ARCHAEOLOGICAL WATCHING BRIEF OF THE BRIDGES AT NORTH LITTLETON, WORCESTERSHIRE

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Report 1389
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Part 1 Project summary

An archaeological watching brief was undertaken of the bridges at North Littleton, Worcestershire (NGR: SP 0841 4774 - SP 0820 4709). It was undertaken on behalf of the Environment Agency, who intends to demolish and replace the four existing bridges as part of a flood alleviation scheme. Three lie within the village, of which two are along the public highway (the North Road Bridge and South Road Bridge), and the third is on a public footpath (the Footbridge); the fourth lies within fields to the south (the Farm Access Bridge) near to Middle Littleton. The project aimed to record the structures as existing, to identify any earlier structures or deposits and determine their date and nature.

The North Road Bridge and South Road Bridge are considered to date from the 18th century, with 19th and 20th century repairs and alterations. The Farm Access Bridge is of probable 19th century date. They are largely constructed of locally sourced Oolitic limestone rubble masonry; are unadorned, functional and in the vernacular style. The Footbridge, which also incorporates brick and iron in its structure, may be of slightly later, 19th century date.

Observation of the demolition works did not identify any evidence of earlier structures, tracks, ford or road surfaces pre-dating the present bridges.

Part 2 Detailed report

1. Background

1.1 Reasons for the project

An archaeological watching brief was undertaken of the bridges at North Littleton (NGR SP 0841 4774 - SP 0820 4709), Worcestershire (Fig 1), on behalf of the Environment Agency. They intend to demolish and replace the four existing structures as part of a flood alleviation scheme. The Planning Advisory Section of Worcestershire County Council Historic Environment and Archaeology Service consider that a site of archaeological interest may be affected (HER ref. WSM 22162).

1.2 Project parameters

The project conforms to the *Standard and guidance for an archaeological watching brief* (IFA 1999a) and *Standard and guidance for the archaeological investigation and recording of standing buildings or structures* (IFA 1999b).

The project also conforms to a brief prepared by Worcestershire Historic Environment and Archaeology Service (HEAS 2005a) and for which a project proposal (including detailed specification) was produced (HEAS 2005b).

1.3 Aims

The aims of the project were to record the bridges prior to demolition and to identify any archaeological features revealed during construction of the new bridges, and determine their extent, state of preservation, date and type as far as reasonably possible. The purpose of this was to establish their significance, which will then inform local, regional and national research frameworks.

2. Methods

2.1 Documentary search

The site has already been the subject of a desk-based assessment (Goad *et al* 2004), which made use of all available sources, including the Historic Environment Record (HER), cartographic material, aerial photographs, primary and secondary documents and site reports.

2.2 Fieldwork methodology

2.2.1 Fieldwork strategy

A detailed specification has been prepared by the Service (HEAS 2005a).

Fieldwork was undertaken between 4th July and 10th February 2006. The site reference number and site code is WSM 34453.

Recording of the bridges was undertaken as per the specification for a level 3 survey as defined by the Royal Commission on the Historic Monuments of England and English Heritage (RCHME 1996; EH 2006, 14).

Observation of groundworks was undertaken during and after demolition of the existing structures and machine excavation of the areas for the new bridges. The exposed surfaces were generally sufficiently clean to observe well-differentiated archaeological deposits, though any less clear may not have been identified. Deep excavation areas were not accessed for safety reasons, in which case recording was undertaken from above.

2.2.2 Structural analysis

All fieldwork records were checked and cross-referenced. Analysis was effected through a combination of structural, artefactual and ecofactual evidence, allied to the information derived from other sources.

2.3 The methods in retrospect

The methods adopted along with the access to, and visibility of, structures and deposits allow a high degree of confidence that the aims of the project have been achieved.

3. Topographical and archaeological context

The background to the site has been described in the desk-based assessment (Goad *et al* 2004). In summary:

The village of North Littleton is first documented in the early medieval period, although stray finds of pottery and coins from the surrounding area indicate that there may be a Romano-British settlement in the vicinity. The present day village evolved from a larger royal estate in the 8th century when the manor was subdivided and the villages of North, Middle and South Littleton were formed. North Littleton was an entirely separate entity by the late 16th century. The layout of the village is distinctive, with the houses arranged in two rows either side of, and parallel to, the Cleeve Brook. This suggests that at least two of the brook crossings (north and south) had their origins in the time when these roads were first used. However in the early medieval they were most likely to have been crossed by means of simple fords. There are no documents relating to the construction of the present bridges. A map of 1697 depicts the roads crossing the brook, apparently via fords. The present bridges are therefore conjectured to be of 18th century date, with subsequent repairs and alterations in the 19th and 20th centuries.

An earlier phase of geotechnical test pits and boreholes associated with the development has been the subject of archaeological monitoring (Vaughan 2005). No significant archaeological deposits, structures or horizons were found and no artefacts pre-dating the modern period were retrieved. There was also no evidence of structures pre-dating the existing bridges. The natural lias clay and limestone was noted to be very high in the deposit sequence, adjacent to the North Road Bridge, the South Road Bridge and the Farm Access Bridge, such that there was little or no developed subsoil horizon. The reason for this is unclear, possibly the result of general wear or deliberate landscaping. The natural matrix was not observed adjacent to the Footbridge. Frequent modern services were noted either side of and across the North Road Bridge. The facing inside and above the arch of this bridge was noted to be concrete, of 20th century date. Beyond the obvious 19th/20th century repairs to the South Road Bridge, there was no indication of modern disturbance adjacent to the Footbridge, the South Road Bridge or the Farm Access Bridge.

4. Results

4.1 Structural analysis

The locations of the bridges recorded are shown in Fig 2. The results of the structural analysis are presented in Appendix 1.

4.1.1 **Phase 1 Natural deposits**

The natural matrix comprises a variable yellow/fawn and bluish grey lias stone. It was observed in all trenches, below alluvial clays or silt and clay subsoils.

A single alluvial layer within the river channel beside the field bridge was recorded as containing organic material. However this layer was undated and was thus not sampled for environmental remains.

4.1.2 **Phase 2 Post-medieval/modern deposits**

A small number of deposits were observed associated with the construction of the existing bridges, the modern road surfaces and pathway. They contained occasional brick fragments, which were not retained. Nor were the occasional modern glass and china sherds, recovered from the uppermost horizons.

4.1.3 **North Road Bridge (Fig 2; Plates 1-6)**

The North Road Bridge spans the Cleeve Brook and connects the West Side and East Side roads, which form a loop around the village perimeter.

The present bridge structure is some 18.85 metres between the parapets, having been widened in the 20th century by some 13.43 metres, to accommodate the modern road, leaving the remnant original bridge vault sandwiched between later concrete extensions at either end. This took place in tandem with underbuilding the bridge in concrete and culverting the watercourse, presumably as movement within the watercourse had washed away mortar from the jointing between the stonework of the lower vault, which is a common cause of structural damage to bridges. The earliest part of the bridge (the central vault section) appears to date from the 18th century; the line of the present road is shown crossing the brook at this juncture on the Inclosure map of 1814.

The bridge is constructed of coursed rubble Oolitic limestone masonry, having a low semi-circular rough segmental arch, with a plain projecting stringcourse above the arch and spandrels being the only embellishment. The parapets are similarly constructed and are not topped with any form of copingstones. The original bridge vault is of ashlar stonework, with the extensions to the vault formed in shuttered concrete, sitting on the underbuilt culvert. This indicates that the northern and southern elevations of the bridge have been reconstructed, most likely using the original fabric and following the original style. The watching brief revealed no useful information regarding the construction of the bridge and suggested that there was not an earlier masonry bridge on the site.

4.1.4 **South Road Bridge (Fig 3; Plates 7-10)**

Unlike the North Road Bridge, which was positioned only to link the east and western sides of the village, the South Road Bridge is located on a through route and carries the road from Middle Littleton to Pebworth over the Cleeve Brook, to the south of North Littleton. The structure is substantially narrower than the North Road Bridge, with a span of 7.40 metres, although the South Road Bridge is clearly the most important road of the two.

The bridge is constructed in the local vernacular of Oolitic limestone coursed rubble masonry, with reddish handmade brick bonded in a white lime-based mortar used in the vault construction. The semi-circular arched vault carries the road between wide flat-topped parapets and curving wingwalls. The watercourse is culverted beneath the bridge in a concrete lined channel, which the watching brief confirmed is an integral part of the foundation raft and therefore original to the build. No earlier phases of build were noted and although a date of construction of the bridge could not be determined, it appears to have been rebuilt in the 20th

century, while the line of the present road is shown crossing the brook at this point on the 1814 Inclosure map.

4.1.5 **Footbridge (Fig 4; Plates 11-16)**

The Footbridge is approximately equidistant between the northern and southern bridges and carries a public footpath over the brook. The bridge is, in keeping with the other Littleton bridges, constructed in Oolitic limestone coursed rubble masonry, which was probably sourced locally. A semi-circular arch carries the span of the bridge and this has noticeably failed, with the arch sagging on the south face and evidence of some repair work in this area. The sidewall parapets are terminated in small piers, with iron balusters between. Unlike the larger northern and southern bridges, the brook is not funnelled below in a concrete culvert; the stone of the vault sits within the brook.

Little useful information was gleaned from the watching brief undertaken during the demolition of the bridge, although it was clear that the vault utilised a large amount of brick in its construction. 19th century brick had been noted within the sidewalls (Goad *et al* 2004, 7), but it had been assumed that this was the result of localised repair.

4.1.6 **Farm Access Bridge (Fig 5; Plates 17-24)**

This is the southernmost of the four bridges, located on the north-eastern periphery of Middle Littleton; it connects farmland on the eastern and western sides of the brook and provides a single track route over the watercourse.

The Farm Access Bridge is a basic construction, with a single coursed semi-circular arch springing from low abutments at the edges of the brook. The arch is covered in earth and turf as protection from animal hooves (now partly eroded away). The edges of the watercourse are held back with retaining walls built against the bridge abutments.

The watching brief revealed that the bridge was founded directly onto the bed of the brook, with no concrete raft foundations.

5. Synthesis

The four-recorded bridges are all vernacular in their architecture, using locally sourced stone and most likely built by local workers. The form of the bridges suggest they are all of post-medieval date, most likely all dating from the 18th century, although possibly a little earlier. It seems likely that the north and south bridges were built on fording points across the brook, which were important in the development of the traversing routes from track to modern road. The survey map of 1697 apparently shows roads crossing the brook in these locations (although the map is limited in detail), but it may be that there was an intermediate phase utilising timber in bridge construction, although the watching brief produced no definitive evidence for this.

The structures are plain and functional, as would be expected with small 'local' bridges. They were probably all built and maintained by the parish, possibly under direction of the lord of the manor; although it was often the case that the cost of bridge upkeep would fall on the shoulders of the individual landowner. It is often evident when a bridge was founded by a lord, as the fabric of the bridge was frequently embellished. This was not only a statement of wealth, but also an advert for the philanthropic values of the patron. However, there were no such indicators on any of the bridges here.

The North Road Bridge is wider than would be expected for a bridge carrying a minor road, measuring almost 19 metres across the parapets, having been widened in the 20th century from less than 6 metres. The reason for this is unclear, although it is possible that the extra width

was to allow for the provision of services across the brook, a gas main being observed during the watching brief, although the extra width seems excessive just to carry services.

The South Road Bridge carries the road from Littleton away to the east towards Pebworth and is therefore, arguably, the most important of the four bridges as the others are specific to local traffic only. This route may be of great antiquity, indicating that the present bridge may have replaced an earlier, or successive earlier bridges, although the use of a ford is equally as likely. A Romano-British settlement has been postulated just to the west of East Side, alongside the through road (Goad *et al* 2004, 6; WSM 27109), perhaps indicating that the road is Roman or possibly earlier.

The Farm Access Bridge is a simple form of bridge that utilises minimal fabric and is therefore cost effective and requires less labour to construct, allowing the watercourse to be traversed with little ceremony. It is not depicted on either the 1697 or 1814 maps, so is considered to be of 19th century date. This type of bridge is fairly common in rural Britain and is often referred to as a 'packhorse bridge', 'drovers' or 'drove bridge'. A similar bridge was recently recorded at Hatt House Farm, Lower Sapey, near Tenbury Wells (Cook 2003) and a smaller bridge using the same architectural principal of construction was identified at Old Parsonage Farm, Kyre (Williams 2005). The bridge that perhaps exemplifies this type of construction is Carrbridge over the River Dulain in the Scottish Highlands (http://www.goldenspurtle.com/photostwo.htm).

The Footbridge is a little different in that it uses brick and iron in its construction and that it is clearly designed for pedestrian traffic. The use of brick and iron may suggest that the bridge is of a later date than the other bridges, although the brick appears to be 19th century. The use of these materials is seemingly incongruous with the availability of a good stone resource, which may indicate that the 'new' materials were at the time of the bridges' construction, more cost effective than stone.

With regard to construction, the watching brief determined that the South Road Bridge was founded on a concrete raft, but there was no evidence that the other three bridges relied on concrete for a stable building base. Often the natural bedrock or stiff clays of the watercourse would be used as a solid foundation for a bridge, or wooden piles would be driven into the alluvial silts to provide a solid base from which to build. It is more likely that the former method was used for the Littleton bridges, as the bedrock lies close to the ground surface in the area and often outcrops.

6. Publication summary

The Service has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, the Service intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

An archaeological watching brief was undertaken on behalf of the Environment Agency of the bridges at North Littleton, Worcestershire (NGR: SP 0841 4774 - SP 0820 4709; HER ref. WSM 34453). The North Road Bridge and South Road Bridge are considered to date from the 18th century, with 19th and 20th century repairs and alterations. The Farm Access Bridge is of probable 19th century date. They are largely constructed of locally sourced Oolitic limestone rubble masonry; are unadorned, functional and in the vernacular style. The Footbridge, which also incorporates brick and iron in its structure, may be of slightly later, 19th century date. Observation of the demolition works did not identify any evidence for earlier structures, tracks or road surfaces pre-dating the present bridges.

7. The archive

The archive consists of:

13	Fieldwork progress records AS2
5	Photographic records AS3
18	Colour print Medium Format photographs
26	Black and white Medium Format photographs
251	Digital photographs
1	Drawing number catalogues AS4
5	Scale drawings
1	Computer disc

The project archive is intended to be placed at:

Worcestershire County Museum
Hartlebury Castle
Hartlebury
Near Kidderminster
Worcestershire DY11 7XZ
Tel. Hartlebury (01299) 250416

8. Acknowledgements

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9. Personnel

Report preparation was led by Tom Vaughan and Paul Williams. Fieldwork was undertaken by Angus Crawford, Darren Miller, Jon Milward, Shona Robson-Glyde and Tom Vaughan. The project manager responsible for the quality of the project was Simon Woodiwiss. Illustration was by Carolyn Hunt, Jon Milward and Laura Templeton.

10. Bibliography

CAS, 1995 (as amended) *Manual of Service practice: fieldwork recording manual*, County Archaeological Service, Hereford and Worcester County Council, report, **399**

Cook, M, 2003 *Programme of archaeological recording at Hatt House Farm Bridge, Lower Sapey, Worcestershire,* Martin Cook Archaeology

English Heritage, 2006 *Understanding Historic Buildings: a guide to good recording practice*, **EH 51125**

Goad, J, Robson-Glyde, S, Griffin, S and Woodiwiss, S, 2004 *An archaeological desk-based assessment on the North Littleton Flood Alleviation Scheme, North Littleton, Worcestershire*, Historic Environment and Archaeology Service, Worcestershire County Council unpublished report dated 22nd October 2004, **1285**

HEAS, 2005a *Brief for a programme of archaeological work prior to and during North Littleton Flood Alleviation Works, Worcestershire,* Historic Environment and Archaeology Service, Worcestershire County Council unpublished document dated 25th May 2005

HEAS, 2005b *Proposal for a programme of archaeological work at North Littleton, Worcestershire*, Historic Environment and Archaeology Service, Worcestershire County Council, unpublished document dated 9th June 2005, **P2757**

IFA, 1999 *Standard and guidance for an archaeological watching brief,* Institute of Field Archaeologists

IFA, 1999 *Standard and guidance for the archaeological investigation and recording of standing buildings or structures,* Institute of Field Archaeologists

RCHME, 1996 *Recording historic buildings: a descriptive specification (3rd edition)*, Royal Commission on the Historical Monuments of England

Vaughan, T, 2005 *Archaeological Monitoring of Geotechnical Investigations, North Littleton, Worcestershire*, Historic Environment and Archaeology Service, Worcestershire County Council unpublished report dated 12th January 2005, Appendix to Report 1285, **1299**

Williams, P, 2005 *A landscape assessment at Old Parsonage Farm, Kyre, Worcestershire,* Mercian Archaeology report PJ 101

http://www.goldenspurtle.com/photostwo.htm, website accessed January 2007

11. Abbreviations

HER	Historic Environment Record
NMR	National Monuments Record
WCRO	Worcestershire County Records Office
WSM	Numbers prefixed with 'WSM' are the primary reference numbers used by the Worcestershire County Historic Environment Record

Figures

Plates

Plate 1. North Road Bridge, north elevation of north wall, view south

Plate 2. North Road Bridge, south elevation of south wall, view north

Plate 3. North Road Bridge, north elevation of south wall, view south

Plate 4. North Road Bridge, soil strip, south side, view north-west

Plate 5. North Road Bridge, post demolition, view south-east

Plate 6. North Road Bridge, post demolition, view west

Plate 7. South Road Bridge, north elevation of north wall, view south-west

Plate 8. South Road Bridge, south elevation of south wall, view north

Plate 9. South Road Bridge, general view west

Plate 10. South Road Bridge, during demolition, view east

Plate 11. Footbridge, north elevation of north wall, view south-east

Plate 12. Footbridge, south elevation of south wall, view north-west

Plate 13. Footbridge, general view west

Plate 14. Footbridge, during demolition, view south-east

Plate 15. Footbridge, post demolition, view north-west

Plate 16. Footbridge, post demolition, view east

Plate 17. Farm Access Bridge, south elevation, view south-east

Plate 18. Farm Access Bridge, exposed barrel vault stone, view east

Plate 19. Farm Access Bridge, general view south-east

Plate 20. Farm Access Bridge, south-west elevation of south-west wall

Plate 21. Farm Access Bridge, north-east elevation of north-east wall

Plate 22. Farm Access Bridge, initial soil strip to south, view north-east

Plate 23. Farm Access Bridge, south-east section, south of bridge

Plate 24. Farm Access Bridge, post demolition, south-east section

Appendix 1 Trench descriptions

North Road Bridge Trench

Site area: below former North Road Bridge after demolition

Maximum dimensions: Length: 20.80m Width: 9.80m Depth: *c* 2.30m

Orientation: NE/SW

Main deposit description

Context	Classification	Description	Depth below ground surface - top and bottom of deposits
200	Topsoil	Mid brown silty clay. Turfed. Well-defined boundary below. Observed either side of road in verge.	0.00-0.39m
201	Subsoil	Light fawn slightly silty clay. Well-defined boundary above.	0.23-1.00m
202	Natural	Grey clay with fawn and yellow mottling, lias and blue/grey slate frags.	0.80m +
203	Natural	Lias stone.	1.20m +
205	Road surface	Tarmac and hardcore gravel. Observed within roadway.	0.00-0.16m
206	Redeposited stone	Compacted yellow/fawn lias stone frags with occasional clay and brick rubble. Observed within roadway.	0.15-0.95m

South Road Bridge Trench

Site area: below former South Road Bridge during demolition

Maximum dimensions: Length: 12.20m Width: 8.80m Depth: *c* 2.20m

Orientation: N/S

Main deposit description

Context	Classification	Description	Depth below ground surface - top and bottom of deposits
400	Topsoil	Loose mid brown sandy silt. Turfed.	0.00-*c* 0.50m
401	Redeposited soil	Loose mid brown sandy silt with frequent small-medium lias frags. Defined boundary below.	*c* 0.25-*c* 2.00m +
402	Natural	Lias stone.	*c* 2.00m +
403	Natural	Compact light grey clay.	*c* 1.80m +

Footbridge Trench

Site area: West section of Footbridge after demolition

Maximum dimensions: Length: unknown Width: unknown Depth: *c* 1.20m

Orientation: N/S

Main deposit description

Context	Classification	Description	Depth below ground surface - top and bottom of deposits
300	Tarmac	Tarmac over lias frags. Observed within pathway	0.00-c 0.10m
301	Soil	Mid greyish brown clayey silt. Well-defined boundary above; diffuse below.	*c* 0.10-*c* 0.80m
302	Natural	Grey clay with frequent yellow/fawn lias frags.	*c* 0.80m +

Farm Access Bridge Trench

Site area: South-west of Farm Access Bridge before demolition

Maximum dimensions: Length: 11.5m Width: 10.70m Depth: *c* 1.95m

Orientation: NW/SE

Main deposit description

Context	Classification	Description	Depth below ground surface - top and bottom of deposit
100	Spoil	Excavated spoil.	N/a
101	Topsoil	Firm dark greyish brown fine silty clay. Strong blocky structure. Sterile. Well-defined boundary below.	0.00-0.15m
102	Subsoil	Firm light slightly yellowish brown clayey silt. Weak blocky structure. Sterile.	0.13-c 0.40m
103	Alluvial subsoil	Soft dark greyish brown silt. Frequent grass and twig frags.	c 0.40-c 0.65m
104	Alluvium	Light bluish grey silty clay. Blocky. Frequent orange/brown mottling. Diffuse boundary below.	c 0.65-1.06m
105	Alluvium	Light bluish grey silty clay. Blocky. Frequent dark orange/brown mottling. Occasional small-medium roots. Diffuse boundary below.	1.06-1.27m
106	Alluvium	Light bluish grey silty clay. Blocky. Occasional dark orange/brown mottling. Occasional small-medium roots. Frequent small-medium stones; occasional patches of gravel.	1.26-1.53m
107	Alluvium	Dark bluish grey clay. Occasional roots. Compact. Occasional small concreted light-mid blue grey clay frags.	1.52-1.65m
108	Natural?	Light slightly greenish yellow silty clay.	1.64-1.81m
109	Natural	Mid bluish grey lias stone.	1.80m +