, accompanied by Buckley wares and less frequent unsourced slip trailed redware dishes. The majority of the tin-glazed wares (up to 10 sherds) were found from these deposits, whilst the source is from one of the many English pothouses, it is difficult to provide an exact attribution. Other contexts are dated on the basis of Buckley and Staffordshire type slipwares alone when they are the only pottery found in particular deposits. Consequently these contexts (for example contexts [7], [62], [65], [84], [303] and [342]) can only be dated very broadly, for example between 1700 and 1900 (the date range established for Buckley wares) or 1660 to 1870 (similarly for Staffordshire-type slipwares). Deposits yielding [112] though this is dated some have a broader date range.

##### 5.6.1.8 18th-century to second quarter of the 19th century pottery

The presence of creamware and later pearlware mixed with pottery whose *terminus-ante quem* is c1800 provides the dating of the few 18th-century deposits identified.

##### 5.6.1.9 Second quarter of the 19th-century and later pottery

The vast majority of the pottery from this site is dated to the second quarter of the 19th century. Those associated with the dumping on the platform abutment are chronologically distinct often dating to the middle part of the 19th century and is where

much of the pottery on this site was found from. Whilst many have a *terminus ante-quem* of 1900 supplied it is possible that these contexts are later dated. These groups are characterised by large quantities of the previously discussed industrial finewares and Buckley wares.

#### 5.6.1.10 20th-century pottery

Whilst nearly half the contexts have a *terminus-ante quem*s of 1900 provided, it is possible that certain contexts do continue into the 20th century. Deposits that can be definitively dated to the early 20th century are [23] (brick arch infilling), [76] (fill of soakaway), and [204] (silty levelling dump over garden) which have been dated by makers marks present on the ceramics found.

## 5.7 The clay tobacco pipes

*Jacqui Pearce*

### 5.7.1.1 Introduction/methodology

The clay tobacco pipe assemblage from NEV06 was recorded in accordance with current MOLA practice and entered onto the MOLA Oracle database (Table 9). The English clay pipe bowls have been classified and dated according to Atkinson's type-series of Broseley pipes, since all the finds appear to have come from this source (Atkinson 1975); these are indicated in the records by the prefix AB. Quantification and recording follow guidelines set out by Higgins and Davey (1994; Davey 1997). This report does not include the GGAT material from 2005, which included unstratified examples of material manufacture by William Southern Bros of Broseley 1829-50, and Samuel Deacon of Much Wenlock c 1660-80 (Evans in Higgins et al 2006, 11).

### 5.7.1.2 Quantification

*Table 9 Clay tobacco pipe quantification*

Total no. of fragments	244
No. of bowl fragments	52
No. of stem fragments	181
No. of mouthpieces	11
Accessioned pipes	25
Marked pipes	21
Decorated pipes	13
Imported pipes	1
Complete pipes	1 (and 2 nr cpte)
Wasters	0
Kiln material fragments	0
Boxes (bulk/accessioned)	3 (1.5 bulk/1.5 acc)

### 5.7.1.3 Condition

The clay pipe assemblage from NEV06 is in reasonable condition, with several 19th-century examples, one of them complete and two almost complete. Since these are short, 'cutty' pipes, quite thick-walled, they tend to survive better than pipes with thin bowls and long stems. Earlier, 17th-century pipes from the site have fared less well, although they have thick stems and often quite substantial bowls. The stems from this period are small and highly fragmented, and some of the bowls are incomplete, hindering identification. A number of long stem fragments, probably from so-called 'churchwarden' pipes of 18th- and 19th-century date, were found in later contexts, but

none could be joined together or reconstructed into whole pipes. Almost all the pipe bowls showed evidence of having been smoked, some of them heavily and repeatedly.

#### 5.7.1.4 *Provenance, dating and character of the clay pipe assemblage*

Apart from a single imported 19th-century pipe in German stoneware from context [1] and two other possibly non-regional examples (described below) all clay pipes found on the site are of Broseley type. Broseley is a small town on the south bank of the Severn Gorge, situated about 12 miles east of Shrewsbury, which became a major centre for clay pipe manufacture, continuing to make pipes into the middle of the 20th century (Atkinson 1975). Pipemaking began in the town in the mid 17th century, and from c 1660 onwards became increasingly important, with various families of pipemakers responsible for producing considerable quantities of pipes with a widespread distribution in the surrounding area (*ibid*, 11). Output continued to increase throughout the 19th century, with the Southorn family gaining a complete monopoly over the whole town's pipe industry c 1850 (*ibid*, 13). Before this date the products of other pipemakers working in various small towns in Shropshire can be found alongside Broseley pipes across the county. It is possible that some of the unmarked pipes from NEV06, or unidentified marked examples came from nearby towns other than Broseley, although further research is needed to confirm this.

Contexts in which stem fragments only were found can only be very broadly dated to the entire period of production (c 1630–1950). It may be possible to refine these dates through further fabric analysis and stem bore measurement. One context ([275]) is dated to c 1630–40 by a type AB1A bowl, the earliest form to be made at Broseley, and owing much to the small bulbous shape of southern clay pipes at this date (Atkinson 1975, 24). It is stamped underneath the heel with a simple flower motif, although pipes of this type are usually unmarked. Context [668] includes a type AB1B pipe, dated c 1650, together with one other unidentified bowl fragment. The pipe is not burnished and has the maker's initials IG stamped in relief underneath the heel. Atkinson (1975) has no record of this mark or of a maker with these initials working at Broseley and it is possible that the pipe was made at a nearby centre.

Contexts [112], [940] and [864] are dated to c 1670–80/83 and contexts [110] and [657] to c 1660–80, each including a number of stem fragments and bowls that are closely datable (Table 10). Two type AB1B pipes are similar in form to the previous example, but slightly larger; they are rare at Broseley and date to c 1650. One is marked with the maker's initials TC under the heel, probably one of three Thomas Clarkes born in the town in 1611, 1637 and 1647. Another pipe, probably with the same mark (the first initial is unclear), falls into the more common type AB2A. There is also a type AB1C pipe with the initials RL stamped under the heel, probably standing for Richard Legg, 1651–1714, one of two 17th-century members of a prominent pipemaking family with the same name (Atkinson 1975, 67). A second RL pipe, with the initials enclosed in a heart-shaped surround, was found in context [832] and is of a different shape (AB5B), dated slightly later to c 1680–1720. A type AB2B pipe (c 1660–80) is stamped in relief under the heel with the initials ?GB (possibly OB). If correctly interpreted, these initials may stand for George Brown, 1670–80 (*ibid*, 49). Another well-known 17th-century Broseley family of pipemakers is represented by two pipes of type AB2A from [110], and one of AB2B ([864]), marked by Sam Decon (also spelled Deacon), with his full name or initials. The last example has the stamped initials in relief under the heel, with an additional stamped gauntlet mark on the back of the bowl, facing the smoker. Another pipe of type AB2A also has a gauntlet stamp with a letter D on the left, and may have been made by Sam or Morris Decon, both of whom used the gauntlet symbol with their initials. A type AB5A pipe bowl (c 1680–1720) from context [864] has the distinctive chinned profile typical of Broseley, with a long, tailed heel on which the maker's name is stamped in relief over



three lines within a rectangular frame: JOHN/ROB/ERTS. The pipe is made from local clay and is fully milled, with fine burnishing, and is clearly of high quality.

*Table 10 Clay tobacco pipe dates, by context (B – bowl; M – mouthpiece; S – stem)*

Context	TPQ	TAQ	B	S	M	Total
19	1850	1950	1	2		3
56	1630	1950		2		2
58	1630	1950		2		2
66	1630	1950		4		4
76	1880	1950	4	1		5
109	1720	1800		8		8
110	1670	1680	5	15	1	21
111	1630	1950		1		1
112	1660	1680	6	16	1	23
204	1630	1950		3		3
207	1630	1950		1		1
266	1630	1950		1		1
268	1850	1870	2	9	1	12
274	1630	1950		3		3
275	1630	1640	1	1		2
284	1630	1950		4		4
328	1880	1910	1	6	1	8
357	1800	1840	1			1
371	1800	1840	1	1		2
373	1850	1870	1	2	2	5
374	1850	1950		1	1	2
384	1630	1950		1		1
385	1780	1800	1	5		6
387	1630	1950		1		1
393	1850	1870	3	3	1	7
399	1880	1910	2	5		7
400	1630	1950		1		1
401	1630	1950		1		1
402	1800	1950	1	1		2
404	1860	1880	3	10		13
406	1860	1880	2	4		6
407	1630	1950		1		1
408	1800	1900	1	1		2
409	1850	1900	2	25		27
657	1670	1690	1	2		3
660	1780	1820	1			1
662	1630	1950		1	1	2
668	1650	1700	2	1		3
827	1690	1720	2	7		9
832	1680	1714	1	1		2
835	1880	1950	1	2		3
838	1630	1950		4		4
863	1630	1950		1		1
864	1680	1683	3	11		14
879	1630	1950		1	1	2
892	1780	1800	1			1
899	1630	1950		1		1

940	1660	1680	1	6		7
957	1850	1910	1			1
969	1880	1900			1	1
972	1630	1950		1		1
<b>Total</b>			<b>52</b>	<b>181</b>	<b>11</b>	<b>244</b>

John Roberts is recorded in Broseley between 1637 and 1683, so this pipe would have been made near the end of his working life (Atkinson 1975, 75).

Of the 18 pipes of 17th- to early 18th-century date recorded (c 1630–1720), 15 are milled around the top of the bowl, most of them fully where the bowl is complete, and two around three quarters of the circumference (Table 11). There are also 15 pipe bowls that have been burnished to give a fine polished surface, typical of Broseley pipes of this period, although not all burnished pipes are milled as well. Both features are indications of quality, and a milled and burnished pipe would have cost more, in relative terms, than a pipe that had not been finished in this way. These pipes were made at a time when the Broseley industry was becoming well established and Shrewsbury was clearly a major market.

*Table 11 The chronological distribution of dated contexts including clay pipes*

	L D													Total
<b>ED</b>	<b>16 40</b>	<b>165 0</b>	<b>168 0</b>	<b>169 0</b>	<b>172 0</b>	<b>180 0</b>	<b>182 0</b>	<b>184 0</b>	<b>187 0</b>	<b>188 0</b>	<b>191 0</b>	<b>195 0</b>		
<b>1630</b>	1											11		12
<b>1650</b>		3												3
<b>1660</b>			8											8
<b>1670</b>			1	1										2
<b>1680</b>					2									2
<b>1690</b>					2									2
<b>1780</b>						2	1							3
<b>1800</b>								2						2
<b>1850</b>									8		1			9
<b>1860</b>										2				2
<b>1880</b>												7		7
<b>Total</b>	<b>1</b>	<b>3</b>	<b>9</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>8</b>	<b>2</b>	<b>1</b>	<b>18</b>		<b>52</b>

Only three 18th-century pipes were recorded on the site. Two type AB8A pipes come from contexts [385] and [892], and are dated to c 1780–1800, although some of the longer, fine stem fragments made in imported clay could have come from pipes made from c 1700 onwards. There is also a pipe from context [660] that does not quite fit in to the Broseley typology, but which can be dated on bowl shape to c 1780–1820 (type OS13). It has moulded vertical fluting or ribbing round the bowl and a small roundel in relief on each side of the heel. The remaining identifiable pipe bowls date to the 19th century, the heyday of Broseley production (Table 12). Two pipe bowls date to c 1800–40 (type AB8B), from contexts [371] and [357], although most (19 examples) were made after c 1850, when the Southorn family gained a monopoly over the town's pipemaking industry. By this time mass production of clay pipes was in full swing, at the expense of quality, and Southorn pipes generally lack the high degree of finish that characterised the earlier industry (Atkinson 1975, 13).

Table 12 Broseley pipemakers and their marks identified on the site

Mark	No.	Pipemaker
RL	2	Richard Legg (1) 1621-1700 (2) 1651-1714
SAM DECON/SD	3	Sam Decon, c 1650-80
?D/GAUNTLET/D	1	Sam Decon, c 1650-80 or Morris Decon (1 of 2 in L17C), c 1683-98
JOHN/ROB/ERTS	1	John Roberts 1637-85
TC	2	Thomas Clarke? 3 born in Broseley in 1611, 1637 and 1647
TG?	1	Thomas Gething, c 1700–50 (father and son)
W SOUTHORN & CO BROSELEY	2	W Southorn & Co, Broseley, worked 1850-1900/name used to 1950s
E SOUTHORN BROSELEY	1	Edwin Southorn, aged 20 in 1843, still working in 1863

Six pipes are marked with the name of the Southorn family. One was made by Edwin Southorn and one by W Southorn and Co, the company name that remained in use until the middle of the 20th century. Two more pipes stamped SOUTHORN BROSELEY also probably had the same, although the first letter in each case is illegible. Three of these stamped pipes have a number after the word BROSELEY. There are at least six cutty pipes in the 19th-century assemblage, made with a moulded mouthpiece and green-glazed tip, one of which is stamped ..THORN &...BROSELEY. Amongst these are two thorn pipes, a widely popular type that imitated the appearance of a briar, with many projecting thorns. These short and generally robust pipes were favoured by the working man as they were easy to smoke throughout the day, rather than being reserved for times of leisure. Other decorated pipes found on the site include bowls with simple moulded leaf seams or feathered panels. These mass-produced, locally made, 19th-century pipes were made for everyday smoking and would have been both widely available and inexpensive. A pipe of late 19th-century shape (context [957]) was made as a copy of a briar pipe, without heel or spur, with moulded feathers and foliate decoration along the seams of the bowl. Another pipe of similar date (from context [835]) has moulded feather seams and the rear part of an animal moulded on the sides of the bowl, possibly an elephant (since the front of the bowl is missing the creature cannot easily be identified). The design is typical of the novelty pipes that were so popular in the late 19th century. There is, however, one rather more unusual find, from context [1], in the form of the complete bowl from a pipe made in grey-bodied salt-glazed stoneware, with an overall brown wash. It is decorated with close-set vertical ribbing all round and was made for use with a wooden stem. Probably originating in Germany, where such pipes were very popular, it is a surprisingly unusual find from an archaeological context in this country.

#### 5.7.1.5 Marked pipes

##### 5.7.1.5.1 MOULDED MARKS

[660], <105>, OS13 (1780–1820), bowl with moulded roundels in relief in the sides of the heel, and decorated with moulded vertical ribs or fluting.

##### 5.7.1.5.2 STAMPED MARKS

[76], <44>, AB9D (1880-1950), thorn pipe, with the maker's name ..SOUTHORN BROSELEY stamped incuse along the stem.

[76], <42>, AB9D (1880-1950), near-complete thorn pipe, with the maker's name ..SOUTHORN BROSELEY 5 stamped incuse along the stem, green-glazed tip.

[969], <102>, AB9D (1880–1950), mouthpiece from cutty pipe with green-glazed tip and part of the name ..THORN & .....BROSELEY stamped incuse along the side, probably William Southorn & Co, 1850–1900 (used up to 1950).

[864], <113>, UNK (1850–1950), part of stem with incomplete stamped maker's name in relief along the side, reading ..EY, probably by the Southorn firm.

[399], unaccessioned, stem fragment from unidentified form (1850-1950), maker's name E SOUTHORN BROSELEY 8 stamped incuse along the stem.

[328], <54>, AB9D (1880-1950), complete pipe with maker's name W SOUTHORN & CO BROSELEY 4 stamped incuse along the stem, diamond nipple, green-glazed tip.

[864], <101>, AB5A (1680–1720), bowl with the maker's name stamped on the base of the heel in relief over three lines within a rectangular frame, JOHN/ROB/ERTS, recorded in Broseley 1637–83.

[864], <98>, AB2B (1660–80), bowl with maker's initials SD in a roundel stamped in relief on the base of the heel, and with a gauntlet stamped in relief on the back of the bowl, facing the smoker. This was made by Sam Decon of Broseley, 1650–80.

[110], <48>, AB2A (1660-1680), bowl with maker's name SAM DECON stamped in relief under the heel, fully milled, poorly burnished.

[110], <46>, AB2A (1660-1680), bowl with maker's initials SD stamped in relief under the heel.

[112], <49>, AB2A (1660-1680), bowl with maker's initials ?TC stamped in relief under the heel, fully milled, finely burnished.

[275], <52>, AB1A (1630-1640), bowl with flower symbol stamped in relief under the heel, fully milled.

[110], <45>, heel fragment from unidentified form, possibly AB1B or AB2A (1650–80), gauntlet with dot each side stamped in relief under the heel.

[112], <51>, AB2A (1660-1680), bowl with gauntlet/D in a circular surround stamped in relief on the back facing the smoker, and maker's initials ?D in circular surround stamped in relief under the heel, fully milled, finely burnished.

[832], <96>, AB5B (1680–1720), bowl with initials RL in a heart-shaped surround stamped in relief on the base of the heel, probably Richard Legg, one of several pipemakers of this name recorded in Broseley 1651–1714.

[110], <47>, AB1C (1670-1680), bowl with maker's initials RL in a circular surround stamped in relief under the heel, finely burnished, probably Richard Legg.

[112], <50>, AB1B (1650-1650), bowl with maker's initials TC in a circular surround stamped in relief under the heel, milled, good burnishing.

[940], <99>, AB2B (1660–80), bowl with the initials ?OB stamped in relief on the base of the heel (possibly GB for George Brown, recorded in Broseley 1670–80).

[668], <94>, AB1B (c 1650), bowl with the initials IG stamped in relief on the base of the heel. There is no pipemaker with these initials recorded in Broseley at this date.

[827], <95>, AB4A (1690–1720), bowl with the initials TC? or TG? stamped in relief on the base of the heel, possibly Thomas Gething, working in Broseley c 1700–50 (father and son).

#### 5.7.1.6 *Decorated pipes*

[399], AB9D (1880-1950), bowl with feathered panels along the seams.

[409], unidentified bowl fragment, probably AB9A (1850-70), with moulded leaf seams.

[393], AB9A (1850-1870), bowl with moulded leaf seams.

[268], AB9A (1850-1870), bowl with moulded leaf seams.

[404], AB9B (1860-1880), bowl with moulded leaf seam at the front.

[76], <43>, AB9D (1880-1950), bowl with moulded vertical ribbing and feathered panels on the seams.

[393], <55>, AB9A (1850-1870), bowl with moulded vertical ribbing.

[835], <97>, AB9C (1880–1950), bowl (front missing) with moulded feather seams and part of an animal, possibly an elephant, on the sides.

#### 5.7.1.7 *Imported pipes*

[1], <41>, complete bowl in grey salt-glazed stoneware with a brown wash, decorated with moulded vertical ribbing, probably German, 19th century.

## 5.8 The accessioned finds

*Nicola Powell and Beth Richardson*

### 5.8.1.1 *Introduction/methodology*

Fifty-five registered finds were recovered from the site (NEV06) and submitted for assessment (Table 13). Also examined was bulk slag with a total weight of 7262g and 41 archive boxes of glass, with many complete bottles. With the exceptions of a Roman coin, a Saxon hooked tag, a medieval mount and horseshoe fragment, all the finds appear to be post-medieval in date. All finds have been examined briefly by eye and with the aid of an X10 hand lens for the assessment and the initial identifications confirmed or revised. The metalwork has been subject to x-radiography. Weights and measurements have been taken where appropriate and the data recorded in the registered finds catalogue (NEV06regcat). The finds have also been examined in the light of the available stratigraphic and dating evidence. A summary of the material is given below, and its significance and potential discussed in terms of understanding the function and development of the site itself.

Table 13 Summary of accessioned finds by material and period

Material	Roman	Saxon/Medieval	Post medieval	Unknown	Notes
Copper alloy		2	16	1	
Lead/pewter			2		
Iron		1	12		
Coins	1		5		
Bone/ivory			5		Worked bone
Stone			10		Some possibly natural
<b>Total</b>	<b>1</b>	<b>3</b>	<b>50</b>	<b>1</b>	<b>55</b>
Leather <b>All</b>					1 bag wet leather: pieces from 2 boots

### 5.8.1.2 Medieval and post-medieval

#### Copper alloy

There are two Saxon and medieval items. A near-complete hooked tag <104> is of Saxon or early Saxo-Norman date and a complete Gothic letter 'E' fitting or mount dates to the 13th-15th century.

Personal adornment and dress accessories dominate the post-medieval assemblage, which includes four buttons, two brooches and a shoe buckle. Three of the buttons <7> and <8> from context [1] and <9> from [204] appear to be livery or military buttons. Button <8>, a two- or three-piece button with wire shank, has a crest on the top surface with SHROPSHIRE, suggesting it has come from a county regiment. The fourth button <10> from context [406] is a common 19th- or 20th-century type with dished centre and four stitch holes.

The brooches <13> and <14> are simple and functional. Both were recovered from context [197] and brooch <13> is complete. They both comprise a simple copper-alloy strip with bifurcated end to take the pin point. Brooch <13> is plain and <14> has two twists in the centre of the strip as decoration. The shoe buckle (<84>) is small, plain and rectangular.

Two spoons were recovered from the site <11> and <12>, both from context [76]. Both are complete with oval bowls and spoon <12> appears to show on an X-ray a trace of a hallmark or stamp on the underside of the handle, suggesting it may have some silver content. A sharp pointed tool <15> such as a bradawl was recovered from context [361]. A fragment of the joint of a folding composite ruler <18> was found in the same context. Also from [361] came a V-shaped piece of copper alloy with one bent over end. It is not clear what it was used for or if it formed part of a large object. The copper-alloy assemblage also included a bullet case <72> from context [1]. It is late 19th to 20th century in date.

*Lead/pewter*

There are two lead/pewter items: an incomplete small spoon (<82>) and a piece from a decorative dress buckle (<88>).

*Iron*

Context [76] produced a complete iron key <56> with an oval bow and shank that protrudes over the bit. The bit is solid and pyramidal.

There were two pieces of structural ironwork, including a hinge <58> from context [120]. It is single leaf with a nail still in place. Context [252] produced two corroded pieces of iron <60>, one of which is shown by X-ray to have nail or rivet holes. It may be part of a hinge or strapping. There are fragments from three horseshoes (<81>, <85> and <86>). <86> has a hooked end (calkin) and is of Norman or medieval date.

Three unidentified iron pieces <57> from context [110], <59> from [160] and <61> from [393] were recovered from post-medieval contexts.

*Bone/ivory*

Context [56] produced the head and part of the handle of a bone toothbrush <77> with holes for the bristles and wires on the top side to fix the bristles in place. Fragments of an ivory comb <78> were found in context [386]. It is double-sided with fine teeth and one remaining curved end. A bone disc <79> with a central hole was recovered from context [76]. It is not clear what it was used for. A bone knife handle (<21>) was found in context [275] and a bone button (<22>) in context [384].

*Stone*

Context [1] produced a number of stone finds, including a club-shaped object <62>, possibly part of a pestle or hone, two marbles <63> and <71>, a fine grained hone <65> and a heavy linen smoother, made of a dense, fine grained black stone. Accession <67> is a large piece of mortar or crucible, from context [19]. It has a worked exterior with ribbing and a thick flat base. Part of the interior surface remains and has burnt residue with dark staining tar-like substance around and on the fabric of the stone. It was probably used for an industrial purpose. Three other pieces <68> from context [76], <69> from [90] and <70> [295] are so far unidentified as artefacts and may be natural, although <69> may be part of a crucible.

*Leather*

There are large pieces from two boots, possibly a pair, from [76] (Group 94). They are women's working boots, with an oval-shaped toe, laced and/or buttoned overlap closure and hobnailed soles. The buttoned overlap fastening dates the boots to the late 19th or early 20th century. The boots appear to be sturdy button boots, and because they have nailed soles were presumably worn for agricultural or manual labour outside the house. By the late 19th century boots like this would have been mass-produced, although it is possible that they were made in Shrewsbury.

Remaining parts consist of two multi-part hobnailed soles (one worn right through), an incomplete vamp, two quarters, a strip with circular metal-rimmed lace eyelets and a detached flap with key-shaped holes for buttons. All stitching is machined. It is difficult to tell whether the boots are a pair (with combined lace and button fastening); they appear to be the same size, and a right and left foot, but many parts are missing.

## 5.8.1.2.1 UNKNOWN DATE

*Copper-alloy*

A small piece of copper-alloy waste <16> was recovered from context [371].

*Pigment*

A sample of blue powdered pigment (<112>) was taken from context [835].

## 5.8.1.2.2 BULK GLASS

Forty-one archive boxes of glass were submitted for assessment (Table 14). Many of the boxes contained complete or almost complete bottles. A few bags contained smaller fragments of glass, including wine, beer and food bottles. There were very few drinking vessels. All are recorded in the registered finds catalogue.

By far the largest number of complete bottles recovered consisted of drinks bottles, including those for beer and mineral. A large number of food including milk bottles were also recovered (Table 14).

The food bottles included familiar brands such as Bovril, milk and sauce bottles with sheared lips. The drinks bottles were dominated by beer bottles supplied by local breweries and bottlers, including W. E. Tanner, Thos. Southam, James Bray and Henry J Hearn, all of Shrewsbury. Bottles also came from London, Oswestry. Mineral bottles came in the form of the Codd bottle, many complete with the famous marble in the neck which sealed the bottle. Before this, the Hamilton bottle with the egg-shaped base held minerals.

Many of the chemist's and medicine bottles are also familiar today, including Milk of Magnesia. Bottles for 'Elliman's Embrocation' and 'Kutnow's Powder' provide and insight into the 'cure-alls' available at the time. Several poison bottles were also found. They have one or more ribbed sides to the bottle and often the warning 'Not To Be Taken' in raised lettering on one side. Medicinal dosage measures were seen on several bottles. Of interest is an incomplete oval blue green tinted chemist's bottle with the lettering 'The Infirmary Salop' (it closed in 1914). Most of the bottles date to the late 19th to mid 20th century.

*Table 14 The bulk glass*

<b>Context</b>	<b>Food</b>	<b>Drinks</b>	<b>Chemist/ medicine</b>	<b>Window (bags of glass)</b>	<b>Ink</b>	<b>Miscellaneous</b>
1	32	21	13		2	8
7				1		
23	6	26	9		2	
56		1		1		1
58		1				
65						1
66		1				
76	27	28	15		3	10
90		1				1
109		1				
111						1



199						1
204			1			
207				1		1
232		1				
266				1		
274						1
275						1
284		1				
295						1
303		1				
361						1
367				1		1
370						1
373						
374						1
384						1
385				1		2
393		1				
399		1				
401				1		
402		1				
406						1
827		10		1		
830		2				
969		8				

### Miscellaneous

Several of the contexts contained modern objects. These were assessed and rejected for accessioning and included from context [1], door or furniture knobs, a whittle tang fish knife with the handle lost, a spoon, a small enamel dish, a complete griddle and corroded parts of tools and machinery. Context [23] contained a second enamel dish and a globular measure for attachment to a spirits bottle. Lidded containers for 'Vaseline' and 'Steradent' were recovered from context [213]. A plastic dolls arm and two plastic toothbrushes are probably not more than 40 years old

## 5.9 The ferrous and non-ferrous slag

### Lynne Keys

For this report the assemblage was examined by eye and categorised on the basis of morphology. A magnet was used to test soil on slag and in bags for micro-slags such as hammerscale. Each slag or other material type in each context was weighed; smithing hearth bottoms were individually weighed and measured to obtain statistical information. Quantification data are given in the table below in which weight (wt.) is shown in grams, and length (len.), breadth (br.) and depth (dep.) in millimetres (Table 15). The site produced slag with a total weight of 7262g.

Table 15 Quantification of iron slag

context	slag type	wt	len	br	dep	Comment
155	smithing hearth bottom	383	100	50+	60	incomplete
221	cinder	10				

221	stone	9				
221	undiagnostic	18				
253	cinder	13				
253	smithing hearth bottom	295+	100	65+	30	incomplete
253	smithing slag	56				very magnetic
253	undiagnostic	78				part of smithing hearth bottom?
253	vitrified hearth lining	66				
285	undiagnostic	141				curved base part of smithing hearth bottom?
285	vitrified hearth lining	17				
361	fuel ash slag	99				
361	undiagnostic	104				
370	smithing slag	89				numerous hammerscale inclusions
370	undiagnostic	541				part of smithing hearth bottom? Inclusions: flake & occ. Hammerscale & tiny coal frags
393	smithing hearth bottom	979	160	120	50	Many small coal inclusion
904	smithing hearth bottom	277	90+	90	40	
904	undiagnostic	43				
904	undiagnostic	400	100	65	65	shape irregular for smithing hearth bottom
911	undiagnostic	28				
917	undiagnostic	42				
919	cinder	56				
919	undiagnostic	37				magnetic
919	undiagnostic	352	120	50+	60	shape irregular for smithing hearth bottom
927	smithing hearth bottom	162	70	70	30	
927	smithing hearth bottom	1181	130	110	60	
927	smithing hearth bottom	1476	170	130	60	
927	undiagnostic	22				
927	vitrified hearth lining	4				
933	cinder	51				
933	iron	38				two lumps
933	smithing slag	50				Concreted flake hammerscale
933	vitrified hearth lining	5				
	<b>Total wt</b>	<b>7122g</b>				

### 5.9.1.1 Explanation of terms and processes

Activities involving iron can take two forms.

1) *Smelting* is the manufacture of iron from ore and fuel in a smelting furnace. The resulting products are a spongy mass called an unconsolidated bloom (iron with a considerable amount of slag still trapped inside) and slag (waste). The latter may take various forms depending on the technology used: tap slag, run slag, dense slag, or furnace slag.

2a) *Primary smithing*: hot working (by a smith using a hammer) of the bloom on a stringhearth (usually near the smelting furnace) to remove excess slag. The bloom becomes a rough lump of iron ready for use; the slags from this process include smithing hearth bottoms and micro-slags, in particular tiny smithing spheres.

2b) *Secondary smithing*: hot working, using a hammer, of one or more pieces of iron to create or repair an object. As well as bulk slags, including the smithing hearth bottom, this generates micro-slags: hammerscale flakes from ordinary hot working of a piece of iron (making or repairing an object) or tiny spheres from high temperature welding to join or fuse two pieces of iron.

Most of the slag in the assemblage (almost 5kg) was diagnostic of secondary iron smithing. A smaller quantity (1.8kg) was undiagnostic, i.e. could not be assigned to either smelting or smithing because of its morphology or because it had been broken up during deposition, re-deposition or excavation. Other types of debris in the assemblage may be the result of a variety of high temperature activities - including domestic fires - and cannot be taken on their own to indicate iron-working was taking place. These

include fired clay, vitrified hearth lining and cinder although, if found in association with iron working debris, they may have been produced by smithing activity.

The slag type described as ‘smithing hearth bottom’ is a plano-convex shaped slag formed as a result of high temperature reactions between the iron, iron-scale and silica from either a clay furnace lining or the silica flux used by the smith. The iron silicate material from this reaction slag dripped down into the hearth base forming slag which, if not cleared out, developed into the smithing hearth bottom. Before it could grow large enough to block the tuyere hole (where the air from a bellows entered the hearth) the smithing hearth bottom was removed and usually dumped in the nearest pit, ditch or unused area (the exception to the rule is its removal for re-use elsewhere as surface metallurgy or for reclamation on waterfronts etc.). The proximity of cut features or dumps with amounts of smithing hearth bottoms to a building is often a good indication the structure may have been used for smithing activity.

### 5.9.1.2 Key groups

**Groups 13 (S1) and 14 (S2)** both part of OA7 are both significant not for the quantity of slag but for where it was found. In G13, SG132, the robbed posthole [928] fill (927) contained three smithing hearth bottoms. On most sites, slag in dug features was deposited when the feature was still open but out of use; in this case the question should be asked: was the slag likely to have been there before the post was removed, i.e. it was being used as a post pad? The slag in G14, SG130, [920] fill (919), came from a robbed beam slot although the small quantity makes it unlikely that it formed padding (unless there is other evidence for this?). As these both structures and context [911] (G15) are quite close the slag indicates that smithing activity was taking place nearby after the structural features had been robbed out.

**Group 52, SG51**, [370], part of the 19th-century industrial usage of S9, (the site a foundry and smithy) contained evidence (in the form of hammerscale) that secondary smithing activity was taking place nearby. Hammerscale (not visible to the naked eye when it is in soil) usually remains in the immediate area of smithing activity (around the anvil and between it and the hearth) when larger (bulk) slags are cleared out. The further away from the focus of smithing or the more re-distributed deposits containing bulk slags, the less of it there is likely to be. Its presence can only be detected on site by using a magnet or by soil sampling.

### 5.9.1.3 Discussion of the assemblage

The assemblage hints at smithing activity from the early medieval onward. The slag from the early riverside deposits (G 9 and 10) indicates iron working took place somewhere along or near the river from where floods deposited it but the quantity is small and the slag abraded so does not have as much significance as the other groups discussed above.

What the assemblage *does* indicate is that the site is peripheral to smithing activity in both the medieval and post-medieval periods. In the latter period there is some documentary evidence for a smithy or forge having operated nearby.

## 5.10 The plant remains

John Giorgi

Two environmental bulk soil samples were collected for the potential recovery of biological remains including botanical material. The aim of the assessment was to establish the level of preservation, the item frequency and species diversity of any plant material and the potential of these remains for providing information on human activities and the character of the local environment and how this may have changed over time.

The samples were taken from two fills of the post-medieval ditch [251] (SG 14; G 55), from the lower fill [278] (sample <14>) and upper fill [252] (sample <13>). The size of both samples was ten litres, which were processed using a modified Siraf flotation tank with flotation onto a 0.25mm mesh followed by wet-sieving of the residue through a 1mm mesh sieve. Both flots were dried while the residues were also dried and sorted for any botanical remains that had not floated and other artefactual remains. The processing details are shown in (Table 16). The two samples produced small flots of just 3ml. The flots were scanned using a binocular microscope and the item frequency and species diversity of all biological remains from all samples recorded using the following rating system of 1 to 3.

Frequency: 1 = 1-10 items; 2 = 11-50 items; 3 = 50+ items

Diversity: low = 1-4 species; medium = 5-7 species; high = 7+ species

Table 16 Botanical remains Key Chd = charred; Wlg= waterlogged

Sample	Context	Residue Vol. (l)	Flot vol. (ml)	Process	Chd Grain	Chd Wood	Chd Seed	Comments
13	252	2	3	F		3 1		MUSSEL FRAGS NOT KEPT; VERY FRAGMENTED CHARCOAL
14	278	2.5	3	F	1 1	3 1	1 1	OYSTER FRAGS NOT KEPT; VERY FRAGMENTED CHARCOAL

Table 17 Non- biological remains

Context	Sample	Process	Constituent	Abundance	Diversity	Comment
252	13	F	CHD WOOD	3	1	1 ID'BLE FRAG; FLECKS, SMALL FGS
	13	W	BONE BIRD	1	1	
	13	W	BONE FISH	1	1	
	13	W	BONE L MAM	1	1	
	13	W	MOLSC MARINE	1	1	MUSSEL FRAGS NOT KEPT
278	14	F	CHD GRAIN	1	1	TRIAE (1)
	14	F	CHD WOOD	3	1	FLECKS & SMALL FRAGMENTS
	14	F	WLG SEEDS	1	1	ATR,JUN
	14	W	BONE AMPHIB	1	1	
	14	W	BONE BIRD	1	1	
	14	W	BONE FISH	1	1	
	14	W	BONE L MAM	2	1	
	14	W	MOLSC MARINE	1	1	A FEW OYSTER FRAGS NOT KEPT

#### 5.10.1.1 The plant remains (Table 16)

There were very few plant remains in both samples; sample <13> from the upper ditch fill [252] consisted of only a small amount of very fragmented charcoal although there was a potentially identifiable fragment in the flot. The botanical remains in the other sample <14> from the lower ditch fill [278] (sample <14>) also comprised mainly very fragmented charcoal although there was also a charred free-threshing wheat (*Triticum* sp.) grain, possibly hexaploid wheat (*Triticum* cf. *aestivum*). A small number of 'waterlogged' seeds of oraches (*Atriplex* spp.), a disturbed and waste ground plant, and rushes (*Juncus* spp.), a wetland plant, were also noted in this flot; these remains, however, may be intrusive.

#### 5.10.1.2 Other biological remains (Table 17)

Other biological remains in the samples consisted of occasional large mammal, fish and bird bones in both samples and a few amphibian bone fragments in ditch fill [278] only. There were also a few mussel and oyster shell fragments noted in the residues from fills [252] and [278] respectively. The mollusc shell was discarded while the animal bone was passed onto a faunal specialist for analysis.

### 5.11 The human bone

*Natasha Powers*

Previous work on the site carried out by the Glamorgan-Gwent Archaeological Trust in 2005 revealed a single piece of well preserved human bone - a femoral shaft fragment [545] (see 4.4 Group 11). The osteologists observed that the remains were from a gracile individual. No further details on the estimated age of the individual were recorded (Higgins 2005).

#### 5.11.1.1 Methods

The human bone was scanned in accordance with MOLA standard procedures (Powers *unpublished*) with a summary catalogue, notes on preservation and completeness, estimation of age and sex and comments on gross pathology, recorded into an excel spreadsheet (Table 18). Age was estimated from observation of completion dental eruption and epiphyseal fusion (Gustafson and Koch 1974, Scheuer and Black 2000). Morphological features of the adult cranium and pelvis were examined to provide an estimate of sex according to Buikstra and Ubelaker (1994).

#### 5.11.1.2 Results

The remains of four burials were available for examination, [962] had not been found within a grave context. All were truncated and/or disturbed by post-medieval intrusions and, in one case, [855] by the limit of excavation. Elements from individual [932] were found within the grave fill [930] resulting in five contexts containing human bone. Two of the contexts were moderately well preserved and two poorly preserved. All remains were fragmentary. Soil concretions were present on the femur of [925].

The absence of appropriate skeletal elements prevented estimation of sex in all but one instance. Complete fusion of elements indicated the remains were those of adults. Burial [962] was extremely gracile and the epiphyses were missing post-mortem preventing definitive age estimation, however the talus and calcanei appeared fully formed suggesting a adult age at death was most probable.

Individual [925], an adult male, was the most complete of the burials. He had indications of degenerative joint disease in the spine (Schmorl's nodes, the result of disc herniation, and osteophyte formation) and a well healed fracture of the left second metacarpal shaft. Deposits of calculus (mineralised plaque) were present on his teeth. Spinal joint degeneration was also noted in adults [855] (osteoarthritis) and [932] (Schmorl's nodes).

An intrusive animal bone fragment was present in [962] and the left proximal femur of a very gracile adult was present in [932].

Table 18 summary of skeletal data

Context	Condition	% complete	Skull	Dentition	Torso	Pelvis	Legs	Feet	Arms	Hands	Age	Sex	Pathology comments
855	2	20	0	0	1	0	0	0	0	0	7	9	vert OA
925	2	75	1	1	1	1	1	0	2	2	7	1	#L MC2, SN, OP
962	3	5	0	0	0	0	1	2	0	0	7	9	None
932	3	40	0	0	1	1	2	0	1	2	7	9	SN

## 5.12 The animal bone

Alan Pipe

Table 19 Contents of animal bone archive

	Weight (g)	No. fragments	No. boxes
Animal bone (hand-collected)	1997	185	2 archive quality 'shoeboxes'
Animal bone (wet-sieved)	50	62	1 archive quality 'shoebox'

### 5.3.10.1 Introduction/methodology

This report identifies, quantifies and interprets the hand-collected and wet-sieved animal bone from 32 contexts considered as medieval and mainly, post-medieval (Table 19). The context and sample groups were recorded directly onto Excel spreadsheets and described in terms of weight (kg), estimated fragment count, species, carcass-part, fragmentation, preservation, modification, and the recovery of epiphyses, mandibular tooth rows, measurable bones, complete long bones, and sub-adult age groups. The assemblage was not recorded as individual fragments or identified to skeletal element. All identifications referred to the MOLA reference collection and Schmid (1972). Fragments not identifiable to species or genus level were allocated to the approximate categories 'unidentified fish', 'ox-sized' or 'sheep-sized', as appropriate.

Table 20 Summary of Hand-collected and wet-sieved animal bone from NEV06

Con	S a m p l e	Sub Gp	Wt (kg)	No	Pres	Frag (mm)	LMA M	SMA	Bird	AM PH	Fish
58											
65	0	68	0.01	1	mediu m	>75	<10	0	0	0	0
66	0	68	0.02	1	good	25-75	<10	0	0	0	0
76	0	106	0.09	4	good	>75	<10	0	0	0	0
110	0	55	0.04	2	good	>75	<10	0	0	0	0
112	0	57	0.06	5	good	>75	<10	0	0	0	0
201	0	97	0.04	2	good	>75	<10	0	0	0	0
202	0	18	0.01	1	good	<25	<10	0	0	0	0
203	0	16	0.07	20	good	>75	11- 100	0	0	0	0
218	0	88	0.02	2	good	>75	<10	0	0	0	0
232	0	43	0.02	15	good	>75	11- 100	0	0	0	0
252	0	15	0.48	25	good	>75	11- 100	0	<10	0	0
252	13	15	0.02	17	good	>75	11- 100	0	<10	<10	0
266	0	81	0.02	1	good	>75	<10	0	0	0	0
274	0	42	0.04	1	good	>75	<10	0	0	0	0
275	0	81	0.02	6	good	>75	<10	0	0	0	0
278	0	14	0.23	1	good	>75	<10	0	0	0	0
278	14	14	0.03	45	good	25-75	11- 100	0	0	0	<10
293	0	18	0.07	1	good	>75	<10	0	0	0	0
296	0	9	0.12	4	good	>75	<10	0	0	0	0
303	0	23	0.02	1	poor	>75	<10	0	0	0	0
312	0	45	0.15	15	good	>75	11- 100	0	0	0	0
319	0	18	0.04	4	good	>75	<10	0	0	0	0
827	0	174	0.06	5	good	25-75	<10	0	0	0	0
836	0	43	0.02 5	3	good	>75	<10	0	0	0	0
867	0	143	0.02 5	1	good	>75	1	0	0	0	0

892	0	14	0.06	4	good	>75	<10	0	0	0	0
904	0	143	0.15	50	good	25-75	11-100	0	0	0	0
905	0	156	0.02	2	good	25-75	2	0	0	0	0
909	0	133	0.00 2	1	good	25-75	1	0	0	0	0
917	0	128	0.01	2	good	25-75	2	0	0	0	0
924	0	140	0.02	1	mediu m	25-75	1	0	0	0	0
933	0	127	0.02 5	2	poor	>75	2	0	0	0	0
969	0	192	0.01	1	good	25-75	1	0	0	0	0
<b>TOTAL</b>			2.04 7	24 7		>75					

### 5.3.10.5 Medieval

This period produced four fragments, approximately 0.12 kg, of well preserved animal bone; river flood deposit [296] produced fragments derived from ox *Bos taurus* upper limb and sheep/goat *Ovis aries/Capra hircus* tooth and foot.

### 5.3.10.6 Post-medieval

This sample provided 1.927 kg, estimated 243 fragments, of well-preserved hand-collected animal bone with a minimum fragment size generally greater than 75mm, probably mainly derived from post-consumption waste with a smaller component produced by primary processing.

The bulk of the bone derived from adult and subadult ox *Bos taurus* and sheep/goat *Ovis aries/Capra hircus*, with smaller quantities of 'ox-sized' and 'sheep-sized' rib, vertebra and longbone. There were single finds of chicken *Gallus gallus* from [252] and horse *Equus caballus* tooth from [904]; and occasional recovery of pig *Sus scrofa* from [66], [199], [252], [278], [312] and [904]. There was a single fragment of human longbone from [232].

Table 21: Hand-collected and wet-sieved animal bone from NEV06

Context	Sample	Subgroup	Taxon	Part	Age
58	0	68	ox-sized		
65	0	68	ox	upper limb	infant
66	0	68	pig	tooth	
76	0	106	ox	lower limb	
76	0	106	sheep/goat	upper limb	
90	0	106	sheep-sized		
110	0	55	ox	toe	
110	0	55	sheep/goat	foot	
112	0	57	ox-sized		
112	0	57	sheep/goat	tooth	
112	0	57	sheep/goat	upper limb	
199	0	114	pig	head	



201	0	97	ox-sized		
201	0	97	sheep/goat	lower limb	
202	0	18	sheep-sized		
203	0	16	sheep/goat	foot	
203	0	16	sheep/goat	toe	
203	0	16	sheep-sized		
207	0	123	ox-sized		
207	0	123	sheep/goat	head	
207	0	123	sheep-sized		
218	0	88	ox-sized		
218	0	88	sheep/goat	foot	
232	0	43	human	longbone	
232	0	43	ox	tooth	
232	0	43	ox-sized		
232	0	43	sheep/goat	head	
232	0	43	sheep/goat	lower limb	
232	0	43	sheep/goat	foot	
232	0	43	sheep-sized		
252	0	15	chicken		
252	0	15	ox	head	
252	0	15	ox	vertebra	
252	0	15	ox	lower limb	
252	0	15	ox	toe	
252	0	15	ox-sized		
252	0	15	pig	upper limb	
252	0	15	sheep/goat	head	
252	0	15	sheep/goat	upper limb	
252	0	15	sheep/goat	foot	
252	0	15	sheep-sized		
252	13	15	chicken		
252	13	15	fish, unid.		
252	13	15	ox-sized		
252	13	15	sheep/goat	tooth	
252	13	15	sheep/goat	lower limb	
252	13	15	sheep-sized		
266	0	81	ox-sized		
274	0	42	ox	toe	
275	0	81	sheep/goat	tooth	
275	0	81	sheep-sized		
278	0	14	ox	head	
278	14	14	frog/toad		
278	14	14	ox-sized		
278	14	14	pig	tooth	
278	14	14	sheep/goat	tooth	
278	14	14	sheep-sized		

293	0	18	ox	lower limb	
296	0	9	ox	upper limb	
296	0	9	sheep/goat	tooth	
296	0	9	sheep/goat	foot	
303	0	23	ox	lower limb	
312	0	45	ox	lower limb	
312	0	45	ox-sized		
312	0	45	pig	toe	
312	0	45	sheep/goat	head	
312	0	45	sheep/goat	upper limb	
312	0	45	sheep/goat	foot	
312	0	45	sheep-sized		
319	0	18	ox	upper limb	
319	0	18	ox	toe	
319	0	18	sheep-sized		
827	0	174	ox	upper limb	
827	0	174	ox-sized	longbone	
827	0	174	sheep	foot	Adult
836	0	43	ox-sized	longbone	
836	0	43	sheep-sized	lower limb	
867	0	143	sheep/goat	mandible	Adult
892	0	14	ox-sized	longbone	
892	0	14	ox-sized	rib	
892	0	14	sheep/goat	lower limb	
892	0	14	sheep-sized	rib	
904	0	143	horse	tooth	
904	0	143	ox	upper limb	
904	0	143	ox-sized	rib	
904	0	143	pig	foot	
904	0	143	pig	tooth	Subadult
904	0	143	pig	upper limb	
904	0	143	pig	vertebra	
904	0	143	sheep/goat	upper limb	
904	0	143	sheep-sized	rib	
905	0	156	sheep/goat	lower limb	
905	0	156	sheep/goat	tooth	
909	0	133	sheep/goat	head	
917	0	128	ox-sized	rib	
917	0	128	sheep-sized	vertebra	Subadult
924	0	140	ox	tooth	Subadult
933	0	127	ox-sized	longbone	
933	0	127	ox-sized	lower limb	
969	0	192	ox-sized	vertebra	

Wet-sieved samples [252] {13} and [278] {14} respectively produced fragments of unidentified fish, and of frog or toad, the only recovery of fish and amphibians from the whole assemblage. There were no wild birds or mammals.

The cattle and 'ox-sized' group were represented by a wide range of skeletal elements including those from carcase areas of good (vertebra, rib, upper limb), moderate (head, lower limb) and poor (foot, toe) meat-bearing quality. Sheep, sheep/goat and 'sheep-sized' fragments derived mainly from the head, upper limb and lower limb; areas of moderate or good meat-bearing value. Pig bones derived from head, vertebra, upper limb and toe, areas of a range of meat-bearing quality. There were no cattle or sheep/goat horncores and no evidence for bone or horn-working. An infant calf upper limb was recovered from [65]; there were no other infants or juveniles and no foetal or neonate animals.

Few clear butchery marks were noted and there was no evidence for burning, gnawing or pathological change

The assemblage produced only limited evidence for age at death of the major domesticates, with 27 epiphyses and ten mandibular tooth rows. Evidence suitable for interpretation of stature was even more restricted, with only seven measurable bones, one of which was a complete longbone.

## 5.13 Conservation assessment

*Liz Barham*

*Table 22 Summary of conservation work*

	<b>Material</b>	<b>No. accessioned</b>	<b>No. conserved</b>	<b>No. for which further work recommended (see below)</b>
Inorganics	Copper alloy	24 (6 coins)	0	3
	Iron	14	0	0
	Lead	3	0	0
	Glass	11	0	0
	Stone	10	0	0
	Ceramic	40	0	0
	Pigment sample	1	0	1 (analysis if required)
Organics	Bone	5	0	0
	Ivory	1	0	0
	Shell	1	0	0
Composite		3	0	0

### 5.13.1.1 Introduction/methodology

The following assessment of conservation needs for the accessioned and bulk finds from the excavations at Shrewsbury New Entertainment Venue, encompasses any requirements for finds analysis, illustration, analytical conservation and long term curation. Work outlined in this document includes any needed to produce a stable archive in accordance with MAP2 (English Heritage 1992) and the Museum of London's

Standards for archive preparation (Museum of London 1999). This assessment combines the previous report by Dylan Cox of July 2006, with the needs of the further material since then.

Conservation is carried out under the guiding principles of minimum intervention and reversibility. Whenever possible preventative rather than interventive conservation strategies are implemented. Procedures aim to obtain and retain the maximum archaeological potential of each object: conservators therefore work closely with finds specialist and archaeologists.

All conserved objects are packed in archive quality materials and stored in suitable environmental conditions. Records of all conservation work are prepared on paper and on the Museum of London collections management system (Multi MIMSY) and stored at the Museum of London.

The accessioned finds were assessed by visual examination of both the objects and the X-radiographs, closer examination where necessary was carried out using a binocular microscope at high magnification. The accessioned finds were reviewed with reference to the finds assessments by Beth Richardson and Nicola Powell and the ceramics with reference to the assessment by Nigel Jeffries.

#### *5.13.1.2 Finds analysis/investigation*

No items were identified for further investigative work.

In the original assessment three copper-alloy coins <4>, <5> and <6> required further cleaning for dating purposes and this has since been completed. Three buttons <7>, <8> and <9> were recommended for cleaning to clarify regimental identification if present.

## **5.14 Documentary research**

*Chris Phillpotts*

This topic covers three data sources. First, published and unpublished documents (wills, deeds etc) relating to the OLD Old Welsh Bridge (OWB), its adjoining properties and the construction of the New Welsh Bridge (NWB). Secondly, the cartographic data relating to the Frankwell area. Thirdly, the pictorial evidence concerning the design and superstructure of the OWB.

#### *5.14.1.1 Published and unpublished documentary evidence*

The available documentary evidence for the OWB is summarised in Baker (2005) and Ward (1935, 125-41). Unfortunately there is only limited documentary evidence available for the construction of the (NWB), apart from the 1793 contract for its construction as the council minutes concerning its construction are lost (Ward 1935,149). On the 4th March 1795 after the completion of the NWB, the OWB and its adjoining properties were sold by auction (Ward 1935, 150-51). There are two recently discovered plans in the County Record Office, one of which is dated 5th February 1796, which shows a 'new quay' was planned as an initial phase of land reclamation pre-dating the decision to reclaim the whole area between the old and new bridges. The *Shrewsbury Chronicle* which started in started in 1772, and *Salopian Journal* (1794) will be checked for relevant material.

A preliminary examination of the relevant the card-index at Shropshire Archives, and also the on-line catalogue (which covers less than 40% of the collections) has revealed

a number of references concerning deeds for Frankwell properties, some of which may be in the vicinity of the site. Most of these date to the 17th to 19th centuries, but some go back to the 13th and 14th centuries. Particularly interesting are some items in the collections of Wace Morgan (property on site of Bridge, Glen House, wharf and quay), Oakley Park (malthouse and St George's Chapel), Drapers' Company (deeds back to 1381) and the Salt collection (premises near Welsh Bridge 1868-1909). There is a map and survey of Millington's Hospital in Frankwell in 1774. A file in the Leighton (Sweeney) collection contains notes about Cadogan's Chapel and St George's and St John's Hospital from 1246 to 1686, taken from the town archives. These include details of a toll at St George's Gate in 1262 and repairs to the Bridge in 1275.

The group of properties to the east of the bridge approach (the Malthouse and Stew properties) are covered in considerable detail in 43 deeds in all, covering the period 1805 to 1930. These are in private ownership but during August 2006 were recorded and photographed.

**Deed 1** (parchment indenture) 3<sup>rd</sup> May 1805 lease of possession concerning , 'All those three messuages or dwelling houses with their appurtenances in Frankwell in or near the town of Shrewsbury, near to a certain place there where the Old Welch Bridge formerly stood'.

**Deed 2** (2 sheets of parchment, indented) 4<sup>th</sup> May 1805  
Conveyance of the above premises between the above parties for £700.

**Deed 3** (paper copy) 22<sup>nd</sup> October 1814 will of Edward Gittins  
Will of Edward Gittins, late of Isle of Up Rossall, now of Town of Shrewsbury.  
To my three sons Edward, John and Philip Gittins, the three messuages, malthouse and land adjoining in Frankwell. He died 16 December 1814 and the will was proved in the Prerogative Court of Canterbury.

**Deed 4** (parchment indenture) 5<sup>th</sup> July 1816 possession lease  
Edward Gittins of Walcot in the parish of Wellington, Shropshire, miller; John Gittins of Shrewsbury malster; and Philip Gittins late of Up Rossall, now of Leighton, Shropshire, farmer, sell to John Bickerton Williams of Shrewsbury, gent,... Three messuages or dwelling-houses in Frankwell near the place where the Old Welch Bridge formerly stood, in the occupations of John Sherry, Elizabeth Prinalt and Daniel Davies; And the Malthouse with its appurtenances adjoining or near the above messuages, in the occupation of John Gittins;

**Deed 5** (3 sheets of parchment indenture) 6<sup>th</sup> July 1816 conveyance of above  
John Bickerton Williams to hold the premises to the use of John Gittins. (paper, inc drawing) 18<sup>th</sup> March 1824. Memorandum of an agreement made between Edward Cullis esquire on the one part and Mr John Gittins maltster on the other part, witnesseth that the above Mr Edward Cullis consents to allow Mr John Gittins to erect a set of stone steps 4 foot wide from the wall now across between Mr Cullis's dwelling house and a house occupied by John Sherry down to Mr Cullis garden and to continue as a road to Mr Gittins' new-built house on the left hand and Mr Cullis to have a right of road to his garden through the wall to be built by Mr John Gittins.

1892 plan [photograph taken]; 1903 plan [photograph taken]; 1930 plan [photograph taken]

#### 5.14.1.2 Cartographic evidence

The earliest map of the site is John Speed's 1610 map of Shrewsbury, (Baker 2005, fig 3). The first detailed map of the site is John Rocque's map of Shrewsbury (1746) (Baker 2005, fig 4). The most detailed map of the site is 1882 OS 1:500, which shows the excavated buildings in great detail even depicting door thresholds and cellar ventilation shafts (Baker 2005, fig 8). Sadly there are no house numbers on this map. However, it is planned to identify them by using the Inland Revenue survey of 1910 and the decennial census returns of 1841-1901. In 1938 *Kelly's Directory for Shrewsbury* these properties are referred to as the 'Welsh Bridge'. Also may then be possible to trace these properties back further by using Land Tax Assessments, which are complete back to 1780, with sporadic survivals back to 1700, supplemented by Window Tax returns.

#### 5.14.1.3 Pictorial evidence

The earliest view of the OWB is the 'Burghley Map' of c 1575, which has a hand-written addition: 'Ye Welsh Gate' (Baker 2005, fig 2). During the 18th century the OWB was frequently drawn, etched and painted (both oils and water colours). Some of these images reproduced in Baker (2005, figs 10-13) and Ward (1935, facing 144, 145). Sadly most of these images depict the Mardol Gate at the southern end of the bridge (eg Ward 1935, facing 136). However, a number such as 'the Old Welsh Bridge' by Paul Sandby (before 1791) (see front cover), and 'the Completed New Welsh Bridge through the Old Arches' by J. Fidler Junr (c 1794-95) show the northern end of the OWB and its surrounding buildings. These views will be invaluable in reconstructing the northern end of the bridge and its adjoining buildings. There are also five B/W photographs of the area of site in the c 1960 Shrewsbury town survey (copies are on file). The OWB is also depicted on Kenning's (2006) recent view of Shrewsbury in 1630.

### 5.15 Pollen assessment

*Phil Allan*

#### 5.15.1 Methodology for pollen analysis

A north-south transect of seven boreholes was drilled in the western portion of the site by a Geoprobe 540 MT percussion-coring rig (Fig 18). This technique allowed the recovery of cores in lengths of plastic tubing 1.32 m long, which could then studied and sampled off site. The boreholes were drilled to an average depth of c 4.5m, it was not feasible to drill deeper because of the wet and unstable sediments. Sixteen levels from five boreholes were removed for pollen analysis. Standard preparation procedures were used on 1 gram (wet) of sediment. The cores liners were cut open, the cores were, cleaned and prepared for pollen analysis in the laboratory. The sampling interval was not uniform but varied throughout the sedimentary sequence with a sample thickness of 0.5 mm employed. At each selected level, between 1.5g – 4g, (wet weight) of sediment were removed and 1g used per sample.

Two *Lycopodium* (batch number 483216) tablets were added to each sample prior to chemical preparation for the purposes of calculating pollen and charcoal concentrations as described by Stockmarr (1971). The chemical preparation of the samples followed the procedure as described by Barber (1976).

All counts were undertaken using a Nikon Optiphot microscope at a magnification of x400, and x1000 when needed. A target of 300 grains of pollen per level was set, excluding exotic grains, spores and aquatics to give a total land pollen (TLP) sum.

Identification of pollen grains and spores was aided with the use of keys in pollen textbooks, including primarily Faegri and Iversen (1989) and Moore, Webb and Collinson (1991) and by comparison with modern pollen reference material (type slides) of the Department of Geography University of Exeter.

A total of 16 levels were removed from the cores and monoliths for pollen analysis. The core/monolith and depth the material came from is presented in (Table 23).

*Table 23: Pollen from NEV06 Boreholes and Monoliths*

Borehole/Monolith	Depth below ground level/or top of excavated area (m)	m (OD)	Unit No. of core/monolith or context number	Deposit No.
NEV06 BH8	3.40-3.41	47.43-47.42	8.10	4
NEV06 BH8	3.45-3.46	47.38-47.37	8.10	4
NEV06 BH8	3.545-3.555	47.285-47.275	8.10	4
NEV06 BH8	3.58-3.59	47.25-47.24	8.10	4
NEV06 BH12	3.415-3.425	47.435-47.425	12.8	6
NEV06 BH12	3.46-3.47	47.39-47.38	12.9	4
NEV06 BH12	3.505-3.515	47.345-47.335	12.9	4
NEV06 BH12	3.57-3.58	47.28-47.27	12.9	4
NEV06 BH13	3.29-3.30	47.48-47.47	13.5	6
NEV06 BH13	3.335-3.345	47.435-47.425	13.6	4
NEV06 BH13	3.44-3.45	47.33-47.32	13.7	4
NEV06 BH13	3.53-3.54	47.24-47.23	13.7	4
NEV06 M16	0.54-0.55	49.77-49.76	[221]	5
NEV06 M16	0.74-0.75	49.57-49.56	[253]	5
NEV06 M17	0.17-0.18	50.14-50.15	[221]	5
NEV06 M17	0.37-0.38	49.95-49.94	[221]	5

The counted pollen has not been placed into a zoned pollen diagram (TGView) as the number of levels is too few, and the curves would be misleading. Instead a brief summary of each level is presented. The actual and percentage count data is available in Allan and Brown (2006, Appendix A).

349000



Fig 18 Gearchaeological borehole location



### 5.15.2 Results of pollen analysis

The results of the pollen analysis are presented below for each borehole and monolith sampled

#### 5.15.3 NEV06 BH8

##### 5.15.3.1 BH8 (47.43–47.42m OD)

The area of one slide (22x22mm) was completely counted for the evaluation; the concentration of pollen was far too sparse to count 300 polymorphs. The slide contains degraded organic material, however, the quality of the recorded pollen was acceptable, and a diverse range with a number of human indicator taxa was recorded. The arboreal pollen consisted of *Alnus*, *Quercus* and *Betula* in descending order. Shrubs were represented by *Corylus avellana*-type. The herbs were the dominant pollen group of this level, including *Plantago lanceolata* and Ranunculaceae pollen, both are indicative of anthropogenic activity. Further evidence of human activity was recorded in the form of cereal type pollen such as *Hordem*-type and *Avena/Triticum*-type.

##### 5.15.3.2 BH8 (47.38–47.37m OD)

The area of one slide was completely counted for the evaluation; the concentration of pollen was far too sparse to count 300 polymorphs. The slide contains degraded organic material, however, the quality of the recorded pollen was acceptable, and a diverse range with a number of human indicator taxa was recorded. The arboreal pollen consisted of *Alnus*, *Betula* and *Quercus* in descending order. Shrubs were represented by *Corylus avellana*-type. The herbs were the dominant pollen group of this level, including Poaceae, *Centaurea cyanus* and Lactuceae. *Potentilla*, *Plantago media/major* and Ranunculaceae pollen, are indicative of anthropogenic activity. Further evidence of human activity was recorded in the form the cereal type *Avena/Triticum*-type.

##### 5.15.3.3 BH8 (47.285–47.275m OD)

The area of one slide was completely counted for the evaluation; the concentration of pollen was too sparse to count 300 polymorphs. The slide contained a high amount of degraded organic material, however, the quality of the recorded pollen was acceptable, and a diverse range with a number of human indicator types was recorded. The arboreal pollen consisted of *Salix*, *Alnus*, *Quercus* and *Fraxinus*. Shrubs were represented by *Corylus avellana*-type. The herbs were the dominant pollen group of this level, including Poaceae, *Plantago lanceolata* and Ranunculaceae pollen, both are indicative of anthropogenic activity. Further evidence of human activity was recorded in the form of cereal type pollen such as *Hordem*-type and *Avena/Triticum*-type.

##### 5.15.3.4 BH8 (47.25–47.24m OD)

The area of one slide was completely counted for the evaluation; the concentration of pollen was too sparse to count 300 polymorphs. The slide contained a high amount of organic material, however, the quality of the recorded pollen was acceptable, and a number of human indicator pollen taxa were recorded. The arboreal pollen was characterised by *Alnus*, *Fraxinus* and *Betula*. Although the representation of *Betula* was unusually high, and may be a result of pollen being transported from up river sites. Shrubs were represented by *Corylus avellana*-type. Herbaceous pollen taxa were the most represented within this level, including Poaceae, Roasaceae and *Rumex acetosa/acetosella*. Evidence for human activity was present in the form of *Potentilla*,

Ranunculaceae, Lactuceae, and the cereal pollen *Avena/Triticum*-type. The range of pollen is diverse.

#### 5.15.3.5 Interpretation of BH8

The range of pollen from BH8 was relatively diverse, with many pollen types indicative of a wet or fluviially influenced environment. The preservation condition of the polymorphs was mainly “good”, however, many of the grains have been damaged (crumpled, corroded and ruptured), possibly due to being transported and deposited in a fluvial setting. The dominant arboreal taxa for the core was *Alnus*, which is in agreement with the environment of deposition, as alder is a native tree of damp or wet ground, often found beside rivers, ponds and canals or in wet woodland, or within a riparian zone (the interface between land and a flowing surface water body). The herbs were dominated by Poaceae indicating open ground, either expansive grassland or open areas within a woodland context. The human activity represented disturbed ground, in the form of *Plantago lanceolata*, *Potentilla*, Ranunculaceae and *Rumex acetosa/acetosella*. This when considered with the core stratigraphy, indicates a very disturbed inlet. Additional human evidence was recorded in the form of cereal pollen, suggesting that some arable cultivation was in process.

### 5.15.4 NEV06 BH12

#### 5.15.4.1 BH12 47.435–47.425m OD

The area of one slide was completely counted for the evaluation; the concentration of pollen was too sparse to count 300 polymorphs. The slide contained a high amount of degraded organic material. Arboreal pollen was notably absent from the counted taxa. Shrubs are represented by the occurrence of *Corylus avellana*-type. Asteraceae, *Jasione montana*-type and Poaceae represent the herbaceous pollen. However, Lactuceae pollen dominates this level, which may be indicative of degradation and poor preservation of a wider range of pollen types. No specific anthropogenic indicator species are recorded, this absence is notable, and uncharacteristic.

#### 5.15.4.2 BH12 47.39–47.38m OD

The area of one slide was completely counted for the evaluation; the concentration of pollen was too sparse to count 300 polymorphs. The slide contained a high amount of degraded organic material, however, the quality of the recorded pollen was acceptable. *Alnus*, *Betula* and *Quercus* represented the arboreal pollen, whilst shrubs were represented by *Corylus avellana*-type and *Calluna vulgaris*. Herbaceous pollen was the most diverse group recorded within this level, including Lactuceae, *Ambrosia*-type, Caryophyllaceae and Chenopodiaceae. Evidence for human activity was present in the form of *Plantago lanceolata*, *Potentilla*, Ranunculaceae, and the cereal pollen *Avena/Triticum*-type. The cereal type pollen has been recorded in higher than usual levels, almost 5%, this may indicate that arable cultivation was close to the site. The range of pollen recorded at this level is diverse, and the level would be appropriate for a full count

#### 5.15.4.3 BH12 47.345–47.335m OD

The area of one slide was completely counted for the evaluation; the concentration of pollen was too sparse to count 300 polymorphs. The slide contained degraded organic material, however, the quality of the recorded pollen was good to acceptable. *Alnus*, *Quercus* and *Salix* represented the arboreal pollen, whilst *Corylus avellana*-type represented the shrubs. The most diverse range of pollen types recorded were herbaceous, including, Poaceae, Lactuceae, Apiaceae, *Lychnis flos-cuculi* and

*Centaruea cyanus*. Human activity was evident by the presence of *Plantago lanceolata*, *Potentilla*, Ranunculaceae. Further anthropogenic indicators were the cereal pollen *Avena/Triticum*-type and *Hordeum*-type. *Avena/Triticum*-type pollen is recorded in unusually high numbers, and represents ca 10% of all the pollen counted at this level. The range of pollen recorded at this level is relatively diverse, and there is an uncharacteristic high amount of cereal pollen.

#### 5.15.4.4 BH12 47.28–47.27m OD

The area of one slide was completely counted for the evaluation; the concentration of pollen was too sparse to count 300 polymorphs. The slide contained degraded organic material, however, the quality of the recorded pollen was good. *Alnus* and *Quercus* represent the arboreal taxa, whilst there no shrubs were recorded at this level. Poaceae was the dominant herbaceous pollen, followed by Asteraceae, Lactuceae and Apiaceae. The range of herbaceous pollen was quite diverse and included *Artemisia*, Chenopodiaceae, *Filipendula* and Polygonaceae. *Plantago lanceolata*, Ranunculaceae and *Potentilla* represent anthropogenic induced disturbed ground. Further evidence of human activity was indicated by the presence of the cereal pollen *Hordeum*-type.

#### 5.15.4.5 Interpretation of BH12

The range of pollen from BH12 was relatively diverse, with many taxa indicative of a wet or damp conditions e.g. *Salix*, *Lychnis flos-cuculi* and *Filipendula*. The preservation condition of the taxa, was predominantly “good”, however, many of the grains has been damaged (crumpled, corroded and ruptured), possibly due to being transported in a fluvial setting, or deposited in highly oxygenated environments. The dominant arboreal type for the core was *Alnus*, which indicates damp or wet ground, or riparian woodland. *Salix* was present in this core, providing further evidence of a wet or damp environment, possibly a river influenced zone or perennial inlet where inundation of water was frequent. The human activity represented disturbed ground, in the form of *Plantago lanceolata*, *Potentilla*, Ranunculaceae and *Rumex acetosa/acetosella*. The pollen evidence when considered with the stratigraphy from BH12, and indicates a very disturbed area, possibly an inlet or foreshore of a river channel. Additional evidence for human activity was recorded in the form of cereal pollen, suggesting that arable cultivation was occurring. It is important to note that *Avena/Triticum*-type pollen was found in unusually high amounts, ca 10%, the norm is ca 2% (Brown pers comm.). This uncharacteristic representation may indicate that cereals were being grown adjacent to the site, probably on the low terrace area to the west. The good condition of the cereal pollen indicates short transport distances and rapid deposition in anoxic conditions.

#### 5.15.4.6 BH13 47.48–47.47m OD

The area of one slide was completely counted for the evaluation; the concentration of pollen was too sparse to count 300 polymorphs. The slide contained degraded organic material, however, the quality of the recorded pollen was acceptable. *Salix* was the most frequently recorded arboreal pollen, followed by *Alnus*, *Betula*, *Quercus* and *Pinus* respectively. Shrubs were represented by *Corylus avellana*-type and *Calluna vulgaris*. There was a diverse range of herbaceous pollen; the most frequently recorded type was Poaceae, followed by Lactuceae, *Filipendula*, *Centaureae cyanus* and Asteraceae. Human activity was indicated by the presence of *Plantago lanceolata*, *Potentilla* and Ranunculaceae. The range of pollen recorded at this level is reasonably diverse.

#### 5.15.4.7 BH13 47.435–47.425m OD

The area of one slide was completely counted for the evaluation; the concentration of pollen was too sparse to count 300 polymorphs. The slide contained degraded organic material, however, the quality of the recorded pollen was acceptable. *Alnus* was the only

representative of arboreal pollen, *Corylus avellana*-type attested to shrubs. The range of recorded herbaceous pollen was limited to *Jasione montana*-type, Poaceae and *Plantago major/minor*. *Filicales* and *Thalictrum* were also recorded, but in single counts for each.

#### 5.15.4.8 BH13 47.33–47.32m OD

The area of one slide was completely counted for the evaluation; the concentration of pollen was too sparse to count 300 polymorphs. The slide contained degraded organic material, however, the quality of the recorded pollen was acceptable. *Alnus*, *Betula*, *Quercus*, *Salix* and *Tilia* represent the arboreal pollen types, whilst *Corylus avellana*-type indicates the presence of shrubs/scrub. The herbaceous types are relatively well represented, with Poaceae being the most frequently recorded. Other herbaceous pollen include; Apiaceae, *Centaureae cyanus*, *Filipendula*, Rosaceae and *Rumex acetosa/acetosella*. The presence of *Potentilla*, and *Hordeum*-type cereal pollen indicate evidence for human activity. The range of pollen recorded at this level is quite diverse.

#### 5.15.4.9 BH13 47.24–47.23m OD

The area of one slide was completely counted for the evaluation; the concentration of pollen was too sparse to count 300 polymorphs. The slide contained degraded organic material, however, the quality of the recorded pollen was acceptable. *Alnus*, *Quercus* and *Betula* represent arboreal taxa, whilst shrubs are represented by *Corylus avellana*-type. The range of herbaceous taxa is relatively limited, with Poaceae being most frequently recorded, followed by Lactuceae, *Centaureae cyanus* and Apiaceae. Ranunculaceae and the cereal pollen of *Avena/Triticum*-type and *Hordeum*-type represent human activity.

#### 5.15.4.10 Interpretation of BH13

The range of pollen from BH13 was relatively diverse, with many pollen types indicative of wet or damp conditions e.g. *Salix*, *Centaureae cyanus* and *Filipendula*. The preservation condition of the pollen, was predominantly “good”, however, many of the grains has been damaged (crumpled, corroded and ruptured), possibly due to being transported in a fluvial setting, or deposited in highly oxygenated environments. The dominant arboreal type for the core was *Alnus*, which indicates damp or wet ground, or riparian woodland, where willows will accompany it. Willow (*Salix*) was present in this core, providing additional evidence of a wet or damp environment, possibly a riparian zone or perennial inlet where inundation of water was frequent. The human activity represented disturbed ground, in the form of *Plantago lanceolata*, *Potentilla*, Ranunculaceae and *Rumex acetosa/acetosella*. The pollen types indicate a damp disturbed ground environment and when the environmental data is considered with the core stratigraphy, indicate a very disturbed area. The area was possibly an inlet or foreshore of a river channel, where a frequent inundation of water would occur. Additional evidence for human activity was recorded in the form of cereal pollen, suggesting that some arable cultivation was occurring. The good condition of the cereal pollen indicates short transport distances and rapid deposition in anoxic conditions.

#### 5.15.4.11 NEV06 M16 and M17

Two slides from each monolith were completely counted for the evaluation; the concentration of pollen was so sparse that the highest count of pollen was 6 grains, concurrent with a total count for *Lycopodium* of 442.

### 5.15.5 Discussion of pollen analysis

#### 5.15.5.1 Comments on selected pollen and spore types

***Alnus* (Alder):** there are significant quantities present throughout the sampled cores. This is not unusual as it is very tolerant of waterlogged conditions. A native tree of damp or wet ground, often found in a riparian zone beside rivers, ponds or in wet woodland, where it will often grow with willow (*Salix*). The relative abundance of the pollen could reflect growth close to the sample site, or from meadow areas up stream.

***Quercus* (Oak):** consistently represented from the sampled cores. Possibly growing both on the slopes surrounding the floodplain and on the drier island within the floodplain, although mature trees will tolerate flooding. May be indicative of mixed woodland close to the sample site, can grow on damp sites with *Alnus*.

***Salix* (Willow):** recorded in 6 levels, this is not unusual as *Salix* is frequently associated with damp environments, such as floodplains, islands within river channels, wet thickets or river banks, but not with water logged soils. *Salix* is often underrepresented in pollen diagrams, possibly due to pollarding of the riparian trees.

***Corylus avellana*-type (Hazel):** very well represented from the sampled cores. Possibly an under-story component to deciduous woods, wood margins, hedges or represents a scrub environment close to the flood plain and riverbank. Hazel has often been extensively coppiced for straight wood to provide material for a number of activities.

***Calluna vulgaris* (Heather):** shrubs are poorly represented in this evaluation. Heather is not frequent within the sampled core, but is present and may, in this environmental context, represent the shrub/scrub environment associated with oak woodland, wet heath, or poor grassland.

**Herbs:** Poaceae is consistently the most frequent herbaceous pollen type recorded within the sampled cores. The wide representation of herbs represents largely open land cover, but there are some indications of woodlands and shade such as the ferns *Polypodium* (common polypody) and *Filicales*.

**Wetland** and wet grassland is well represented by taxa such as *Lychnis flos-cuculi* (Ragged Robin) associated with damp pasture, damp or moist grassland, ditches and meadows, *Filipendula* (Meadowsweet), *Rumex acetosella* (sheeps sorrel) and *Valeriana* (common valerian). The cores also had a strong representation of herbs associated with disturbed ground or grazing activities including *Plantago lanceolata* (ribwort plantain), *Rumex acetosa/acetosella* and Lactuceae (dandelions), indicating human activity at and/or close to the site. Further waste ground indicators are *Centaurea Cyanus* (cornflower) and *Jasione montana*-type (sheep's bit), both found within the sampled cores.

**Arable Cultivation:** in addition to the floodplain and mixed land cover pollen types previously described; there is a high representation of arable cultivation. The presence of the cereal type pollen such as *Hordem*-type (Barley) and *Avena/Triticum*-type from the sampled cores is sporadic, but does indicate arable cultivation.

**Aquatics:** the sporadic representation of Sphagnum (moss) represents the changeable wet to dry conditions of the site and to local wetland. However, there is always the possibility that some has been transported from the upstream areas by the river.

### 5.15.5.2 Comparison with other pollen diagrams in the region

The diversity of pollen identified in the evaluation indicates this is a complex site, for this reason the cores are particularly interesting and valuable. However, the lack of high resolution sampling makes it difficult to interpret, as the levels counted for this evaluation are not from a continuous sampling context, therefore they represent a “snap shot” of different sections of the cores. The closest pollen diagram to the Frankwell Quay site is 2.5 km northeast along the Ellesmere road at Cross Hill. The site was taken from a palaeochannel of the river Severn, known locally as “the old river bed” and the meander’s core was known during the Middle Ages as “the Isle of Coton” (Pannett and Morley, 1976). A 5m section was logged and pollen samples were removed for analysis. The sampling resolution, by current standards, was coarse, every 10cm, however, the pollen data is still comparable. The pollen data from Cross Hill records types such as *Alnus*, *Quercus*, *Salix*, *Poaceae*, Plantains, *Apiaceae*, *Lactuceae*, and cereals signifying the pollen from this evaluation are consistent with findings of Pannett and Morley (1976).

The interpretation of the Cross-hill pollen initially describes a mixed oak dominated woodland landscape, with a fringing swamp or alder woodland environment along the course of the palaeochannel. The pollen data records a major vegetation change, attributed to the medieval period, where the woodlands had been cleared and replaced by open pasture and arable land-use (Pannett and Morley, 1976). However no radiocarbon dates were used in combination with the pollen analysis of Pannett and Morley (1976). The medieval open fields of the isle of Coton are known to have occupied the adjacent terraces, indicating a wet environment in the lower regions of the flood plain and palaeochannels. The interpretation of the pollen from this evaluation is consistent with those from Cross Hill. The pollen evidence indicates that the alder woodland landscape was widespread probably along the floodplain palaeochannels and fringes of some sections of the river channel; this environment did not change until the medieval period, where significant changes in land use were instigated.

At some point from the medieval there may have been some form of land management leading to draining of the floodplain, and some form of river management, to reduce flooding and allow the spread of arable farming, and eventually the development of Shrewsbury for increased human occupation. The range of human indicator pollen types from this evaluation indicates continuous human activity within the sample site context. Based on the location of the sample sites, the mixture of anthropogenic and fluvial sediments and their proximity to the river channel, it may be considered that this area was disturbed by human activity on a regular basis. The stratigraphy of the cores, displays frequent occurrences of rubble, and waste material throughout the foreshore environment. It is possible that the slope angle from the river inlet to the river channel was a low gradient, and people gaining access to and from the river, exploited this. This inlet would have originally been composed of silty and sandy sediment (recorded in the cores), and with frequent use, rubble may have been dumped to act as material to consolidate the underlying soft sediment. The addition of rubble would have produced semi-permanent walkways, slipways or hards down the inlet slope, which during periodic flooding would have been covered by fluvial material, and lead to further dumping. It is possible that the higher areas of the inlet, were not continuously waterlogged, but were frequently inundated by flooding, which caused a build up of silty sediments to produce the “damp” conditions acceptable to pollen types recorded in this evaluation

#### *Borehole 8*

The range of pollen from BH 8 was relatively diverse, with many pollen types indicative of a wet or fluvially influenced environment. The dominant arboreal taxa was *Alnus*, which often grows besides rivers. The herbs were dominated by *Poaceae*, indicating either open grassland or open areas within woodland. Human activity was indicated by

disturbed ground taxa: *Plantago lanceolata*, *Potentilla*, Ranunculaceae and *Rumex acetosa/acetosella*. Further evidence of human activity was recorded in the form of cereal type pollen.

#### *Borehole 12*

The range of pollen from BH 12 was relatively diverse, with many taxa indicative of a wet or damp conditions eg *Salix*, *Lychnis flos-cuculi* and *Filipenula*. The dominant arboreal taxa was *Alnus*, which like *Salix* often grows besides rivers and open water. The herbs were dominated by Poaceae, indicating either open grassland or open areas within woodland. Human activity was indicated by disturbed ground taxa: *Plantago lanceolata*, *Potentilla*, Ranunculaceae and *Rumex acetosa/acetosella*. Further evidence of human activity was recorded in the form of cereal type pollen in unusually high amounts (c 10% - the norm is c 2%), which indicates cereals were being grown nearby probably on the higher land to the west.

#### *Borehole 13*

The range of pollen from BH 12 was relatively diverse, with many taxa indicative of a wet or damp conditions eg *Salix*, *Centaureae* and *Filipenula*. The dominant arboreal taxa was *Alnus*, but *Salix* was also present, both species often grow besides rivers or open water. The herbs were dominated by Poaceae, indicating either open grassland or open areas within woodland. Human activity was indicated by disturbed ground taxa: *Plantago lanceolata*, *Potentilla*, Ranunculaceae and *Rumex acetosa/acetosella*. Further evidence of human activity was recorded in the form of cereal type pollen.

#### *Monoliths 16 and 17*

Two slides from each monolith were completely counted. The concentration of pollen was so spare that the highest count was 6 grains, concurrent with a total count for *Lycopodium* of 442. These levels are bereft of pollen and are not worth further study.

## **5.16 Geoarchaeological study of the sediments**

*Craig Halsey*

### **5.16.1 Introduction**

This document reports on a number of geoarchaeological interventions undertaken on the site of the New Entertainment Venue, Frankwell Quay, Shrewsbury. The work was undertaken during March 2006 and consisted of a number of geoarchaeological boreholes and observations of trench sections within the excavation area. The work followed a revised geoarchaeological strategy (Corcoran, 2006), which primarily aimed to investigate the deeply buried Pleistocene glacial deposits, and the overlying Holocene alluvial deposits. An initial geoarchaeological trench was proposed but given the difficulties of dealing with such deeply buried stratigraphy, a two stage borehole approach was adopted.

The first stage involved drilling with three Commachio MC300 rig in order to examine the sequence of Late Pleistocene glacial sediments which extended to c 20m below the ground surface. These boreholes were drilled on a spacing of c. 20m in a transect orientated roughly north to south in a line perpendicular to the present course of the River Severn. The location of the boreholes is illustrated on . The boreholes were given the prefix NEV06 and then numbered from BH4 (i.e. borehole 4) onwards (NEV06 BH4A/B – NEV06 BH6) following on from the previous three boreholes undertaken by Arups Ltd. Continuous core samples 1.5m in length were retrieved through the made

ground deposits through to the Late Pleistocene glacial deposits. The cores were opened on site and logged. All the core samples were cleaned and described, using standard sedimentary criteria, as outlined in Jones *et al* (1999) and Tucker (1982). This attempts to characterise the visible properties of each deposit, in particular relating to its colour, compaction, texture, structure, bedding, inclusions, clast-size and dip. For each profile, every distinct unit was given a separate number (e.g. for BH4: 4.1, 4.2 etc from the top down) and the depth and nature of the contacts between adjacent distinct units was noted.

It was not possible to obtain the full depth of the Pleistocene deposits due to the soft nature of the sediments and the severe water ingress which resulted in the rapid infilling of the holes. NEV06 BH4 was relocated and redrilled due to this problem. Therefore two boreholes (BH4A and 4B) were drilled to obtain as complete a profile as possible in this location

The second phase concentrated on investigating the Holocene part of the sequence which lay at c 4m below the ground surface. This work was undertaken by Exeter University with a Geoprobe 540 MT percussion coring rig. Seven boreholes were undertaken. On the northern part of the transect, NEV06 BH4 identified a series of fine grained organic deposits thought to be of a Holocene date. In line with the revised geoarchaeological strategy this part of the site was targeted for drilling by Exeter University with the Geoprobe. (NEV06 BH7- NEV06) along the same transect line as the Commachio MC300 borehole on a spacing of 2-4m. Continuous cores 1.22m in length were retrieved through the made ground deposits to the surface of the floodplain gravels. In some instances water ingress causing rapid backfilling, or high resistance prevented a complete sequence to the floodplain gravels being obtained. These cores were sealed and removed off site for further work. A full methodology for the Geoprobe is given in the University of Exeter report (Allan and Brown, 2006).

The full results of the Exeter University work are presented in a separate report (Allan and Brown, 2006), but are considered within this document (see 5.15). In addition to these purposefully done geoarchaeological boreholes, the logs of previous geotechnical boreholes were also consulted for additional information.

#### **5.16.1.1 Excavation Areas.**

Within the excavation area, 3 trench faces (Substation trench 30, East Cellar trench, and Sondage trench) were examined and recorded, and sampled by Exeter University. The bases of these interventions were also hand augered to obtain a full record of the Holocene sequence. The results of these interventions and the sampling work are considered here also.

Three monoliths were taken through these deposits by Exeter University. Monolith M16 and M17 were taken from the substation trench, while M18 was removed from the south facing section of the east cellar trench. The monoliths were located on the archaeological sections, with a level taken at the top of each sampling column. These were taken off site for further analysis.

### **5.16.2 Off-site**

#### **5.16.2.1 Boreholes**

The Geoprobe cores were opened, cleaned and logged by the MoLAS geoarchaeologist at the University of Exeter laboratory. Levels for pollen analysis were identified and



samples removed (see 5.15) and two radiocarbon samples were taken and submitted from BH4A (see OA G6). A number of samples were also taken from BH4A for particle size analysis (see below). All the logs from the Commachio and Geoprobe boreholes were tabulated and are presented in (Table 24) to (Table 37).

#### **5.16.2.2 Excavation Areas**

The deposits recorded in the excavation areas were tabulated and are presented in section 5.16.3. Monoliths M16 and M17 were submitted for pollen analysis.

#### **5.16.2.3 Deposit Model Construction**

The core sample logs and logs from the recorded archaeological sections were entered into a digital (Rockworks 2006) database. Each deposit component (gravel, sand silt etc) was given a colour and a pattern and, as a result, the two major variables of any deposit were stored in the Rockworks database and used to construct the deposit model. In addition to these logs, data was also utilised from the previous geotechnical work carried out by Arups and for the Shrewsbury flood alleviation scheme (Geotechnics Ltd, 1993). All data entered in the database was given the prefix NEV06.

Cross-sections (transects: vertical slices through the sub-surface stratigraphy) were drawn through the data points and correlations were made between key deposits. Interpretation of the data is based to a large extent on examining these transects. Individual lithostratigraphic units with related characteristics within a borehole were grouped together and then linked with similar deposits, which may be made up of a number of individual contexts (lithostratigraphic units) in adjacent boreholes. Linking deposits between boreholes produced a series of site-wide deposits (facies), which are representative of certain environments. Thus a sequence of environments both laterally and through time has been reconstructed for the site. A discussion on the deposit units is given in the geoarchaeological deposit model, which synthesizes the results of the dating, particle size analysis and pollen analysis (see Section 5.15).

The transects drawn through the borehole profiles forms a major means of illustrating the buried stratigraphy in this report (Table 24) to (Table 37). The Rockworks data was transferred to ArcGIS 9 where the spatial analysis package was used to create a topographic plot of the floodplain gravel surface.

#### **5.16.3 Borehole/Excavation Logs**

The tables below present the lithostratigraphy recorded in the borehole cores, hand augers and archaeological sections.

Table 24: Deposits recorded within NEV06 BH4A

## Ground level at 50.76m OD

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
4.1	0-0.70	Loose dark grey/black gritty silty clay with frequent small gritty clinker and coal fragments, and occasional brick and tile fragments	Anthropogenic deposits consisting of industrial waste (Unit 4.1, and 4.5), redeposited alluvium (Units 4.3 and 4.4), and redeposited sands and gravels (Units 4.6 to 4.8). Possibly dumped to reclaim and consolidate land within river inlet.	Facies 6
4.2	0.70-1.22	Loose brick rubble in a dark grey silty clay matrix, with occasional clinker fragments		
4.3	1.22-1.42	Loose mid orangey brown medium sandy clay with occasional pot fragments		
4.4	1.42-1.50	Soft mid grey fine sandy clay		
4.5	1.50-2.36	Firm dark grey/black gritty silty clay with moderate quantities of clinker fragments and occasional brick and tile fragments		
4.6	2.36-2.54	Loose medium coarse orangey brown sand with occasional small rounded gravel clasts		
4.7	2.54-3.46	Loose mid orangey grey medium coarse sand		
4.8	3.46-3.54	Loose mid brown medium coarse sand with occasional small platy, rounded and sub-rounded gravel clasts. Contains small abraded brick and tile flecks		
<b>47.22m OD</b>				
4.9	3.54-3.66	Moderately firm mid grey very fine sandy silt with occasional small abraded brick and tile fragments.	In-channel sediments developing under slow flowing to standing water conditions within river inlet. Plant remains indicate vegetational development at the waters edge. Organic lense (unit 4.12) indicates episode of water level reduction allowing vegetation to colonise within the inlet area.	Facies 4
4.10	3.66-3.78	Moderately firm mid to light grey fine sandy silt with occasional large bone fragments, and occasional small mid brown plant remains		
4.11	3.78-3.88	Soft light brownish grey very fine sandy silt with occasional small plant fragments and occasional rootlets		
4.12	3.88-3.94	Soft mid brown organic very fine sandy silt with moderate quantities of small plant remains		
4.13	3.94-4.24	Moderately soft light grey very fine sandy silt with occasional small plant fragments		
<b>46.52m OD</b>				
4.14	4.24-4.50	Compact mid to light grey gritty sandy silt with frequent medium angular, sub-angular and platy gravel clasts	Floodplain/foreshore gravels. Probably formed through a combination of deliberate dumping to maintain integrity of the foreshore, with reworking of the Holocene/Pleistocene gravels through fluvial action	Facies 3A
4.15	4.50-4.65	Loose coarse cobble sized gravel in a mid brown sandy silt matrix, gravel clasts angular, sub-rounded and sub-angular in shape		
4.16	4.65-4.76	Loose mid to dark grey fine rounded and sub-rounded gravel clasts in a mid brown silty matrix. Mainly consists of very small black gravel pellets		
4.17	4.76-4.91	Loose coarse cobble sized gravel with angular and sub-angular gravel clasts in a gritty medium sand matrix		
4.18	4.90-5.42	Very loose mid to dark greyish brown coarse rounded, sub-rounded, sub-angular and platy gravel clasts. Occasional cobble sized gravel clasts present. Gravels appear very mixed being reddish brown, black and grey in colour.		
4.19	5.42-5.50	Very loose mid to dark greyish brown coarse rounded, sub-rounded, sub-angular and platy gravel clasts. Occasional cobble sized gravel clasts and frequent small gravel pellets present.		
4.20	5.50-5.66	Very loose mid to dark greyish brown coarse rounded, sub-rounded, sub-angular and platy gravel clasts in a medium sandy matrix		

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
4.21	5.66-6.10	Very loose mid to dark greyish brown coarse rounded, sub-rounded, sub-angular and platy gravel clasts. Occasional cobble sized gravel clasts and frequent small gravel pellets present.		
<b>44.66m OD</b>				
4.22	6.10-6.80	Very firm mid reddish brown fine sandy clay, with a thin lense of stiff clay occurring at between 6.5-6.54m below ground level.	Glacial deposits infilling sub-glacial scour. Generally appear to indicate low energy fluvial conditions, with short episodes of standing water depositing the clay lenses.	Facies 2
4.23	6.80-8.30	Dense mid reddish brown very fine to medium coarse sandy clay		

Borehole abandoned at 8.30m below ground level due to backfilling and water ingress

*Table 25: Deposits recorded within NEV06 BH4B*

Borehole drilled down to the same base level of NEV06 BH4A, to continue the recorded sequence.

*Ground level at 50.94m OD*

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
<b>42.54m OD</b>				
4.21	8.40-11.40	Dense mid reddish brown very fine sandy clay. Clay lenses c. 0.04m thick occurring at 10.7 and 11m below ground level. Very small black gravel pellets occurring at between 10.6 and 10.7m below ground level.	Glacial deposits infilling sub-glacial scour. Generally appear to indicate low energy fluvial conditions, with short episodes of standing water depositing the clay lenses. Deposit contains increased gravel inclusions down through the profile indicating higher energy fluvial conditions.	Facies 2
4.22	11.40-12.90	Dense mid reddish brown fine to medium sandy silt.		
4.33	12.90-15.50	Dense mid reddish brown medium sandy silt. Coarse sandy lense c. 0.1m thick occurs at between 13.3 to 13.4m below ground level. Occasional small to medium rounded and sub-rounded gravel clasts occur between 13.7 to 14.2m below ground level. Large sub-angular cobble occurs at base of core.		

Table 26 : Deposits recorded within NEV06 BH5

Ground level at 50.75m OD

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
5.1	0-1.70	Firm dark grey/black silty clay with frequent brick and tile and mortar fragments	Anthropogenic deposits consisting of industrial waste (Unit 5.1), redeposited alluvium (Units 4.3 and 4.4), and redeposited sands and gravels (Units 4.6 to 4.8). Possibly dumped to reclaim and consolidate land within river inlet.	Facies 6
5.2	1.70-2.20	Loose mid to light brown sandy clay with frequent brick and tile and mortar fragments. Occasional small to medium rounded and sub-rounded gravel clasts		
5.3	2.20-2.40	Soft mixed mid grey/mid yellow brown clay silt.		
5.4	2.40-2.60	Moderately firm fine to medium light reddish brown clayey sand		
5.5	2.60-3.50	Soft mid greenish brown clay silt mixed with fine light reddish brown sand		
5.6	3.50-3.60	Soft mid grey clay silt		
5.7	3.60-4.10	Loose mixed deposit of coarse orangey brown sand with frequent brick and tile rubble and occasional rounded, sub-rounded, angular and sub-angular small to large gravel clasts.		
5.8	4.10-4.26	Firm mid brown medium sand		
<b>46.49m OD</b>				
5.9	4.26-4.50	Compact light greenish grey medium to coarse sand with frequent small to medium angular, sub-angular, sub-rounded and rounded gravel clasts	Floodplain/foreshore gravels. Probably formed through a combination of deliberate dumping to maintain integrity of the foreshore, with reworking of the Holocene/Pleistocene gravels through fluvial action.	Facies 3B
5.10	4.50-5.10	Loose light brown medium to coarse sand with frequent small to large angular, sub-angular, rounded and sub-rounded gravel clasts		
5.11	5.10-6.00	Moderately firm dark brown medium to coarse sand		
5.12	6.00-6.20	Loose coarse cobble sized rounded, sub-rounded, sub-angular, angular and platy gravel clasts. Gravel white, brown, black and reddish brown in colour. Contains very small abraded brick fragments.		
5.13	6.20-6.90	Loose mid brown small to medium coarse rounded, sub-rounded, sub-angular, angular and platy gravel clasts in a brown silty matrix		
<b>43.85m OD</b>				
5.14	6.90-9.26	Firm very fine mid reddish brown sandy clay. Stiff clay lenses c. 0.06m in thickness occurs at 7and 8.10m below ground level. Deposits displays faint laminations displayed by colour variations c. 0.01 to 0.02m in thickness.	Glacial deposits infilling sub-glacial scour. Generally appear to indicate low energy fluvial conditions, with short episodes of standing water depositing the clay lenses. Deposit contains increased gravel inclusions down through the profile and a coarser sandy matrix indicating higher energy fluvial conditions.	Facies 2
5.15	9.26-10.90	Dense mid reddish brown silty sand, with pockets of occasional small black rounded and sub-rounded gravel clasts occurring in the top 0.6m of the unit		
5.16	10.90-12.20	Dense mid reddish brown fine silty sand with occasional small rounded gravel clasts. Deposit tends towards a clayey sand in the lower 0.5m of the unit.		
5.17	12.20-13.50	Dense mid reddish brown medium sand with occasional small to large rounded, angular and sub-angular gravel clasts, and occasional cobbles.		

Table 27: Deposits recorded within NEV06 BH6

## Ground level at 50.50m OD

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
6.1	0-0.30	Loose black gritty silty clay. Contains frequent coal and clinker fragments	Anthropogenic deposits consisting of industrial waste and demolition material (Units 6.1, 6.2, 6.5, 6.6), redeposited alluvium (Units 6.3, 6.4, 6.7 to 6.9) and generic made ground. Possibly dumped to reclaim and consolidate land within river inlet.	Facies 6
6.2	0.30-0.40	Loose mixed black/orangey yellow sandy silt with slag fragments and burnt material		
6.3	0.40-0.62	Firm mid brown sandy silt, with occasional large brick and pot fragments		
6.4	0.62-1.00	Firm light yellowish brown sandy silt with moderate quantities of small rounded, sub-rounded and sub-angular gravel clasts. Contains lenses of small clinker fragments		
6.5	1.00-1.50	Firm mixed black to light grey clay silt with frequent clinker and coal fragments and occasional large brick fragments		
6.6	1.50-2.30	Fairly loose black gritty coal rich deposit in a fine sandy silt matrix with frequent small gravel clasts and abraded brick fragments		
6.7	2.30-2.40	Firm mid orangey brown clay silt with occasional small rounded gravel clasts		
6.8	2.40-2.50	Firm mid greyish brown gritty clay silt		
6.9	2.50-2.52	Firm mid grey clay		
6.10	2.52-2.60	Firm dark grey medium coarse sand		
6.11	2.60-3.00	Firm mid grey gritty clay silt, with occasional large brick fragments.		
6.12	3.00-3.50	Very soft dark grey gritty clay silt with moderate quantities of brick fragments, occasional small to medium angular and sub-rounded gravel clasts. Contains occasional glass and pot fragments.		
6.13	3.50-3.80	Firm mid grey slightly clayey silt, with discontinuous lenses of dark orangey brown medium sand.		
6.14	3.80-4.04	Loose dark grey gritty clay silt with frequent large brick fragments and large cobbles		
<b>46.46m OD</b>				
6.15	4.04-4.50	Very compact mid grey gritty sandy silt with moderate quantities of small to medium rounded, sub-rounded and sub-angular gravel clasts. Contains occasional small brick flecks.	Floodplain/foreshore gravels. Probably formed through a combination of deliberate dumping to maintain integrity of the foreshore, with reworking of the Holocene/Pleistocene gravels through fluvial action. A nail and moderate quantities of abraded brick and tile fragments were recorded within the lower gravel unit 6.19, suggesting that significant reworking and disturbance of the gravels has taken place up to the Post-Medieval period.	Facies 3B
6.16	4.50-5.50	Loose light brown gritty sandy gravel, with slight clay content. Gravel clasts small to medium, rounded, sub-round and sub-angular.		
6.17	5.50-6.00	Loose dark grey sandy gravel with small platy and sub-rounded gravel clasts.		
6.18	6.00-6.40	Loose coarse rounded, sub-rounded and sub-angular gravel.		
6.19	6.40-6.80	Loose dark grey fine gritty gravel in a silty matrix. Contains occasional medium sub-rounded and sub-angular gravel inclusions		
<b>43.70m OD</b>				
6.20	6.80-7.80	Dense mid reddish brown fine silty sand. Displays faint laminations in colour c. 0.01 to 0.02m in thickness.	Glacial deposits infilling sub-glacial scour. Generally appear to indicate low energy fluvial conditions, with short episodes of standing water depositing the clay lenses.	Facies 2
6.21	7.80-7.90	Stiff mid reddish brown clay		
6.22	7.90-9.00	Dense fine clayey sand with faint laminations in colour.		
6.23	9.00-11.10	Dense mid reddish brown fine clayey silt with some occasional fine sand within the matrix. Stiff clay lense c. 0.06m thick occurring at 10.4m below ground level.		
6.24	11.10-11.70	Dense mid reddish brown silty sand. Sand becomes coarser down through the profile.		
6.25	11.70-12.7	Dense mid reddish brown medium sand with moderate quantities of small black rounded, sub-rounded and sub-angular gravel clasts		

Table 28: Deposits recorded within NEV06 BH 7

## Ground level at 50.78m OD

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
7.1	0-2.44	Made ground. Discarded	Anthropogenic deposits consisting of industrial waste and demolition material, and redeposited sands and gravels. Possibly dumped to reclaim and consolidate land within river inlet.	Facies 6
7.2	2.44-2.55	Fine to medium homogeneous orange/pink sand with frequent occurrences of flakes and chips (1mm). No apparent structure. Gradational Boundary		
7.3	2.55-2.66	Fine to medium homogeneous orange/pink sand with frequent occurrences of small gravel (1cm). No apparent structure. Gradational Boundary		
7.4	2.66-2.87	Fine to medium homogeneous orange/pink sand with frequent occurrences of flakes and chips (1-2mm). No apparent structure. Gradational Boundary		
7.5	2.87-2.99	Made ground, with bone fragment.		
7.6	2.99-3.03	Firm mid grey medium sand with occasional small angular and rounded gravel clasts.		
7.7	3.03-3.07	Fine sandy silt, containing some rounded gravel (1cm) clast. No apparent structure, macrofossil noted at 2.93. Sharp boundary.		
7.8	3.07-3.10	Homogeneous fine grey sand. No apparent structure, no inclusions. Sharp boundary.		
7.9	3.10-3.34	Mottled grey very fine sandy silt. Macrofossils noted and manganese nodules. No apparent structure, gradational boundary.		
<b>47.44m OD</b>				
7.10	3.34-3.44	Mottled light grey very fine sandy silt. Macrofossils noted and manganese nodules. No apparent structure, gradational boundary	In-channel sediments developing under slow flowing to standing water conditions within river inlet.	Facies 4
7.11	3.44-3.56	Very light grey very fine sandy silt. Macrofossils noted and manganese nodules. No apparent structure, gradational boundary		

Table 29: Deposits recorded within NEV06 BH 8

## Ground level at 50.83m OD

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
8.1	0-1.36	Loose black gritty silty clay with clinker and coal fragments and occasional brick/tile and mortar fragments	Anthropogenic deposits consisting of industrial waste and demolition material (Units 8.1, 8.2, 8.4, 8.5, 8.7), redeposited alluvium (Units 8.3) and redeposited sands and gravels (Units 8.6, 8.8, and 8.9). Possibly dumped to reclaim and consolidate land within river inlet.	Facies 6
8.2	1.36-1.60	Compact brick/tile and mortar rubble		
8.3	1.6-1.96	Mixed, soft mid grey fine sandy silt with discontinuous lenses of medium mid orangey brown sand.		
8.4	1.96-2.44	Firm mid brown gritty silty clay with frequent brick/tile and mortar fragments. Occasional small rounded gravel clasts		
8.5	2.44-2.64	Loose black gritty silty clay with occasional small rounded gravel clasts.		
8.6	2.64-2.71	Firm mid grey medium sand with occasional small angular and rounded gravel clasts.		
8.7	2.71-2.93	Loose black gritty silty clay with occasional small rounded gravel clasts.		
8.8	2.93-3.10	Firm mid orangey brown medium sand		
8.9	3.10-3.34	Loose mid orangey grey coarse sand with moderate quantities of small rounded and sub-rounded gravel clasts.		
<b>47.49m OD</b>				

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
8.10	3.34-3.72	Firm mid grey medium sandy silt with occasional thin lenses of medium sand, and occasional charcoal flecks	In-channel sediments developing under slow flowing to standing water conditions within river inlet.	Facies 4

Table 30: Deposits recorded within NEV06 BH9

## Ground level at 50.86m OD

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
9.1	0-1.22	Modern made ground. Core discarded	Anthropogenic deposits consisting of industrial waste and demolition material (Units 9.1, 9.2, 9.4, 9.6.), redeposited alluvium (Units 9.3) and redeposited sands and gravels (Units 9.7 and 9.8). Possibly dumped to reclaim and consolidate land within river inlet.	Facies 6
9.2	1.22-1.74	Loose black gritty silt clay with occasional coal, clinker and brick and tile fragments.		
9.3	1.74-2.14	Mixed, soft mid grey fine sandy silt with discontinuous lenses of medium mid orangey brown sand.		
9.4	2.14-2.44	Loose black gritty silt clay with occasional coal, clinker and brick and tile fragments.		
9.5	2.44-3.02	Firm mid brown silty clay with moderate quantities of brick and tile fragments		
9.6	3.02-3.16	Loose black gritty silty clay with occasional coal, clinker and brick and tile fragments		
9.7	3.16-3.66	Firm mid brown silty clay with moderate quantities of brick and tile fragments		
9.8	3.66-4.00	Loose black gritty silt clay with occasional coal, clinker and brick and tile fragments.		
<b>46.86m OD</b>				
9.9	4.00-4.42	Soft mid grey medium sandy silt with occasional small angular, sub-angular and sub-rounded gravel clasts	In-channel sediments developing under slow flowing to standing water conditions within river inlet.	Facies 4
<b>46.44m OD</b>				
9.10	4.42-4.50	Compacted mid grey medium sandy gravel with moderate quantities of small to medium angular, sub-angular and sub-rounded gravel clasts	Floodplain/foreshore gravels	Facies 3A

Table 31: Deposits recorded within NEV06 BH10

Ground level at 50.86m OD

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No
10.1	0-0.15	Loose mid orangey brown medium sand with frequent medium sized concrete fragments.	Anthropogenic deposits consisting of industrial waste, demolition material (Units 10.1, 10.2, 10.8, 10.9, 10.10), and redeposited alluvium (Units 10.5, 10.7, 10.11) Possibly dumped to reclaim and consolidate land within river inlet.	Facies 6
10.2	0.15-1.84	Loose black gritty silty clay with moderate quantities of brick and tile rubble, clinker and coal, occasional mortar fragments, occasional small rounded and sub-rounded gravels clasts.		
10.3	1.84-1.86	Thin lense of compact mid yellowy brown very fine sandy silt		
10.4	1.86-1.95	Firm mid brown slightly sandy silty clay with occasional small charcoal and mortar flecks.		
10.5	1.95-2.17	Moderately firm mixed mid orangey brown /light brown /light grey very fine sandy silt.		
10.6	2.17-2.20	Thin lense of soft mid orangey brown medium sandy silt.		
10.7	2.20-2.47	Moderately firm mottled mid to light grey clay silt, with occasional clay lenses and occasional small brick fragments.		
10.8	2.47-2.72	Firm black gritty silty clay with occasional glass fragments and occasional small angular, sub-angular and sub-rounded gravel clasts.		
10.9	2.72-2.97	Firm mid greyish brown gritty sandy silt with moderate quantities of rounded and sub-rounded gravel clasts. Contains frequent mortar and brick/tile fragments.		
10.10	2.97-3.16	Firm black gritty sandy silt with moderate quantities of rounded, and sub-rounded gravel clasts. Contains frequent mortar and brick/tile fragments.		
10.11	3.16-4.38	Moderately firm mixed mid brown/ mid grey/ dark grey gritty sandy silt with moderate to occasional rounded, sub-rounded and sub-angular gravel clasts. Occasional coarse sand lenses. Occasional small brick fragments		
<b>46.48m OD</b>				
10.12	4.38-4.59	Firm mid greyish brown medium sandy silt, with occasional small rounded, sub-rounded and sub-angular gravel clasts	In-channel sediments developing under slow flowing to standing water conditions within river inlet.	Facies 4
10.13	4.59-4.82	Firm mid greyish brown fine sandy silt with occasional small rounded, sub-rounded and sub-angular gravel clasts		
10.14	4.82-5.00	Firm dark grey fine sandy silt		
10.15	5.00-5.10	Firm mid grey fine sandy silt		
10.16	5.10-5.12	Thin lense of dark grey medium sand		
<b>45.74m OD</b>				
10.17	5.12-5.26	Compact mid grey sandy silt with frequent rounded, sub-rounded and sub-angular gravel clasts.	Floodplain\Foreshore gravels	Facies 3A



Table 32 : Deposits recorded within NEV06 BH11

Ground level at 50.89m OD

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
11.1	0-1.84	Loose black gritty silty clay with moderate quantities of brick/ tile rubble. Occasional mortar fragments, occasional small rounded, sub-rounded, and sub-angular gravel clasts.	Anthropogenic deposits consisting of industrial waste, demolition material (Units 11.1, 11.3) and redeposited alluvium, mixed with anthropogenic material (Units 11.2, 11.4 and 11.5). Possibly dumped to reclaim and consolidate land within river inlet.	Facies 6
11.2	1.84-2.60	Firm dark greyish brown clay silt with moderate fine sand within the matrix. Contains moderate quantities of small brick fragments, and occasional charcoal and coal fragments		
11.3	2.60-3.40	Firm black gritty silty clay with frequent brick and tile fragments, and occasional clinker and coal fragments		
11.4	3.40-3.47	Firm mottled mid/light brown very fine sandy clay		
11.5	3.47-3.67	Soft mid greyish brown silty clay with occasional fine sand within the matrix. Moderate quantities of brick, tile, and pot fragments.		

Table 33 : Deposits recorded within NEV06 BH12

Ground level at 50.85m OD

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
12.1	0-1.00	Loose black gritty silty clay with moderate quantities of brick/ tile rubble. Occasional mortar fragments, occasional small rounded, sub-rounded, and sub-angular gravel clasts.	Anthropogenic deposits consisting of industrial waste, demolition material (Units 12.1, 12.2, 12.3, 12.4, 12.6, 12.7), redeposited alluvium (Units 12.5) and redeposited sands and gravels (Units 12.8). Possibly dumped to reclaim and consolidate land within river inlet.	Facies 6
12.2	1.00-1.22	Firm mid brown gritty silty clay with occasional mortar flecks, and frequent brick and tile rubble.		
12.3	1.22-1.60	Loose black gritty silty clay with moderate quantities of brick/ tile rubble. Occasional mortar fragments, occasional small rounded, sub-rounded, and sub-angular gravel clasts.		
12.4	1.60-1.68	Loose mortar rubble		
12.5	1.68-2.14	Soft mid brown slightly sandy silt, with discontinuous lenses of medium orangey brown sand		
12.6	2.14-2.44	Firm mid brown gritty silty clay with occasional mortar flecks, and frequent brick and tile rubble		
12.7	2.44-3.10	Firm black gritty silty clay with occasional rounded, sub-rounded and sub-angular gravel clasts. Occasional brick/tile fragments		
12.8	3.10-3.46	Loose light greyish brown medium rounded and sub-rounded gravel, in a medium sand matrix.		
<b>47.36m OD</b>				
12.9	3.46-4.07	Firm mid to dark grey fine sandy silt with occasional coal and charcoal flecks.	In-channel sediments developing under slow flowing to standing water conditions within river inlet.	Facies 4
<b>46.78m OD</b>				
12.10	4.07-4.11	Compacted mid grey medium sandy silt with occasional small rounded, sub-rounded and sub-angular gravel clasts.	Floodplain/foreshore gravels	Facies 3A

Table 34: Deposits recorded within NEV06 BH13

Ground level at 50.77m OD

Units	Depth below surface (m)	Characteristics	Interpretation	Facies No.
13.1	0-1.46	Loose black gritty silty clay with moderate quantities of brick/ tile rubble. Occasional mortar fragments, occasional small rounded, sub-rounded, and sub-angular gravel clasts.	Anthropogenic deposits consisting of industrial waste, demolition material (Units 13.1, 13.3), redeposited alluvium (Units 13.2) and redeposited sands and gravels (Units 13.4, 13.5). Possibly dumped to reclaim and consolidate land within river inlet.	Facies 6
13.2	1.46-1.94	Soft mid greyish brown very fine sandy clay mixed with black gritty silty clay, with occasional small rounded, sub-rounded and sub-angular gravel clasts, and occasional brick/tile and mortar fragments		
13.3	1.94-2.76	Soft mixed mid brown/ grey gritty silty clay with some medium sand within the matrix. Occasional brick/tile and mortar fragments.		
13.4	2.76-3.09	Loose orangey brown coarse sand		
13.5	3.09-3.32	Loose, mid orangey grey fine rounded and sub-rounded gravel in a medium sandy matrix		
<b>47.45m OD</b>				
13.6	3.32-3.41	Soft dark grey fine sandy silt with very occasional small angular gravel clasts	In-channel sediments developing under slow flowing to standing water conditions within river inlet.	Facies 4
13.7	3.41-3.94	Firm mid grey fine sandy silt		
<b>46.83m OD</b>				
13.8	3.94-3.98	Compacted mid grey sandy silts with moderate small rounded, sub-rounded and sub-angular gravel clasts.	Floodplain/foreshore gravels	Facies 3A

Table 35 : Deposits recorded within sub-station trench, Geosection 14

Top of sequence at 50.14m OD

Units	Context	Depth below surface (m)	Characteristics	Interpretation	Facies No.
14.1	(221)	0-0.37	Firm light brownish yellow silty clay with occasional flecks of charcoal and brick/tile. Oxidised root channels present	Alluvial overbank flood deposits with oxidised (Context [221], [253]) and waterlogged horizons (Context [296]). Units recorded within the hand auger suggest seasonally dry deposits subject to weathering and oxidation processes	Facies 5
14.2	(253)	0.37-0.57	Firm mid greyish yellow silty clay with occasional charcoal flecks		
14.3	(296)	0.57-0.73	Firm light greyish brown silty clay		
Hand auger taken from base of excavated deposits					
14.4		0.73-1.33	Firm mid to light brown fine silty clay, with occasional fine sand		
14.5		1.33-1.63	Firm mottled light grey/light brown clay with manganese flecking		
14.6		1.63-1.92	Firm grey clay with occasional light tan brown mottling and iron and manganese flecking		
14.7		1.92-2.20	Firm light grey silty clay with occasional iron stained flecks		
<b>47.94m OD</b>					
14.8		At 2.20	Gravel clast recorded. Unable to retain sediment for accurate recording	Possible floodplain/foreshore gravels	Facies 3A

Table 36: Deposits recorded within East Cellar trench, Geosection 15

Top of sequence at 50.28m OD

Unit No.	Context	Depth below surface (m)	Characteristics	Interpretation	Facies No.
15.1	(121)	0-0.43	Moderately firm light greyish yellow brown fine sandy silt	In-channel fluvial sediments, with lenses of redeposited gravel and alluvium (units 15.1 and 15.2) Coarser foreshore beach deposits recorded at the base (unit 15.6)	Facies 4
15.2	(307)	0.43-0.50	Loose light greyish brown medium sand with moderate quantities of small rounded gravel clasts. Sloping gravels. Angle of rest greater than 32° indicates that gravels were probably dumped rather than deposited by fluvial action		
15.3	(308)	0.50-0.78	Loose light greyish brown fine sandy silt with occasional small rounded gravel clasts		
15.4	(234)	0.78-1.23	Loose light greyish brown medium sandy gravel. Gravel clast small rounded pebbles		
15.5	(309)	1.23-1.29	Loose light orangey brown fine to coarse sand		
15.6	(310)	1.29-1.34	Loose light greyish brown fine to coarse sand with moderate quantities of small rounded gravel clasts		

Table 37 : Deposits recorded within deep sondage, Geosection 16

Top of sequence at 48.65m OD

Unit No.	Context	Depth below surface (m)	Characteristics	Interpretation	Facies No.
16.1	(303)	0-1.30	Firm mottled light reddish brown/yellowish grey silty clay with occasional gravel	Deposits consist of redeposited alluvium (16.1), possible foreshore gravels (16.2), and in-channel fluvial sediments (16.3 and 16.4)	Facies 4
16.2	(311)	1.30-1.50	Loose dark grey coarse rounded gravel in a light brown fine to coarse sand. Contains small abraded brick fragments		
Hand auger taken from base of excavated deposits					
16.3	n/a	1.50-1.70	Loose mid brown sand		
16.4	n/a	1.70-2.10	Mid grey fine silt with occasional organic flecks		

## 6 Potential of the data

### 6.1 Realisation of the original research aims

#### 6.1.1 *Natural topography and the prehistoric environment*

1. *What evidence is there for Holocene (Mesolithic and later) river channels? To what extent can the changing characteristics of the Holocene river in the Shrewsbury area be inferred from the alluvial sequence on the site?*

The geoarchaeological survey demonstrated that the topography of the site is defined by an inlet on the western part of the site and a gravel ridge on the eastern part. The observations from the boreholes and the particle size analysis all suggest that significant cycles of erosion and deposition have taken place within this inlet. Not only were the finer grained fluvial sediments disturbed, but this (undated) reworking also extended down to the level of Pleistocene/Holocene floodplain gravels. An area of organic fluvial sandy silts of a Saxon date did survive in the distal part of the inlet. Many of these sediments are fairly sterile sands with little analytical potential. Organic sediments have radio-carbon dated to the Saxon period (OA4, G6).

2. *Are micro- and macrofossils preserved in abandoned Holocene channels and what information can they provide about the changing prehistoric environment of the river valley and of the drier land either side? How does this compare with evidence for prehistoric vegetation and environment change known from the wider region, in particular the Lower Severn and the Shropshire-Cheshire Meres and Mosses?*

The Saxon fluvial deposits on the distal part of the inlet did contain significant quantities of pollen investigation (OA4, G6) (see 5.4 and 5.5). However, the radiocarbon age estimates suggested that these sediments accumulated very rapidly, and are unable to provide any long chronology of environmental change comparable to those sequences studied in the Shropshire–Cheshire Meres and Mosses.

3. *Does the evidence for flooding, alluviation and raised water-tables well-known from the Lower Severn, Wye and Upper Thames (and thought to be associated with deforestation in the Bronze Age) also occur in this stretch of the Upper Severn? What other evidence for human impact on the river regime exists?*

Overbank flood deposits were recorded on the northern periphery of the site (OA5). Such deposits are characteristic with periods of increased flooding, and increased sediment supply often thought to be associated with deforestation and raised water tables. However, it was not possible to date these inorganic sediments and therefore any correlation with Late Bronze Age increase in alleviation would be speculative.

4. *How do the lowest Quaternary deposits on the site relate to current understanding of the Late Pleistocene (Upper Palaeolithic) stratigraphy of the North West Midlands?*

A series of fluvio-glacial deposits were recorded on the site which infill the Late Devensian subglacial scour running underneath Shrewsbury. The characteristics of these deposits correlate with those previously recorded beneath Shrewsbury Abbey.

5. *Can the Pleistocene and Holocene deposit sequence on the site be dated?*

The post-medieval sequence (particularly the 18th century and later deposits) on site can be dated by associated artefacts (mainly building material) (OA4, G7, OA 6, G8 and 46).

6. *What is the origin of the sand and gravel deposits on the site and can they be correlated with the better-known sequence of river terraces of the Lower Severn?*

The coarse grained floodplain deposits are all likely to relate to a final phase of downcutting and aggradation occurring at the Pleistocene/Holocene interface. A wide chronological range of deposition is suggested within this report ranging from c 15 to 10 000 BP. This is based on the current understanding of how terraces form in response to rapid climatic change and the comparative dating of other coarse grained deposits which underlie the present Holocene floodplain in other British rivers. However, significant reworking of these deposits did occur throughout the Holocene period. In many parts of the site these deposits could be considered to be 'historic river gravels'.

7. *What potential (if any) is there for more detailed analysis of microfossils and macrofossils preserved in the Late Pleistocene deposits to contribute to a better understanding of the changing Late Pleistocene environment? How does this compare with the Late Glacial evidence previously obtained from the Shropshire-Cheshire Meres and Mosses (in particular Crose Mere) and the Last Interglacial / Devensian evidence from Four Ashes (Wolverhampton)?*

The short chronology of the organic fluvial silts within the inlet gives no potential for work comparative to that carried out on the Shropshire–Cheshire Meres and Mosses.

8. *What was the natural topography of this stretch of the river valley in the prehistoric past and is there any direct or indirect evidence for prehistoric activity on the riverbanks or valley floor or associated with the river itself? In addition, is any indirect evidence for human activity on the drier ground above the river preserved within the floodplain alluvium?*

The natural topography of the site is likely to have consisted of a gravel ridge and an inlet positioned on the outside bend of a meander throughout the prehistoric period. There is no direct evidence for prehistoric activity on the adjacent drier ground.

9. *Is there any noticeable change in the top interface of the overbank flood deposits across the area? For instance is there a slope down towards the river.*

As the overbank flood deposits were only examined in selective locations it is not possible to produce a detailed ground model, but available data shows these deposits sloped from north to south (down towards the river) (OA5, G9).

### **6.1.2 Medieval to post-medieval**

10. *What evidence is there for the earliest establishment of a bridge/bridgehead and/or approach road is there? Does the precede or come later than the earliest evidence for habitation on the river bank?*

It appears that the bridge was established during the 12th century. It is likely that the earliest phase of (unlocated) bridge was timber and associated with masonry gatehouse on the line of the bridge approach road (OA5, B1). The next phase of bastions (OA7, B2) which were apparently associated with the stone bridge were demolished during the late 12th or 13th century (OA8, B3 and 6) (see 2.4).

11. *Is there any evidence of Saxon occupation, such as rubbish pits or gullies flanking the bridge approach road?*

The earliest evidence for settlement consists of one residual sherd of 10th-century Stafford type ware (OA5, G9). The impression that most of the activity and settlement of the eastern side of the bridge approach road is of 12th century and later date.

*12. What evidence for early land reclamation is there? What is the earliest phase of land reclamation?*

The only evidence of early land reclamation was around the Old Welsh Bridge (OWB) was, when part of the river beach was reclaimed (OA8, B6, G19) before the construction of the second phase of the eastern bastion (B6).

*13. Was reclamation piecemeal or conducted over large areas? Can it be tied to the development of individual properties?*

Piecemeal dumping took place before the construction of the medieval bridge approach road and other activities on the area of floodplain or over bank flood deposits to the north and north-east of the OWB (OA5, R1, G23 and 25, OA7, G33).

*14. What evidence is there for medieval embankments/revetments, quay structures and other river control mechanisms? How are such structures to be compared with others in the country?*

No evidence was found of medieval revetments or quay structures. It is likely that the area of Frankwell Quay functioned as a landing place for barges and other shallow river craft without any quay structures (see the Burghley Map of c 1575, which shows rafts of timber being landed here).

*15. What is the pattern of land reclamation out into the river? How does this compare with what is known elsewhere in Shrewsbury ?*

The earliest evidence of land reclamation is linked with the construction of the second phase of the eastern bastion (B6, G9). The next phase of land reclamation was linked with the construction of a quay during the 17th century (OA9, S3, G35 and 36).

*16. What evidence is there for riverine transgression (flooding) in the medieval and post-medieval periods?*

There was a substantial build-up of overbank flood deposits within the area of low lying land north of the OWB during the Saxon period. During the medieval period this process was interrupted when the area was occupied by the Hospital of St George (OA8, G11) and other buildings (B4, S1 and 2) (see 2.4).

*17. What evidence for the development of early medieval properties is there along the river bank? How do these work with the early street pattern and the development of lanes and alleys down to the river? How does this change with time?*

There is clear evidence for the north–south aligned bridge approach road (OA5, R1), which is believed to have been existence during the 12th century. This road determined the alignment of the properties and other features to the east.

*18. Is there any evidence for the effects of early medieval construction work – eg the building of quays, the bridge or the town wall - on the fluvial regime?*

The earliest masonry quay is of 17th century date (OA9, S3, and S4) linked with the reopening of the northern most arch of the OWB (B9). This is interpreted as part of the barge quay built by Rowland Jenks in 1608 (see 2.5).

*19. How does the evidence for topographic development from this site fit with the archaeological evidence from elsewhere in Shrewsbury?*

Most of the area to the east of the bridge approach road was apparently occupied by the Hospital of St George (est. before c 1155) until the 15th century (OA8, G11) during this period. There was a substantial high status late medieval masonry building (OA7 B4), which looks to be fairly typical of the mercantile housing of this period, of which

numerous examples survive locally in Shrewsbury. The superstructure of this building was presumably timber-framed.

*20. What evidence is there in particular for building and/or repair at the junction between St George's Bridge and Frankwell Quay?*

The 17th-century quay (S3 and S4) was apparently constructed when bridge arch was reopened and the bastions were foreshortened (B8 and B11). Meanwhile the area to the east of the bridge approach road was occupied by a number of masonry buildings (B7, B10, B12, B13 and B15). During the 18th the area of the quayside west of the open bridge arch was built over (B14)

*21. What does a detailed standing building record of the surviving medieval structures (e.g. the Bridge, quay walls, etc) add to our present understanding of these structures in Shrewsbury?*

The investigation revealed a well-preserved structural sequence of defensive medieval bastions around the OWB pier, plus various post-medieval cellared building which remained standing until the 1960s. To the south of the remains of the OWB pier fragments of what appears to have been a previously unknown phase of 1790s foreshore reclamation (S7 and S8). On the western part of the site a previously unknown masonry abutment associated with the construction of New Welsh Bridge (NWB) was discovered (S9), the existence of which is apparently undocumented.

*22. What is the structural history of St George's Bridge?*

Our knowledge of the structural sequence of the actual bridge is limited as this masonry was only surveyed, but what was quite unexpected was the discovered of a medieval gatehouse on the bridge approach and a sequence of defensive bastions. These bastions were rebuilt during either 13th or 14th century (OA8, B3 and B6). There are only two surviving fortified medieval bridges in England and Wales (Warksworth and Monnow), so discovery of the sequence of the defensive bastions at the Welsh Gate of the OWB makes this a monument of national importance that should be scheduled by English Heritage to ensure its long term protection.

*23. What evidence if any is there for the adjacent medieval hospital and/or associated chapel and its development through time?*

Part of the cemetery of the Hospital of St George was located (OA8, G11) (see 2.4 and 5.3.10). It is possible that some of the nearby structural features (S1 and S2) are part of the hospital, but nothing which could be interpreted as a chapel was found.

*24. Is there any evidence for boat building activity along the river bank?*

No evidence for boat building or repair was discovered.

*25. What evidence is there for medieval or post-medieval industrial uses of the area?*

To the east of the bridge approach there was fragment of a probable post-medieval animal mill (S5). After the construction of the NWB, some of the brick-built cellared buildings constructed to the east of the bridge approach road during the early 19th century were known as the 'Maltings' and contained evidence of boilers (B18, G74). The adjoining buildings appear to be residential. On the western portion of the site there were a number of industrial buildings including a 'Smithy' during the late 19th and 20th centuries (B22).



26. *On the assumption that dumped reclamation deposits contain finds of different periods (medieval and post-medieval) what new information do these finds tell us about life in medieval and post-medieval Shrewsbury?*

The finds assemblage from the dumped deposits is fairly small but includes a worn 14th-15th century tile [329] (OA11, G53) (see 5.3.1.3.3) and post-medieval clay tobacco pipes most of which were locally made (see 5.3.4).

27. *What evidence is there for settlement during this period?*

Away from the area of the OWB and its approach road the rest of the site was not reclaimed until after 1795. Therefore the area of earlier settlement was restricted.

28. *Do any remains of the buildings shown on the large scale OS map of 1882 survive here?*

Yes, 11 of the buildings (including the final phase of west bastion) shown on the 1882 Ordnance Survey map were located.

29. *What evidence is there for craft or industrial activity?*

There is evidence of boilers in the cellars of the early 19th-century brick cellared building east of the OWB pier (B18, G74). These buildings were known as 'the Maltings' and their floors were repaired with malting house floor tiles (see 5.3.1.3.5). A probable fragment of a 17th-century animal mill (S5) probably served an industrial function, such as milling grain.

30. *What evidence is there for any buildings or structures belonging to the Hospital of St George or its chapel?*

No hospital buildings could be identified with certainty (see research aim 22).

31. *What evidence is there for any burials associated with the Hospital of St George?*

Part of the hospital cemetery was excavated. The truncated and fragmentary remains of two rows of east-west aligned, supine inhumations (one of which was found during the 2005 evaluation) was discovered (OA8, G11) (see research aim 22 and 5.3.10).

32. *What is the age of these burials?*

In the absence of reliable finds dating evidence, the most complete skeleton [925] was radiocarbon dated to c AD 1280-1300 (G11).

33. *What evidence is there for the eastern wall of the probable gatehouse structure found further west.*

More of the eastern foundations of this masonry structure (B1) was uncovered during 2007 [828] (16). A possible fragment of superstructure was also discovered (G26).

34. *Assuming that the eastern portion of the gatehouse (see above) is located what is its date? As previous investigations failed to provide any dating evidence it is very important that this structure is properly dated.*

No artefactual dating was uncovered relating to either the construction or demolition of this structure. However, it can be established from the Group sequence that it pre-dates (OA7, G33), which is dated to the 15th century.

35. *What evidence is there for the north wall of the second phase of the east bastion? Archaeological work on the west bastion in January 2007 confirmed that it extended further north than was expected, so assuming the two bastions were symmetrical then the later east bastion should be present here.*

Only a limited area north of the initial discovery of the second phase of the east bastion was available for investigation, this revealed one isolated fragment of masonry (B6, G32).

*36. Is there any evidence of secular settlement alongside the bridge approach road?*

To the east side of the bridge approach the foundations of substantial late medieval masonry building was discovered, its construction is not securely dated, but it remained in use during the post-medieval period. Several fragments of other pre-1795 buildings were also identified.

*37. What evidence is there for craft or industrial activity within the road side settlement?*

The fragment of the probable horsemill (S5), may have served an industrial function. Fragments of ferrous and non-ferrous slag were recovered from various medieval and post-medieval contexts confirming that small scale iron smithing was carried out locally (see 5.9).

*38. Is there any evidence for the fish pond here?*

No evidence for the fish pond (the stew) was discovered, possibly because it lies further east than the area investigated.

## **6.2 General discussion of potential**

### **6.2.1 Natural topography and the prehistoric environment**

The unique geography and topography of the area has had a profound influence on its history and pattern of land usage, so the history of the site cannot be considered in isolation. The geoarchaeological material has the potential to provide a 3D model of area of the site showing the infilled palaeochannel and its various Holocene sediments and adjoining floodplain. Plant remains recovered from these sediments show there was vegetational development along the water's edge (the foreshore). Two organic lenses, containing plant remains have been radio-carbon dated to early-middle Saxon period (c AD 400-850) and predate the establishment of Shrewsbury by several centuries, so offers the potential to reconstruct the pre-urban environment. It is believed that Shrewsbury was established during the early 10th century as one of a network of *burhs* or fortified places within the county medieval to post-medieval. The Saxon pollen obtained these organic sediments indicates that the local environment consisted of grassland and wet woodland type trees such as willow and alder. Evidence of human activity was shown by disturbed ground taxa and the presence of cereal pollen.

### **6.2.2 Medieval to post-medieval**

The key element of the site sequence are the remains of the Old Welsh Bridge (OWB) and its well preserved sequence of gatehouse defences (see 2.4). During the post-medieval period there was a series of structural changes to area of the former gatehouse, these were initially connected with the construction of the early 17th-century quay and the reopening of the northernmost arch of the bridge. In 1796 after demolition of almost of the OWB, the remaining portion of the bridge (the northernmost arch) became a cul-de-sac serving a series of small houses and workshops, the plans of which can be linked with the 1882 OS map. As the structural survival of the medieval and post-medieval remains was very good including elements of superstructure opposed to foundations there is potential for producing detailed plans of entire structures and because material was recorded in section as well as plan there is potential for producing reconstruction images of key phases of the development of the OWB. There is considerable potential for linking the post-medieval buildings with their relevant documentary material to determine more about their function and pattern of occupancy. To date this wealth of documentary evidence had not been systematically studied (see

5.3.12). There is also potential to determine the function of these buildings from their associated finds, deposits and structural features. There are small ceramic assemblages associated with some of the post-medieval buildings (see 5.3.3.7) (B17, G91, B20, G90).

## 7 Significance of the data

### 7.1 The structural sequence

The structural sequence of the bastions and gatehouse of the Welsh Gate is material of national importance, because of the rarity of surviving medieval fortified bridges within England and Wales. The actual arch of the Old Welsh Bridge (OWB), as it is the only surviving fragment of either of Shrewsbury's medieval bridges is a monument of regional importance. The remains of the substantial medieval building (B4) are only of regional significance as in both Frankwell and Shrewsbury there are numerous examples of standing buildings of 15th century. The small medieval ceramic assemblage associated with Welsh Gate is important as it is the sole dating evidence for the sequence of bastions (see 7.3). While the remains of the various post-medieval buildings on site, particularly the 19th-century cellared buildings were well preserved and large areas of some of these buildings were examined, their remains are only of local significance as examples of such buildings are still very common locally. The structural remains of 20th-century date, such as the public toilets and industrial buildings have no analytical significance (OA 13).

An important element in the study of the structural remains is the building materials. A number of different building stone types are present, indicating various sources of supply, including material from the quarries at Grinshill near Shrewsbury which supplied red and fine grained white sandstone for building work in the town.

The other building materials are of local significance in indicating industrial activity and also work of some moderate status. Most of the ceramic building material of 19th-century date, or later, but there are two medieval floor tiles and possible earlier roofing tile in a variety of fabric types.

The documentary, cartographic and pictorial evidence concerning the OWB and its adjoining structures is highly significant as its study will provide information to supplement the archaeological data and in the case of the post 1700 material provide data to assist with the dating, interpretation and reconstruction of the architectural remains.

### 7.2 The geoarchaeological and environmental material

The deposits recorded during the geoarchaeological survey have the potential to reconstruct the depositional history of the sediments encountered on the site and add information on the topography of the sites location. Further work, especially on the sequence within the archaeological interventions may refine this chronology of deposition. The deposits themselves offer little in terms of further specialist work due to the minerogenic nature of the deposits and poor levels of palaeoenvironmental preservation. In addition to this the assessment has demonstrated that a large degree of reworking may have taken place (e.g. in the Saxon sediments the older radiocarbon date is above the younger one).

The pollen recovered within facies 4 (OA4) does provide an interesting picture of the contemporary Saxon landscape, but the narrow chronology of these deposits suggests that this will only provide a 'snap shot' of past environments. The sequence does not provide sufficient information in order to be able to map landscape and environmental changes over a significant amount of time.

There is enough well preserved pollen in the cores from Boreholes 8, 12 and 13 to permit the undertaking of detailed high-resolution pollen counts to allow the production of accurate statistical analytical data. The diversity of pollen identified indicates the existence of complex environment during the Saxon period showing the presence wetland trees, perhaps stands of woodland, areas of grassland probably river meadow and also evidence that cereal cultivation was taking place nearby. The presence of oak pollen in the all samples indicates there was probably some mixed deciduous woodland on the higher ground beyond the flood plain. Hazel was also well represented perhaps representing the under-story component of mixed deciduous woodland, possibly this material was being deliberately managed for coppicing. Local comparative data is available from the sediments of nearby a medieval oxbow palaeochannel which produced a similar range of species (Pannett and Moreley 1976).

The animal bone is of only very limited local significance, mainly in terms of the skeletal representation and age-selection of cattle and sheep/goat reflecting local consumption of beef and mutton. The plant remains are of no significance either locally or regionally.

It is archaeologically significant to have located part of the cemetery of the medieval Hospital of St George, the archaeological data recovered from it is of regional importance. The human bone has local significance as the first significant skeletal evidence of a hospital cemetery in Shrewsbury. The analytical significance of this material is limited by its poor osteological potential.

### **7.3 The artefactual data**

The medieval pottery assemblage is small, but quite significant. It needs to be looked at together with the other material recovered from work in this area and in the context of other work undertaken in the town in recent years. There are no sherds which are worth illustration.

The clay pipes from NEV06 certainly have both local and regional significance, as the products of a major Midlands pipemaking industry from the time of its inception in the mid 17th century through to an era of mass production in the 19th century. In this respect, the finds should be studied in the light of other excavated groups from Shrewsbury and the surrounding area. The information derived from the stamped pipes is a valuable addition to the corpus of Broseley pipemakers marks in their various forms. In terms of the site and its post-medieval occupation and usage, the clay pipes provide not only close dating evidence, but also offer important clues to status, trade and marketing.

The medieval iron slag assemblage is of local importance only, its significance is that it provides evidence that smithing was taking place nearby (see 5.9). Interestingly there an area of undated external scorching (S6), nearby which is assigned to the post-medieval period (OA10) as it contained no slag of any description.

The opportunity to study the ceramic material culture of the late 19th and early 20th century is considered to be of regional importance because of the size of the assemblage and the rarity of the opportunity to study such material. Although the potential value of studying such material has been noted (Hicks and Jeffries, 2004), the only known British archaeological publication dealing with household material of this date is derived from Chester (Matthews, 1999). The methodologies needed to unlock such material has not been utilised by scholars of 19th-century urban Britain from both archaeological and historical disciplines. This contrasts to those professionals working

on poor urban neighbourhoods in nineteenth-century Australia who have proposed an 'ethnographies of place' methodology to study the everyday material history of urban spaces (Mayne and Lawrence, 1999; Mayne and Murray 2001), an approach paralleled in North America (Praetzellis and Praetzellis, 2004).

For Mayne and Lawrence (1999), this creative approach can allow historians 'to tease out the dynamic complexities of vanished social worlds'. These 'ethnographic' approaches stress the need to weave the study of archaeological artefacts with detailed investigations of local historical sources. However, rather than seeing archaeological artefacts as reflecting broader social realities and historical narratives of the urban past – what Johnson (1999) dismisses as the 'social-history-plus artefacts approach' – ethnographies of place methodologies focus on the 'stories' of urban life that emerge from the material culture itself (Hicks, 2005). Documentary research should allow the occupants of these properties to be identified and their occupants to be determined. From these sources it is possible to begin to understand the production, use and meaning of specific objects within the lives of these dwellers in Shrewsbury.

The accessioned finds are generally of local significance. Much of this material, notably the bulk glass are all either regional or local products. Much of the bulk glass comes from the infilling of the post-medieval cellars during the 1960s and external levelling dumps (G86, 87, 94). Research could be carried out to look at the local breweries and bottlers recorded on the bottles and those from further afield, including Warrington, Birmingham and London. Of interest is the chemist's or medicine bottle from the Infirmary Salop. This was open from 1744 to 1914 and is an interesting part of local history. The glass assemblage therefore is of interest and forms an important research collection for local and social history.

## 8 Publication project: aims and objectives

It is intended that an a monograph should be published by the Shropshire Archaeological and Historical Society as a volume of their annual Transactions be produced. The two principal authors of this monograph would be Chris Phillpotts and Bruce Watson, with a number of specialists also contributing material. Total estimated word length **71,500**. Also it is proposed that aspects of the sequence of bridge defences be published as part of the papers from the 2009 Archaeology of Bridges, International Congress held at Regensburg (see 8.2).

### 8.1 Publication synopsis: *THE OLD WELSH BRIDGE, SHREWSBURY*

8.1.1.1 *Title: THE OLD WELSH BRIDGE, SHREWSBURY: an archaeological investigation of the medieval and later bridge and its environs*

*Introduction (BW) length 1500 words*

Circumstances and dates of various of fieldwork.  
(The nature, scope and evolution of the project are described later).  
Organisation of the report  
List of graphic and textual conventions.  
Acknowledgements.

8.1.1.3 *Chapter 1: The development of the River Severn and its predecessor (PA and CH 10,000) words*

This will start with the geoarchaeological background to the site, discussing site location, topography and Pre-Quaternary/Quaternary geology, then will describe and discuss of the natural stratigraphy, synthesising results of the pollen and particle size analysis assessment. It will be illustrated by a number 3D images of showing the infilled late glacial palaeochannel and tables for the pollen and particle size data H (CH).

The key to understanding the site is the River Severn which had done so much to shape Shrewsbury. The unusual development of Severn with meanders in its upper course, the presence of an inlet/meander creating a sheltered landing place and the changing sedimentary environment of the site will be described. The landward portion of the site was part of the river flood plain, which was regularly inundated. The flood plain environment during the Saxon period can be reconstructed from pollen data (PA).

8.1.1.4 *Chapter 2: The establishment of Frankwell and the Old Welsh Bridge (CP and BW) 4,500 words*

Human activity on site only started during the 12th century (post 1080), when a settlement was established along the bridge approach road. The evidence for this period of roadside activity will be described. The origins of Frankwell and its relationship with Shrewsbury (and its defences) needs to be discussed. Exactly when the first phase of bridge was constructed is uncertain but its existence was first documented in 1121 and by c 1155 the Hospital of St George was established. The freestanding gatehouse on the bridge approach road possibly linked with an unrecorded timber bridge needs to be discussed.

8.1.1.5 *Chapter 3: The medieval fortified bridge and the Hospital of St George (BW et al) 10,000 words*

The hospital cemetery and the osteological study burials needs to be described (Natasha Powers), plus the evidence of the adjoining settlement. Some elements of this settlement may be connected with the hospital. The documentary evidence for the hospital and its location needs to be outlined (CP). There is also evidence of metalworking and the construction of a substantial stone building to be described. As the dating evidence is limited the chronological scope of this chapter needs to be broad as it covers the period from the 12th century up to c 1600.

The key element of this chapter is the description and discussion of the masonry bridge arch and its sequence of defensive bastions. It is tempting to link this reorganisation of the bridge defences with the reorganisation of the bridge, perhaps replacing a timber structure with a stone one. Documentary evidence is vital here to provide information on the rest of the bridge, the excavated material must not be considered in isolation. Particularly important is the consideration of the English Bridge and other fortified medieval-British bridges (research to date shows that there were at least 20 examples of fortified medieval bridges in England and Wales, including the Old Welsh English Bridges in Shrewsbury).

During this period most of the site was part of the river or the adjoining beach, but there is little archaeological, environmental or documentary evidence to illustrate what was happening here.

*Chapter 4: The post-medieval bridge and its environs (CP and BW) 12,000 words*

As with the medieval period there problems about precisely dating the structural sequence, so the phasing structure need to be broad. It appears that the catalyst for this change was the construction of the Frankwell quay in 1608. It will be argued that this work resulted in shortening of the bastions of the Welsh Gate to provide vehicular access along the new quay on the downstream or west side of the bridge. This appears to have been the first permanent structure to be erected here. Before this date boats were probably being beached for the purposes of loading and unloading. By 1746 a group of buildings had been constructed on the site of the east shortened bastion for which there is fragmentary evidence. Meanwhile the shortened western bastion had been converted into a house. Paintings provide invaluable evidence for the appearance the bridge and its adjoining buildings. These images show that to the south of the bastions was a sloping river beach. During this period various building were constructed along the eastern side of the bridge approach road.

8.1.1.7 *Chapter 5: The construction of the New Welsh Bridge and its implications for the nineteenth century development of the area (CP and BW) 12,000 words*

The construction of the New Welsh Bridge a short distance downstream on the old bridge was a catalyst for major change of the whole area of the Frankwell bridgehead. Archaeological work has established that the northern end of the new bridge was founded on a masonry abutment the existence of which is apparently undocumented. In c 1796 it is documented all of the old bridge apart from the northernmost arch and its adjoining buildings was demolished. Soon afterwards the bridge approach road was



converted into a cul-de-sac and a series of cellared buildings were erected along the eastern side of this cul-de-sac. There is excellent archaeological and documentary evidence for these buildings concerning ownership and function. Also there are the associated finds assemblages from these buildings to be considered.

In 1795 research has already established it was proposed to build a new quay further south of the existing one, fragments of this structure have been identified on site. Further documentary work is needed to determine exactly when it was decided to reclaim all the area of river and beach between the two bridges. The 1882 1:500 OS map provides a very detailed snapshot of the site and many of the structures shown on this map can be identified on site this correlation needs to be described

*8.1.1.8 Chapter 6: The twentieth Century (CP and BW ) 4,000 words*

There is a wealth of documentary evidence plus oral history and photographs to supplement the archaeological data. The archaeological data consists of the backfilling of various cellars, which contained large amounts of glass and pottery of recent date.

*8.1.1.9 Chapter 7: Investigation and reburial (BW) 2,500 words*

The nature, scope and evolution of the project would be described here. Then 2006 the conservation work on the standing structure and its reburial would be described.

*Chapter 8: Specialist Reports (est 3,000 words)*

Selective specialist material would listed here as an introduction to the site archive.

*Bibliography (est 12,000 words)*

List of unpublished and published worked cited (MOLA style).

## 9 Publication project: task sequence

All work carried out on this project is subject to the health and safety policy statement of MOLA as defined in *Health And Safety Policy, Operational Procedures MOLA 2009*. This document is available on request. *It is MOLA policy to comply with the requirements of the Health and Safety at Work Act 1974, the Management of Health and Safety at Work Regulations 1992 and all Regulations and Codes of Practice made under the Act which affect MOLA operations.*

### 9.1 Stratigraphic method statement

Task: Establish land period definition and description to provide site wide landuse sequence. Plots of each period will be produced using GIS and hand-annotated with conjecture and retained features (these will form the basis of the published period plans): 2 days.

Task: Attend project meetings, finds reviews and brief specialists etc : 2 days.

Task: Write integrated draft publication text (incorporating specialist contributions) and compile bibliography: 20 days.

### 9.2 Buildings materials method statement

Task : Write publication report material for inclusion in Chapters 4-6, and 8: 2.5 days.

### 9.3 Medieval pottery method statement

Task: Write publication report for inclusion in Chapter 3: 0.25 day.

### 9.4 Post-medieval pottery method statement

Task: Write text for inclusion in Chapters 4-6 and 8: 4.5 days.

Task: Choosing up to 20 vessels for photography and finds review: 1 day.

Task: Attending finds review: 0.5 day.

Task: Documentary research on rubbish disposal in Shrewsbury : 0.5 day.

### 9.5 Clay pipes method statement

Task: Further research on the makers of marked pipes, relating identified examples to the distribution of their products within the town and wider region. Estimated specialist time: 1 day.

Task: Comparison of the clay pipe assemblage with published groups excavated on other sites in the town. Estimated specialist time: 1 day.

Task: Consultation with Dr David Higgins on known parallels and distribution. Estimated specialist time: 0.5 day.

Task: Preparation of publication text material for Chapters 4-6 and 8: 2 days.

### 9.6 Accessioned finds method statement

Task: Further research on livery/regimental buttons and named breweries, bottlers and dairies recoded on bulk glass 0.5 day.

Task: Writing up of the registered finds for any publication of the site including contribution to Chapters 4-6 and 8 : 2 days.

Task: Writing up bulk glass for inclusion in Chapters 5 and 6: 1 days.

Task: Selection of objects for illustration : 0.25 day.

### **9.7 Slag method statement**

Task further analysis and preparation of summary report on medieval material for inclusion in Chapter 3 : 1 day.

### **9.8 Plant remains method statement**

Task: preparation of summary report for inclusion in Chapter 4: 0.25 day.

### **9.9 Human bone method statement**

Task: Recording of 4 skeletons @ 2.7 per day: 1.5 days.

Task: Radiography and photography : 1 day.

Task: Research and report writing for inclusion into Chapters 3 and 8 : 1 day.

### **9.10 Animal bone method statement**

Task: Recording of assemblage onto data base: 1 day.

Task: Analysis of data/preparation of report for inclusion into Chapters 4-6 and 8 : 1 day.

### **9.11 Documentary research method statement**

Task: Research on published and unpublished documentary material: 10 days. Travel costs, photocopying etc £350 extra.

Task: Cartographic research: 2 days.

Task: Pictorial research: 2 days.

Task: Write integrated text for Chapters 3-6 and select images for publication: 5 days.

### **9.12 Pollen method statement**

Task: Preparation of publication text from existing data 1 day.

### **9.13 Geoarchaeological method statement**

Task: Refine stratigraphy, correlate deposits using Rockworks 2006 and ArcGIS 9, interrogate archaeological record for further data: 5 days.

Task: Preparation of publication text: 5 days.

Task: Preparation of publication figures, including surface plots and transects: 3 days.

### **9.14 Graphics method statement**

Task: Site location plans and phase plans and elevations: 15 days.

Task: Clay tobacco pipes Illustration of 16 marked and/or decorated pipes: 2.5 days.

Task: Accessioned finds cross-sections (supplement photos): 0.5 day.

Task: Draw medieval floor tile [329]: 0.25 day.

### 9.15 Photographic method statement

Task: photograph 20 post-medieval pots: 3.5 days.

Task: photograph 20 accessioned objects: 3.5 days.

Task: photograph 2 Malting house floor tiles and wall tiles <34> <35> <36> <37> <39> : 1 day.

### 9.16 Conservation method statement

Task: Cleaning buttons <7> <8> and <9>: 0.5 days.

Task: Reconstructing pottery for illustration: 2 days.

### 9.17 Integrated method statement

Task: Internal edit: 8 days.

Task: Make revisions to draft publication text: 4 days.

Task: Make revisions to draft figures text: 3 days.

Task: Managing editor sign-off: 3 days.

Task: Archive deposition 5 days.

### 9.18 Project management method statement

Task: Project management: 20 days.

Table 38: Post-excavation tasks

Task No.	Done by	Task Description	Time required (person days)
1	BW	Landuse sequence	2
2	BW	Attending meetings	2
3	BW	Write integrated publication text	20
4	IB	Write publication text	2.5
5	NJ	Medieval pottery report	0.25
6	NJ	Post-Medieval pottery report	4.5
7	NJ	Finds review preparation	1
8	NJ	Finds review	0.5
9	NJ	Finds research	0.5
10	JP	Clay pipe research	1
11	JP	Comparison of clay pipe groups	1
12	JP	Clay pipe consultation	0.5
13	JP	Clay pipe publication report	2
14	BR	Finds research	0.5
15	BR	Writing accessioned finds report	2
16	BR	Writing bulk glass report	1
17	BR	Selection of finds for illustration	0.25
18	LK	Analysis and report writing	1
19	JG	Plant remains report	0.25
20	NPO	Recording human skeletons	1.5
21	NPO	Radiography and photography	1
22	NPO	Writing human bone report	1
23	AP	Recording of animal bone	1
24	AP	Analysis of animal bone	1
25	CP	Documentary research	10

26	CP	Cartographic research	2
27	CP	Pictorial research	2
28	CP	Writing documentary text	5
29	CH/PA	Writing pollen report	1
30	CH	Geoarchaeological data modelling	5
31	CH	Writing Geoarch publication text	5
32	CH	Producing Geoarch figures	3
33	DO/GEO	Producing site location plans etc	15
34	DO	Draw clay pipes	2.5
35	DO	Draw accessioned finds	0.5
36	DO	Draw medieval floor tile	0.25
37	AC	Photo 20 post medieval pots	3.5
38	AC	Photo 20 accessioned finds	3.5
39	AC	Photo floor tiles	1
40	CO	Cleaning buttons	0.5
41	CO	Reconstructing pots	2
42	Editors	Internal edit	8
43	BW/CP	Revisions to edited text	4
44	DO	Revisions to figures	3
45	Editors	Managing editor sign-off	3
46	NP	Project management	20
47	BW	Archive deposition	5

The following MOLA and external staff are referred to the above table

AC Andy Chopping  
AP Alan Pipe  
BR Beth Richardson  
BW Bruce Watson  
CH Craig Halsey  
CO Conservator  
CP Chris Phillpotts  
DO MOLA Drawing Office  
GEO Geomatics  
IB Ian Betts  
JG John Giorgi  
JP Jacqui Pearce  
LK Lynne Keys  
NJ Nigel Jefferies  
NP Nicola Powell  
NPO Natasha Powers  
PA Phil Allan

## 10 Publication project: resources and programme

Financial resources sufficient to cover the work proposed in this document have been secured via a separate document.

## 11 Acknowledgements

The archaeological work carried out during 2006-07 by the Museum of London Archaeology Service and sponsored by Shrewsbury & Atcham Borough Council. Thanks to Harry Dhanjal and Paul Williams and the rest of the staff of Willmott Dixon for their assistance during the fieldwork from December 2006 onwards. Thanks to Michael Watson, Archaeological Officer, Shropshire County Council, Sustainability Group , Economy & Environment for his assistance and to David Pannett for his sharing his encyclopaedia knowledge of the local geology with us.

The fieldwork during February to April 2006 was carried by Phil Allan (pollen and Geoprobe drilling), Emma Bower, Ian Davis (supervisor), Matt Edmonds, Andrew Grittons, Craig Halsey (Geoarchaeology), Paul Kajewski, Roddy Mattinson, James McConville, Tony Mackinder (supervisor), Kasia Olchowska, Emma Rae, Gemma Stephenson, Kier Strickland, Nigel Ward and Louise Wood.

The fieldwork undertaken during November 2006 to June 2007 was carried out by Hazel Cooley, Ian Davis (supervisor), Andrew Grittons, Chris Hawksworth, Samuel Meadows, Chris Phillpotts (supervisor), Elena Valorta and Nicholas Vaughan.

The medieval pottery was assessed by Victoria Bryant of the Historic Environment and Archaeology Service, Worcestershire County Council.

## 12 NMR OASIS archaeological report form

**OASIS ID: molas1-75376**

### Project details

Project name Old Welsh Bridge, Frankwell, Shrewsbury

Short description of the project In advance of the construction of the new civic theatre in Frankwell, Shrewsbury, the remains of the landward portion of the Old Welsh Bridge was examined during 2005-07 (northern most arch of the medieval and later bridge - the rest was demolished in 1796), its unique sequence of defensive bastions (the Welsh Gate), the remains of medieval and post medieval buildings adjoining the northern bridge approach road including part of the cemetery of St George's Hospital (established by c 1155), five supine burials were located, one was C14 dated to (2 sigma) 1260-1320 and 1350-1390 (Beta 241622). In the western portion of the site geoarchaeological investigation revealed a sequence of riverine deposits spanning from the late glacial to the post-medieval periods. There was a massive masonry abutment and barge quay associated with the construction of the new Welsh Bridge (1793-95) some 60m downstream of the earlier bridge. Following the construction of the new bridge, the inlet between the two bridges was reclaimed by 1832 by raising the ground level. During the early 19th century a series of brick-built, cellared buildings were constructed around the remains of the bridge and the arch was incorporated into the cellars of one of these properties. These properties were demolished in c 1960, and afterwards the area was used as temporary car parking until 2005. In 2005 an evaluation was carried out by GGAT (project A997, site No 552)

Project dates Start: 21-02-2006 End: 13-06-2007

Previous/future work Yes / No

Any associated project reference codes NEV06 - Sitecode

Type of project Recording project

Site status Local Authority Designated Archaeological Area

Current Land use Industry and Commerce 1 - Industrial

Monument type BRIDGE Medieval

Monument type HUMAN BURIALS Medieval

Monument type BUILDINGS Post Medieval

Significant Finds POTTERY Medieval

Significant Finds POTTERY Post Medieval

Investigation type 'Field observation', 'Part Excavation', 'Part Survey', 'Salvage Excavation', 'Watching Brief'

Prompt Planning condition

### Project location

Country England

Site location SHROPSHIRE SHREWSBURY AND ATCHAM SHREWSBURY New Entertainment Venue or Severn Theatre, Frankwell

Postcode SY3  
 Study area 4000.00 Square metres  
 Site coordinates SJ 3485 3128 52.8747170976 -2.968094949870 52 52 28 N 002 58 05 W  
 Point

Height OD / Min: 43.85m Max: 46.83m  
 Depth

### Project creators

Name of MOLA  
 Organisation

Project brief Arup  
 originator

Project design Arup  
 originator

Project director/manager  
 Nick Bateman

Project supervisor  
 Bruce Watson

Type of Shrewsbury and Atcham Borough Council  
 sponsor/funding  
 body

### Project archives

Physical Archive Shropshire Museum Service  
 recipient

Physical Archive NEV06  
 ID

Physical Contents 'Animal Bones', 'Ceramics', 'Environmental', 'Glass', 'Human  
 Bones', 'Industrial', 'Metal', 'Worked stone/lithics'

Digital Archive Shropshire Museum Service  
 recipient

Digital Archive NEV06  
 ID

Digital Contents 'Animal Bones', 'Ceramics', 'Environmental', 'Glass', 'Human  
 Bones', 'Industrial', 'Stratigraphic', 'Survey', 'Worked stone/lithics', 'other'

Digital Media 'Database', 'GIS', 'Images raster / digital  
 available photography', 'Spreadsheets', 'Survey', 'Text'

Paper Archive Shropshire Museum Service  
 recipient

Paper Archive ID NEV06

Paper Contents 'Animal Bones', 'Ceramics', 'Environmental', 'Glass', 'Human  
 Bones', 'Stratigraphic', 'Survey', 'other'

Paper Media 'Context  
 available sheet', 'Correspondence', 'Diary', 'Drawing', 'Manuscript', 'Map', 'Matrices', 'Miscellaneous  
 Material', 'Photograph', 'Plan', 'Report', 'Survey'

### Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)



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Author(s)/Editor(s) Watson, B.

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