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VOL 2: APPENDICES

ARCHAEOLOGICAL EXCAVATIONS
AT CATHEDRAL YARD, 1997
&
ARCHAEOLOGICAL RECORDING
AT THE CATHEDRAL VISITOR CENTRE, 2001-2



AN ARCHAEOLOGICAL DESK-BASED ASSESSMENT - 2011

A REPORT FOR CHETHAM'S SCHOOL OF MUSIC, MANCHESTER
CATHEDRAL AND MANCHESTER CITY COUNCIL

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Appendix A: Archaeological Excavations at Cathedral Yard, 1997

A1 Introduction

A1.1 This appendix reports the results of a programme of archaeological evaluation and excavation carried out between Cathedral Yard and Cateaton Street in 1997. This work was undertaken by the University of Manchester Archaeological Unit and was commissioned by Manchester Millennium Ltd.¹

The work was undertaken on the site proposed for the re-erection of the Wellington Inn and Sinclair's Oyster Bar, whose original site was required for redevelopment. The new site was believed to be crossed by the line of Hanging Ditch, and an archaeological assessment by UMAU in April 1997 had highlighted the potential survival of significant remains on this site which might be affected by groundworks for the proposed development (Walker 1997).

A1.2 Following this assessment, in June 1997 the site was evaluated by trial trenching. The evaluation revealed surviving ditch deposits associated with Hanging Ditch situated below later cellarage. An interim report of the results of the evaluation was produced in June 1997 (Eyre-Morgan 1997).

A1.3 In October 1997 a second phase of site investigation was carried out. This included the excavation and recording of early features within the cellarage on the site, and the excavation and recording of further trenches across the line of Hanging Ditch.

A1.4 As part of this second phase, excavation was also carried out on an adjoining area which would be affected by the proposed development and which had formerly been part of the Cathedral churchyard (*Ills A1 & A15*). Approximately 170 burials were excavated and recovered from this area. The majority of the remains were sent to Durham University for analysis, along with the relevant site archive. At the time of compiling the present report, this archive was still held at Durham and has not been consulted for the report.

A2 Location

A2.1 The new site of the Wellington Inn and Sinclair's Oyster Bar, investigated in 1997, lies on the north-west side of Manchester City Centre. The evaluation site comprised a block of land bounded by Cateaton Street on the south, Cathedral Gates on the west, Cathedral Yard on the north and Cathedral Street on the east. The excavation included this site and an adjoining area of Cathedral Yard to the north (Trench C). During the excavation phase an exploratory trench, Trench E, was also dug on Cathedral Street (*Ills A1 & A2*).

A.3 Geology and Ground Conditions

A3.1 The solid geology of the study area, as shown by the OS Geological Survey, is Sherwood (formerly known as Bunter) Sandstone of the Permo-Triassic.

A3.2 The OS Geological Survey shows the superficial geology of the study area as comprising late glacial flood gravels, part of a band of such deposits alongside the course of the River Irwell.

1 The excavation report is based on the site archive generated by Graham Eyre-Morgan, Richard Gregory, Graham Mottershead and David Power.

A.4 The Evaluation

A4.1 Methodology

Six trenches (Trenches A-F) were mechanically excavated under archaeological supervision (*III A2*). These trenches varied between 3.25m and 6.5m in length and between 1.75m and 2.5m in width and were between 3.7m and 7m in depth.

Deep deposits were retrieved by a mechanical grab and were hand sifted. As far as was possible, the deposits were retrieved in a stratigraphic sequence. The depth of deposits was measured by a tape lowered from the top of the trench.

All six trenches were excavated through a 0.5m concrete raft, followed by cellars to a depth of 3m. These were built with brick walls and were filled unstable brick rubble.

A4.2 Trench A

This trench was 3m wide, 6m long and 3.7 deep and was aligned north-south on the south-east side of the site. The floor of the cellar comprised stone flagging at a depth of 3m, overlying a mixed layer of decayed reddish brown sandstone and cindery ash to a depth of 3.3m. The central area of this trench was excavated to a maximum depth of 3.7m. Further excavation here was prevented by the continual collapse of the unstable cellar fill but the lowest excavated area appeared to be a degraded sandstone.

A4.3 Trench B

This trench was 2m wide, 5.5m long and 3.7m deep and was aligned north-south on the north-east side of the site. At the north end of the trench, the floor of the cellar comprised a concrete base at an approximate depth of 2.3m and, at the south end, a flagged floor at a depth of 3m. Both forms of flooring overlay yellowish natural sands and gravels, and the trench was excavated to a depth of 0.67m into these, giving a total depth of c 3.7m. Several pieces of finely dressed sandstone were recovered from the fill of the cellar. The cellar itself had evidence of brick vaulting.

A4.4 Trench C

This trench was 2m wide, 5m long and 3.7m deep and was aligned north-south on the north-west side of the site. As with Trenches A and B, the cellar was filled with unstable rubble, overlying a flagstone floor at a depth of 3m. After widening of this trench it became apparent that the cellar's floor and walls had been cut into the natural sands and gravels, which began at a depth of 2.7m. Within the cellar fill, more finely dressed sandstone blocks were observed.

A4.5 Trench D

Trench D was aligned north-south on the south-west side of the site and measured 6.5m long, 2.75m wide and 5m deep. On the west side of this trench the cellar floor lay at a depth of 2.6m, while the cellar wall continued to a depth of 3.8m.

Beneath this wall were deposits within Hanging Ditch, which were described as comprising stratified layers of organic material banded with layers of dark brown silt. Artefacts and inclusions retrieved from the layers below the cellar wall and floor included medieval pottery, leather shoes, straw, animal bones, shells (mussels), pieces of wood, twigs and occasional pebbles. Due to the depth of the trench and the unstable fill of the cellars, it was decided to backfill the trench overnight. It was then re-excavated and extended towards the east, and a grab was used to excavate the fills from below the level of the cellar wall and floor down to the natural sands and gravels at a total depth of 6.9-7m.

At the north end of the trench beneath the cellar floor, at an approximate depth of 4.2m, was a stone wall with an associated cut. Several stones from this wall were recovered during the excavation, some of which displayed tool marks. The alignment of the wall was generally east-west and appeared to be directed towards the south-east of the site and the street known as Hanging Ditch.

At an approximate depth of 4.7m many pieces of leather began to be recovered. Beneath this organic layer, a layer of fine stony material was observed at a depth of between 5.2m and 5.5m. Underlying this was another dark organic layer which produced a rich array of leatherwork, bone, a moderate amount of medieval pottery, occasional pieces of metalwork, and occasional pieces of wood and twigs. Finally, sitting between the organic layer and the natural gravels a deposit was observed which was described as a silty clay. A cranial/antler fragment was retrieved from the gravels and was tentatively identified by the excavator as an elk or deer.

A4.6 *Trench E*

This was an additional trench, excavated on an east-west alignment on the central eastern side of the site, between Trenches A and B, and was 4m long, 2m wide, and 3.9-4.4m deep. At a depth of 2.3m the excavation revealed a concrete base 0.4m thick, which was the foundation for a brick pier within the cellar. Beneath this base, was a mid to dark greyish brown silty loam with a moderate amount of pebble inclusions. Running in an east-west direction through this layer or possible fill was a main sewer pipe and several cast-iron soil pipes. It was possible that this silty loam was the fill of the cut for the sewer pipe. The excavation was extended and deepened to 4.4m, with the natural gravels beginning at a depth of 3.5m.

A4.7 *Trench F*

This trench incorporated parts of Trenches A and E and was excavated over the alignment of Hanging Ditch established in Trench D. The trench was 3.5m long, 2.5m wide and 5.5m deep and was aligned east-west. The excavation cut through the floor of the cellar at 3m. Below this was a fill of dark greyish brown sandy silt which extended to a depth of 4.5m. This fill contained inclusions of a moderate amount of brick fragments, occasional pieces of slate, wood and twigs and large sandstone fragments. Within this layer, at a depth of 3.4m, were a stone wall and an associated cut or natural channel, running east-west. The wall was observed to a depth of 4.4m, with four courses of large dressed sandstone blocks visible, and appeared to have been built on a gravel layer. Below this layer was a 0.3m deep band of dark greyish brown sandy silt, with a moderate amount of rounded river pebbles and occasional brick fragments, pieces of coal and stone rubble. At a depth of 4.8m was a layer or fill of medium brown silty sands with occasional sandstone fragments. At the base of the trench was a band of dark brown clay overlying the natural sands and gravels.

A4.8 *Discussion*

The evaluation confirmed that the site was crossed by the remains of Hanging Ditch, which were identified in Trenches D and F in the southern half of the site but did not appear to extend northward into Trenches B and C. It also showed that the ditch extended to a depth of c 6.9m below ground level and contained organic deposits which produced leather, bone and metalwork as well as pottery. A provisional dating of these finds suggested that the organic deposits dated from the 14th and 15th centuries (Eyre-Morgan 1997, 11). Subsequently radiocarbon dating of three timber samples within these deposits provided a possible date range of 1290-1435 (Table A1).

The stone walling observed running through the ditch fills in both Trench D and F was provisionally identified as part of a drain, possibly of 17th-century date, while the stony layer noted in Trench D, separating the upper and lower organic deposits, was

suggested as a possibly deliberate levelling during the medieval period (Eyre-Morgan 1997, 9-10).

Sample	Lab number	Conventional radiocarbon age	Calibrated results (2 sigma, 95% probability)
<i>Betula</i> at 5.6m, within the lower organic zone	Beta-107666	550 ± 40BP	cal AD 1310 to 1355 and cal AD 1385 to 1435 (with one calibration curve intercept at cal AD 1410)
<i>Quercus</i> at 5.5m, within the lower organic zone	Beta-107667	630 ± 40 BP	cal AD 1290 to 1410 (with calibration curve intercepts at cal AD 1310, cal AD 1335 and cal AD 1385)
Timber, poorly preserved, as 5.0m, within the upper organic zone	Beta-107668	600 ± 40 BP	cal AD 1295 to 1420 (with one calibration curve intercept at cal AD 1395).

Table A1: Radiocarbon dates from the evaluation Trench D (after Downhill *et al* 1997).

A.5 The Excavation

A5.1 Methodology

The unstable rubble fill of the cellarage was completely removed by machine, and a ramp built in the south-west corner of the site to provide access. Brick walling and other features were revealed in the south-east area of the site (Area B) and were cleaned by hand and recorded (*Ills A3 & A4*).

Two machine trenches were then excavated across the line of Hanging Ditch. Trench A was aligned north-south on the east side of the site of evaluation Trench D. This trench originally measured 6.6m long by 1.7m wide but was subsequently extended at the south end, this extension measuring c 2.6m from east to west and 1.6m from north to south. Excavation Trench D was aligned north-south on the south side of evaluation Trench F and measured 6m long by 2m wide. The sides of both trenches were supported by sheet piling, and individual sheet piles were removed to allow measured sections to be drawn.

A5.2 Area B

Area B was defined on its south side by the cellar wall c 2.5m high. This incorporated a section of walling, c 4.4m long and 1.6m high, made up of red sandstone blocks (2001), above which the wall continued as brick up to the hardcore bedding and concrete floor at the level of Cateaton Street (*Ills A5 & A12*). The sandstone wall lay upon a layer of loose sand gravel (2004), which appeared to be redeposited natural, used as a foundation. The wall contained traces of mortar, which seemed to be a later addition.

To the east of wall 2001, the cellar wall continued as a brick-built wall, partly covered with plaster and broken by two window openings. This wall sat on a footing of sandstone blocks, two courses high. At the west end of this brick wall were the remains of a north-south return wall, bonded into 2001. This wall also sat on a sandstone footing (2002) which continued northward in Area B for a distance of c 5m, and was one course high (*Ill A13*).

Also running northward from the south wall of the cellar was a layer of sandy silt (2005), which directly underlay the southern end of 2002. On the north, layer 2005 ran below a layer of pink sand with numerous fragments of red sandstone (2006), underlying 2002. At the northern end of 2002 was a band of mid-yellowish brown

sandy silt (2007), which seemed to form the fill of a shallow cut (2008), cut into 2006 and running east-south-east to west-north-west. This cut had been badly damaged by drainage works but appears to have been the construction trench for a wall of which only slight sandstone footings survived (2003).

Adjacent to the southern wall of the cellar (2001), and cut through gravel layer (2004) was a stone-lined well (2000). The northern part of this had been removed by the machine but the original diameter was c 1.1m. It appeared to be capped with stone flagging at a depth of c 1m and was not excavated below this (*Ills A5, A13 & A14*).

A5.3 *Trench A (Ill A6)*

West-facing sections 11, 6 and 7

These sections showed a similar build-up of layers and can be considered together. Common to all three was an uppermost layer of dark brown/black clayey silt with abundant inclusions of stone brick, pottery and coal (1018 and 1024), ranging in depth from c 0.6m in section 11, to c 1.1m in section 6 and c 1.3m in section 7. In the northernmost section, 11, this layer (1018) directly overlay natural deposits, the interface between the two being context 1012, identified as the 'cut' of Hanging Ditch. In section 6, layer 1018 overlay a red brown clayey sand (1019), below which was a dark brown/black organic silt (1020). This in turn overlay a dark grey silt (1021), below which was the natural, with the interface (1022) being the 'cut' of Hanging Ditch. In section 7, layer 1024 overlay a French drain (1025), built with brick sides and a brick base and filled with sand. This feature was cut into a layer of dark brown/black organic silt (1026), below which were natural deposits, with the interface again being identified as the 'cut' of Hanging Ditch (1012).

East-facing section 4

This section was located towards the north end of the trench, approximately mid way between sections 11 and 6. Like the west-facing, sections it included an uppermost layer of dark brown/black clayey silt (1001). Here this was only 0.2m deep but overlay a, perhaps related, dark brown/black organic sandy silt with abundant sandstone fragments (1002). Below this were two layers corresponding to the west-facing sections. The upper of these was a black organic sand silt (1003), the same as 1020 in section 6. The lower was a dark grey silt (1004), corresponding with 1021. This was the fill of cut 1005, the 'cut' of Hanging Ditch, which trended downwards from north to south and was cut into the natural deposits

Sections 9, 5 and 13

These sections were situated at the southern end of the trench and can again be considered as a group. Section 9 spanned the west face of the southern extension to the trench. Section 5 was located within the centre of the southern face of the original trench, and section 13 at the southern end of the east side of that trench.

Sections 5 and 13 show the same make-up. The uppermost layer was of pink sand and sandstone (1007), the same as layer 2006 in Area B. Below this were, in turn, a dark red/brown clayey silt (1008), a fine light yellow brown sand (1009), and a dark brown/black organic silt (1010), and a fine yellow/brown sand (1011) which was the thin basal fill of cut (1012), cut into the natural and again representing the 'cut' of Hanging Ditch.

Section 9 showed a similar composition. Here uppermost layer 1007 partly overlay a mid-brown sandy silt (1027, the same as 2005 recorded in Area B) as well as layer 1008. This in turn partly overlay an orange sand (1028) as well as 1009. Below 1009 again was 1010, here 0.6-1.2m deep which largely overlay cut 1012, here trending downwards from south to north and again with thin basal deposit 1011.

Natural Deposits

The lowermost natural deposit revealed by the sections comprised a compact glacial clayey sand (1006 and 1023). In sections 4 and 6 this lay directly below the 'cut' of Hanging Ditch, which in both sections showed a sharply steeping profile. At the northern end of the trench, in section 4, where the incline of the 'cut' was less steep, between the cut and glacial sand were intermediate layers comprising a yellow/brown sand and gravel (1016) and below this a clay (1030).

Sections 7, 13 and 5 were located in the southern half of the trench where the 'cut' formed a flattish base to the ditch. Here below the 'cut' were a sequence of fluvial deposits comprising thin layers of a very fine light grey clay (1013), a moderately coarse light yellow/brown sandy silt (1014) and a coarser light brown sand (1015). Underlying 1015 was yellow/brown sand and gravel (1016) also present in section 4. In section 7 this layer was found to overlie glacial deposit 1006. The section drawing records a fragment of wood, at least 200mm in diameter, at the interface. This timber was partly covered by the adjacent sheet pile and was not retrieved.

At the south end of the trench, section 9 shows the same sequence of layers 1013, 1014 and 1015, with 1013 also overlaid at the southern edge of the section by a thin layer of fine yellow/brown sand (1029).

A5.3 *Trench D*

The west-facing and east-facing sections show a generally similar makeup (**III A7**). Both sections contained a thin uppermost layer of black loam, with abundant inclusions of brick, pottery and coal (4001).

This overlay a succession of layers which formed the fill of cut 4019, the uppermost of these being a pink sand with fragments of sandstone (4002), the same as 2006 recorded in Area B. In the west-facing section, below this were, in turn, a dark brown loam (4004), a fine yellow sand (4016), a coarse green/grey sand (4017), and a coarse orange sand (4011). The last layer formed the primary fill of cut 4019, where that cut shelved steeply to give a v-shaped profile c 1.4m wide and c 1m deep.

The east-facing section showed some variation of detail, with 4002 overlying a green/grey clayey sand (4006), which also partly overlay 4004. That layer on the north overlay a black silt (4005) and on the south, butting against 4005, a coarse red/orange sand (4013) and a dark brown sand (4014). That last layer partly overlay cut 4019 and partly a thin layer of fine yellow sand (4015). Below 4014 and 4015 was 4011 which, as in the east-facing section, formed the fill of cut 4019 at a point at which this steeply shelved.

In both sections, the fills below layer 4002 butted against a French drain, built of brick and sandstone (4008), and filled with a fine yellow sand (4015). This drain was cut into the upper part of 4011. In the east-facing section the drain was sealed by a dark brown loam (4003), and in the west-facing section by a ceramic drain junction surrounded by concrete (4007). On the north, the drain butted against a dark brown mottled loam (4009) and, below this, a dark brown/black clayey sand (4010).

Cut 4019 was cut through a black silt layer (4012 and 4018), which at the south end of the west-facing section merged into a similar upper layer (4020). The lower layer (4012 and 4018) directly overlay the 'cut' of Hanging Ditch (4021), gradually descending from south to north, below which was the natural, comprising a mid/dark brown sand and gravel (4022). At its base, 4019 was also cut into the natural.

A5.4 *Trench E*

Trench E contained no features. It had been disturbed and backfilled with a uniform layer of sand to a depth over 2.5m. It is recalled that the sand sat in a cut for a sewer

running under Cathedral Street to a main sewer in Cateaton Street (Graham Mottershead, personal communication).

A5.5 Context Descriptions

Trench A

- 1001 Layer, dark brown/black clayey silt, slightly organic, with abundant inclusions of stone, brick, pottery and coal. Beneath cellar floor and above 1002. Same as 1018 and 1024.
- 1002 Fill, dark brown-black organic sandy silt, with abundant sandstone fragments. Above 1003.
- 1003 Fill, black organic sandy silt, with inclusions of small stones. Above 1004. Same as 1020.
- 1004 Fill, dark grey silt, with very occasional stones, and occasional black organic staining. Same as 1021
- 1005 Cut, shallow at top and then becoming steeper. Cuts through natural 1006.
- 1006 Layer, compact orange clayey sand. Natural. Same as 1023.
- 1007 Layer, very compact pink sand and sandstone, with inclusions of sandstone fragments. Below cellar floor and above 1008. Same as 2006.
- 1008 Fill, dark red/brown clayey silt, with occasional stones. Above 1009.
- 1009 Fill, fine light yellow/brown sand, with very occasional stones. Above 1010.
- 1010 Fill, dark brown/black organic silt, with occasional stones. Above 1011.
- 1011 Fill, fine light brown/yellow sand.
- 1012 Cut, through 1013.
- 1013 Layer, light grey clay, natural. Above 1014.
- 1014 Layer, light yellow/brown sandy silt, with occasional stones. Natural. Above 1015.
- 1015 Layer, light yellow/brown sand, with occasional stones. Natural. Above 1016.
- 1016 Layer, yellow/brown sand and gravel, with abundant stones. Natural.
- 1017 No information
- 1018 Layer, dark brown/dark grey clayey silt, with abundant inclusions of brick, pottery, stone. Below cellar floor and above 1019. Same as 1001 and 1024.
- 1019 Fill, red brown clayey sand, with occasional stones. Above 1020.
- 1020 Fill, dark brown/black organic sandy silt, with stones. Above 1021. Same as 1003.
- 1021 Fill, dark grey silt, with occasional stones and black organic staining. Same as 1004.
- 1022 Cut, through 1023.
- 1023 Layer, compact orange clayey sand, with occasional sandstone fragments. Natural. Same as 1006.
- 1024 Layer, dark brown/black clayey silt, with abundant inclusions of stone, brick, pottery, coal. Below cellar floor and above 1025. Same as 1001 and 1018.
- 1025 Structure, drain with brick-built sides and base, filled with loose sand. Below 1024, cuts 1026.
- 1026 Fill, dark brown/black organic silt, with occasional stones. Above 1027.
- 1027 Fill, mid-brown sandy silt, with occasional stones. Above 1008. Same as 2005.
- 1028 Fill, orange sand, with abundant stones. Within 1009.
- 1029 Layer, fine yellow/brown sand. Natural.

Area B

- 2000 Structure, circular well, built with sandstone blocks. 1.1m in diameter, c 1m deep to sandstone flags. Cut through 2004.
- 2001 Structure, wall built of sandstone courses, c 1.6m high.
- 2002 Structure, sandstone footing of wall, one course (c 0.15-0.5m) high, above 2005 and 2006.
- 2003 Structure, badly damaged possible wall footing in cutting 2008, with maximum height of 0.2m.
- 2004 Layer, yellow/brown sandy gravel. Below 2001 and cut by 2000.
- 2005 Layer, mid-brown sandy silt, with inclusions of coal. Below 2006 and 2001. Same as 1027.
- 2006 Layer, pink sand, with abundant sandstone inclusions, and occasional pottery. Below 2002 and above 2005.
- 2007 Fill, mid-yellow/brown sandy silt, with abundant sandstone blocks, 150mm x 150mm x 150mm - 300mm x 300mm x 300mm. Above 2008.
- 2008 Cut, c 1.1m long, c 1.3m wide and 0.2m maximum depth. Above 2006.
- 2009 Structure, sandstone footing, two courses (c 0.3m) high, eastern continuation of 2001.

Trench D

- 4001 Layer, black loam, with abundant inclusions of brick, pottery, coal, stone. Below cellar floor.
- 4002 Layer, pink sand with abundant sandstone inclusions. Below 4001, above 4004 and cut by 4008.
- 4003 Fill, dark brown loam, with inclusions of stone, brick, coal. Below 4001, above 4008 and 4009.
- 4004 Fill, dark brown loam, with stone inclusions. Fill of cut 4019. Above 4016. Cut by 4008.
- 4005 Fill, black silt, slightly organic, below 4001 and 4004. Fill of 4019.
- 4006 Fill, green/grey clayey sand, with stone inclusions. Above 4004, below 4002 and cut by 4008. Fill of 4019.
- 4007 Structure, ceramic drain junction surrounded by concrete. Above 4008 and 4009.
- 4008 Structure, French drain, with brick-built sides and base, and filled with fine sand.
- 4009 Fill, dark brown mottled loam, with stone inclusions and occasional brick fragments. Above 4010.
- 4010 Fill, dark/brown black clayey sand, with charcoal flecking. Above 4011.
- 4011 Fill, compact coarse orange sand, with abundant stone inclusions. Fill of cut 4019.
- 4012 Fill, black organic silt, with organic inclusions, including wood. Same as 4018.
- 4013 Fill, coarse red/orange sand, with stone inclusions. Below 4004 and 4005, above 4014. Fill of 4019.
- 4014 Fill, dark brown sand, with abundant stone inclusions. Below 4005, 4013 and 4004, and above 4015. Fill of 4019.
- 4015 Fill, fine yellow sand. Below 4014, above 4011. Fill of 4019.
- 4016 Fill, coarse orange sand, with stone inclusions. Fill of cut 4019. Above 4016. Cut by 4008.
- 4017 Fill, coarse green/grey sand, with occasional stone inclusions. Fill of cut 4019. Above 4011. Cut by 4008.
- 4018 Fill, black silt, slightly organic, with very occasional stone inclusions. Same as 4012.
- 4019 Cut, irregular cut. Cuts 4020, 4018, 4012 and 4022.
- 4020 Fill, black silt, slightly organic, with charcoal flecking. Below 4001 and above 4018.
- 4021 Cut through 4012.
- 4022 Layer, mid/dark brown sand and gravel. Natural.

A6 Discussion

- A6.1 The excavation confirmed that, as was previously surmised (Morris 1983, 47), the western part of Hanging Ditch originated as a natural channel. It has also shown that it is cut through glacial deposits and contains within its base a sequence of fluvial deposits. This channel appears to have had an asymmetrical profile with a steeper northern side (*III* **A6-8**). It may tentatively be suggested that it was this feature which gave rise to the name Hanging Ditch.
- A6.2 The 'cut' of Hanging Ditch represents the profile of the ditch before it began to be infilled with deposits largely originating from human activity. The maximum surviving depth of the ditch 'cut' within the area of excavation was c 2.25m but comparison with the modern levels of Cathedral Yard and Cateaton Street suggests that the original depth may have c 5m.

On the north, its upper profile had been removed by the cellaring of the former properties between those two streets (*III* **A9**). The ditch is not located centrally within that cellaring and on the south its projected line meets the base of the cellar wall. Cateaton Street is known to have been widened under an Act of Parliament in 1776 but the properties affected lay on the south side of the street, between Long Millgate and Smithy Door (Aston 1804, 42; Sutton 1913, 67). As a consequence of the excavation it has been supposed that ground level on the south side of the ditch was originally much lower than on the north and that there has been a considerable build-up along Cateaton Street. Attempts have also been made at computer modelling of the original ground surface (Walker & Plaskitt 1998) but these are far from conclusive given the paucity of the data. No other evidence suggests that such a build-up of ground levels has taken place and a perhaps more likely solution is that the eastern end of Cateaton Street was built partly over the southern side of Hanging Ditch.

Within the area of excavation, the ditch appeared to have a slight downward slope from east to west, with the 'cut' lying at c 30.2m AOD in sections 7 and 13, on the eastern face of Trench A, and at below c 29.9m AOD in section 9 on the western face of the same trench.

- A6.3 The earliest material dating evidence from the ditch is provided by a radiocarbon dates of 1880-1650 BC, obtained from a sample of charred material (Table A2). This is reported to have been recovered from the uppermost of the fluvial deposits (1013) below the ditch 'cut' (Graham Mottershead, pers comm).

The deposition of this material within the ditch may have been an entirely natural occurrence or be an indication of human activity in the locality. In 1880 Bronze Age metalwork, comprising a dagger and a broken axe blade, was found within Hanging Ditch during groundworks for the construction of Hanging Bridge Chambers, c 50m to the west of the 1997 excavation site. Other Bronze Age finds have been made in the locality (see vol 1, 4.1.2).

- A6.4 The nature and scale of medieval deposition within the ditch are considerably clearer. The recorded sections show that across the width of the ditch there was an accumulation of silty deposits, rich in medieval finds ranging from pottery to animal bone, leather and metalwork. These deposits reached their greatest depths in the southern half of the ditch, where they ranged from c 1.2m to c 1.6m deep. The nature of the finds shows that the ditch had become a rubbish dump for material which seems to have included waste from industrial activities such as tanning as cobbling as well as refuse of a more domestic nature (see below, A7).

In most sections there were deposits of this type immediately above the ditch 'cut', ie grey silt 1004/1021, dark brown/black organic silts 1010 and 1026, and black silts 4102 and 1418. In sections 5 and 13, between the 'cut' and 1010 was a thin basal deposit of sand (1011). A single sherd of pottery is catalogued from context 1011/13 and is ascribed a post-medieval date. It may represent a contamination of this layer during excavation but merits specialist re-examination.

In sections 5, 9 and 13 a deposit of clean sand (1009) containing relatively few finds separated the lower medieval deposit from an upper deposit of dark red/brown clayey silt (1008), also rich in medieval finds. This sand layer is suggestive of a waterborne deposit, perhaps representing a single flooding episode. It seems to correspond with the layer of fine stony material observed in evaluation trench D, dividing an upper and lower finds-rich organic deposit, and provisionally interpreted during the evaluation as a possible manmade levelling of the ditch.

- A6.5 Four radiocarbon dates were obtained from material within the organic deposits. Of the three samples taken during the evaluation, one was from the upper organic zone and provided a date of AD 1295-1420. The other two were from the lower zone with dates of AD 1290-1410, and AD 1310-55 or 1385-1435 (Table A1). The sample taken during the excavation was also from the lower zone and produced a date of AD 1260-1310 or AD 1360-90 (Table A2). The shoe assemblage points to the late 14th to mid/late 15th century and such a dating is supported by the ceramic evidence which includes diagnostic pieces believed to be of a 14th- or 15th-century date.

Sample	Lab number	Conventional radiocarbon age	Calibrated results (2 sigma, 95% probability)
Charred material, at c 6.1m	Beta-203294	3440 ± 40BP	cal BC 1880 to 1650
Unspecified timber, at 5.7m	Beta-203295	720 ± 40 BP	cal AD 1260 to 1310 and cal AD 1360 to 1390

Table A2: Radiocarbon dates from excavation Trench A (David Shimwell, pers comm).

Together, the various strands suggest a date range of roughly between 1360 and 1420 for the accumulation of the organic deposits. The later date is of particular interest. The disposal of this considerable volume of waste was taking place within an area which lay immediately to the south of the parish churchyard of St Mary and close to the east end of the church. In 1421 the church was refounded under the charge of a new college of priests, for whom a new residence was built on the site of the former manor house, now the medieval core of Chetham's School of Music. The charter of 1421 makes it clear that previous neglect of the parish by absentee rectors or their appointees was a major factor behind the new foundation (Hartwell 2004, 14-15). The degeneration of Hanging Ditch into a rubbish dump on the church's very doorstep may have been a symptom of the lack of a strong ministerial presence. Likewise, the creation of the resident college of priests may have put a stop to the practice.

A6.6 The stratigraphy overlying the medieval deposits suggests three main processes. The first of these was the further accumulation of silts. This is most clearly evident at the south end of Trench D, where silt layer 4020 overlay organic deposit 4018. This layer was c 1m deep and continued almost to the top of the section, where it was sealed by a thin loam layer (4001), which seems to have been bedding for the cellar floor. Layer 4020 had been cut by 4019 and it is uncertain how far it originally extended across the ditch.

A6.7 The second process involved perhaps two successive phases of drainage constructed within the ditch channel. The clearest evidence was again in Trench D, where organic deposits 4012 and 4018 and the overlying layer 4020 were cut a substantial v-shaped ditch (4019), which continued into the natural (4022). The base of this cut seems to have been deliberately backfilled with a coarse orange sand (4011). A stone and brick-built French drain (4008) was then built on this layer, and layers of sand and loam (4004, 4005, 4009, 4010, 4013, 4014, 4015, 4016, 4017) were deposited against the sides of this drain, effectively filling ditch 4019. The line of the French drain across the trench ran roughly east-south-east / west-north-west, following the line of Hanging Ditch.

A French drain (1025) was also noted in section 7 in Trench A. It lay at the same height and on the same line as the drain in Trench D and can be assumed to be a continuation of the same feature. However, here it lay directly on organic layer (1026) and, unlike in Trench D, the sections in Trench A gave no indication that the drain lay in a cut.

Remains of a possible second drain were noted during the evaluation. In Trench F a stone wall was observed at a depth of 3.4-4.4m below the ground surface, set within a cut. It is likely to have continued as the stone wall seen at the northern end of evaluation Trench D, situated at an approximate depth of 4.2m, above the organic deposits. It has suggested that these walls formed part of the final culverting of Hanging Ditch (Eyre-Morgan 1997, 9-10), but they could also have belonged to a stone-sided channel. Their contexts bear a close similarity to the brick-built French drain and this stone-built feature evidently ran on a similar but more northerly alignment. No evidence of stone walling was noted in excavation Trench A which would have been crossed by the line of this feature. However, in both sections 4 and 6 above the medieval basal layer (1004 and 1021) was a layer of black organic sandy silt (1003 and 1020), with no recorded finds, which in section 6 was in turn overlaid by a red brown clayey sand (1019). It is possible that this upper silt layer was associated with the suggested stone-built culvert or channel. The relatively shallow medieval deposit recorded in sections 4 and 6 might also suggest that the construction of this feature cut into and truncated that underlying deposit.

A6.8 Thirdly, the uppermost deposits recorded by the excavation principally represent a final stage of infilling and levelling across the width of Hanging Ditch, evident in the trench sections and recorded in plan in Area B. In the northern part of the ditch, this involved the deposition of a layer of dark brown/black clayey silt (1011, 1018 and 1024), found in sections 4, 11, 6 and 7. In section 6, this layer directly overlay the

brick-built French drain (1025). In section 4 the infilling process also seems to have involved layer 1002, a dark brown-black organic sandy silt with abundant sandstone fragments, which overlay the suggested fill of the culvert or channel (1003).

At the southern end of the ditch, by Cateaton Street the infilling and levelling involved the deposition of a mid-brown sandy silt (1027 and 2005), which directly overlay medieval deposit 1008. This layer produced seven sherds of pottery comprising 17th- or 18th-century black-glazed wares and a post-medieval red ware, and also contained inclusions of coal.

On the north this last layer was overlaid by a compact pink sand with abundant sandstone inclusions (1007 and 2006). This was recorded in plan in Area B and was evident in sections 5, 9, and 13 in Trench A where, in the absence of layers 1927 and 2005, it directly overlay medieval deposit 1008. Its general trend seems to have been from north-west to south-east and in Trench D it was recorded in both the east-facing and the west-facing section, where it sealed the infilling of cut 4019 but over the French drain was itself cut by later intrusions (4003 and 4007).

- A6.9 The effect of this infilling and levelling of Hanging Ditch with silts and the pink sand was to create a level surface on which a series of sandstone walls were then built. Of these, walls 2002 and 2009 existed only as footings, with the remainder of the walls having been brick-built, and it is unclear as to what extent that brick superstructure represented a rebuilding. From the outset these walls must have belonged to the cellarge of a building accessed from street level. On the available evidence, the pottery from underlying layer 2005 means that the walls are no earlier than the 17th or 18th century, while the French drain, which likewise predates the walls, was probably of an 18th-century date. The walling on the south side of the cellar corresponds with the Cateaton Street frontage of buildings shown on Green's map of 1787-94. The line of that frontage was also probably established by 1776, since under an Act of Parliament of that year Cateaton Street was widened on the south side between Old Mill Gate and Smithy Door but the north side of the street was left intact (see above A6.2).

These walls may not represent the earliest building on this site, since the c 1650 map of Manchester shows a continuous line of buildings along Cateaton Street from Hanging Bridge to Half Street, later Cathedral Street. This earlier building or buildings must also have been partly set within the ditch, possibly overlying the original extent of silt layer 4020.

A6.10 *Phasing*

The evidence from the excavation at Cathedral Yard/Cateaton Street allows several main phases of development for this part of Hanging Ditch to be identified with varying degrees of certainty.

Phase 1

The ditch originated as a natural channel cut through glacial deposits, at the base of which accumulated waterborne deposits.

Phase 2: late 11/12th century?

There is tentative evidence for the base of the ditch being recut by man. At present this rests primarily on the presence of Bronze Age material retrieved from a waterborne layer immediately below the 'cut' of the ditch, and the evidence of medieval material directly or, perhaps almost directly, above the 'cut'. At Hanging Bridge, by contrast, both Roman and Bronze Age finds have been retrieved from the ditch, suggesting a greater accumulation of pre-medieval deposits. A possible context for such a recutting might be in the early 10th century in a connection with the Anglo-

Saxon **burh** of Manchester. However, that **burh** may be better placed at the Roman fort in Castlefield, in which case a possible context may be in connection with the creation of a town ditch around Manchester's Norman settlement.

Phase 3: late medieval, c 1360-1420

The ditch was used as a rubbish dump for material which is believed to have included waste for local industries and crafts such as tanning and cobbling, as well as domestic refuse. The result was an accumulation of deposits up to about 1.5m in depth. During this period the ditch must have been highly unpleasant and a particular nuisance to the parish church of St Mary whose boundary ran along the ditch's northern edge. On the evidence currently available, this phase of use seems to have occurred between the mid 14th and the early 15th century. It may have come to an end when the church was refounded in 1421 under the charge of a resident college of priests.

Phase 4: late medieval/post-medieval, pre- c 1650

Cartographic evidence implies that one or more buildings was built along the Cateaton Street side of the ditch by c 1650. The lower floor must have been set within the ditch itself, perhaps carried on a make-up layer partially covering the earlier waste deposits. To the north a probable stone-lined channel or culvert was constructed during the same general period. This was presumably intended to manage and contain the flow of water through the open part of the ditch, and was perhaps partly cut into the organic medieval deposits.

Phase 5: 18th century

A substantial programme of infilling and levelling was carried out to create a new ground surface for building. A large cut was dug through the medieval deposits for a French drain which presumably replaced the old stone-lined culvert or channel. After this cut was backfilled, silts were dumped on the site, along with a compact layer of pink sand and sandstone, and cellar walls were then built on this ground surface. A stone-lined well was dug through the cellar floor, probably cutting through the glacial deposits below the southern edge of Hanging Ditch.

A7 **Finds**

- A7.1 The finds from Hanging Ditch included the largest assemblage of medieval material recovered from Manchester. The waterlogged conditions meant that in addition to pottery, the medieval finds included leatherwork, animal bone and metalwork. This assemblage is of at least regional importance. Conservation work has been carried out on a number of finds, although the full extent of this work is uncertain.

Despite the significance of the medieval assemblage, only a preliminary assessment of the Hanging Ditch finds was undertaken following the excavation and reports were produced on the Roman pottery, the medieval and post-medieval pottery, the leather, the animal bone, and the clay pipes and glass, by specialists in these respective fields (Walker 1998). These provided a brief quantification and overview of the finds, presented below. In the case of the medieval pottery, the leather and the animal bone, the specialists recommended more detailed analysis. Lack of funding has meant that this analysis has never been undertaken. In the case of the medieval metalwork, there does not appear to have been even a preliminary specialist assessment. Since the compilation of the specialist assessments in 1997-8, other excavations with Greater Manchester, particularly in the early core of Salford, have provided a considerable body of comparative material for the post-medieval finds, which may also now merit further study.

The following details from the available specialist reports have been included as they represent the current level of information on the finds. More detailed analysis would undoubtedly provide a fuller understanding of these finds and their significance.

A7.2 Roman Pottery
Gillian Dunn

Four sherds of Roman pottery, weighing 19gm, were recovered. One was unstratified. Three came from Trench D (4012) where they were clearly residual. All were body sherds from orange ware vessels broadly characteristic of the Cheshire Plain.

A7.3 Medieval and Post-Medieval Pottery
Julie Edwards

A7.3.1 A total of 227 sherds weighing 4961gm was recorded. The distribution by trench and context is shown in the Table A3.

Table A3: Quantification of medieval and post-medieval pottery.

Trench	Context	Medieval		Post-Medieval		Total	
		No of sherds	Weight (gm)	No of sherds	Weight (gm)	No of sherds	Weight (gm)
Trench A	(1004)	2	76	-	-	2	76
	(1008)	2	28	-	-	2	28
	(1009)	1	5	-	-	1	5
	(1010)	9	618	2	213	2	213
	(1011/13)	-	-	1	7	1	7
	(1018/24)	-	-	15	122	15	122
	(1018)	-	-	4	19	4	19
	(1021)	1	47	-	-	1	47
	(1025)	-	-	8	337	8	337
(1026)	1	18	-	-	1	18	
Trench B	(2005)	-	-	7	106	7	106
Trench C	(51)	-	-	2	33	2	33
	(3001)	-	-	1	8	1	8
	(3004)	-	-	48	353	48	353
	(88/3010)	-	-	1	5	1	5
	(3011)	-	-	11	95	11	95
	(521/3023)	-	-	1	23	1	23
Trench D	(4)	-	-	5	86	5	86
	(5)	-	-	1	29	1	29
	(7)	-	-	3	97	3	97
	(4008)	-	-	3	44	3	44
	(4012)	48	1231	9	108	57	1339
	(4018)	2	36	-	-	2	36
Trench E		3	8	4	52	7	60
Evaluation	(1)	1	23	-	-	1	23
	(2)	4	30	-	-	4	30
	(3)	2	68	-	-	2	68
	(4)	4	70	-	-	4	70
	(6)	2	130	-	-	2	130
	(u/s)	8	274	-	-	8	274

A7.3.2 The bulk of the material came from Trenches A and D, although only about one third of the contexts produced any pottery. Only contexts 1004, 1008, 1009, 1021 and 4018 produced solely medieval pottery, although none of these contained more than two sherds. The largest groups of medieval wares were from contexts 1010 and 4012, although these also contained post-medieval pottery, and overlay 1011 which contained a sherd of pottery identified as post-medieval. As these contexts are described as being undisturbed ditch fills, the post-medieval sherds are perhaps intrusive, having found their way into the deposits at the time of excavation. Pottery was also found in Trenches B, C and E, although in smaller quantities and generally very mixed in date.

In the case of context 1010 and 4012, post-medieval wares of late 17th/18th or 19th-century date accounted for eleven of the 68 sherds. These included black-glazed and mottled-glazed wares, 19th-century stonewares and creamware. One fragment of post-medieval clay tobacco pipe was also retrieved from 1010.

The remaining sherds all appear to be medieval. One resembles a Midland Purple type ware. The introduction date of these wares seems to vary but generally they are a late medieval/early post-medieval ware; if this sherd is not intrusive it may provide a rough terminus post quem for the deposition of the assemblage. Two broad fabric groups are represented. The largest is composed of wheel-thrown wares made from Coal Measure clays and appears to fall into three subgroups. Only two sherds are indicative of form. One is the base of a small jug or measure similar to a form found in various parts of England in the 14th and 15th centuries; the other is from an oval dripping dish. There are also a small number of sherds made of sandy red-firing clays. Despite the small quantity, more of these redware sherds have features to indicate their form. Finally, a small number of sherds, possibly from one vessel, were made in a fabric containing coarse quartz inclusions.

Other contexts in Trenches A and D produced 49 sherds, which included a similar range of medieval sherds to 1010 and 4012. Unstratified pottery from Trench D included a fragment of Tudor Green type ware dating to the late medieval/post-medieval period. Contexts 1018, 1024, 1025 and 4008 produced a range of domestic wares varying in date from the late 17th to the 19th and possibly early 20th centuries. These include creamwares, peal-glazed earthenwares, transfer-printed wares, black-glazed ware and various types of stone wares.

Context 2005 in Trench B produced seven sherds of 17th- or 18th-century black-glazed wares and a post-medieval redware.

Trench C produced 67 sherds of post-medieval pottery, most of it (48 sherds, 353gm) from 3004. No medieval pottery was retrieved. The pottery ranges in date from the 16th to the 19th and possibly early 20th centuries and comprises black-glazed wares, transfer-printed wares, slipwares, mottled-glazed wares, creamwares, pearl-glazed earthenware, 18th- and 19th-century stonewares and one small piece of porcelain which is probably Chinese in origin. One very small sherd of a tin-glazed ware jug of mid to late 16th-century date, probably from the Low Countries, was also present.

Trench E produced three sherds of medieval and four of post-medieval pottery. The range is similar to that described above, although a fragment of Tudor Green type ware was also retrieved. There is also post-medieval building material and a clay tobacco pipe.

The evaluation produced 21 sherds of medieval pottery similar to that found in Trenches A and D. There is no post-medieval pottery, although a small piece of post-medieval drainpipe was found. Fragments also include a piece of Midlands Purple type ware, a possible piece of Humber ware (a small jug of 14th/15th-century date) and part of the base of another small jug or measure in a hard red-firing ware. Unstratified was a piece of highly fired and distorted tile that appears to be kiln furniture.

A7.3.3 The assemblage is fragmentary, with no complete or partially complete vessels and few large pieces to indicate the range of forms. No sherd joins have been detected between contexts, although these were not specifically sought. Abrasion varies but the bulk of the sherds from 4012 are not particularly worn. The post-medieval sherds generally appear to be more fragmentary and abraded than the medieval, although this may be due in some part to the ware being finer.

A7.4 *The Leather*
Quita Mould

A7.4.1 The leather comprises a minimum of 563 items. The quantity of leather recovered within each context listed by functional category is given in Table A4. In addition a fragment of textile (from context 1010) and a small quantity of wood were noted during scanning; neither is further commented on here.

Table A4: Quantification of leather.

	Context							
	(1002)	(1004)	(1008)	(1009)	(1010)	(4012)	(4018)	u/s
Sole	2		4	4	17	10	4	5
Sole fragment	1	2	1	3	7	7	-	3
Clump	1	-	-	3	4	-	-	-
Clump fragment	1	-	-	-	-	-	-	-
Rand	-	-	3	-	10	24	6	1
Turn-welt	1	-	-	-	1	-	-	-
Vamp	-	-	2	-	2	6	2	-
Vamp fragment	-	-	-	-	-	-	-	-
One-piece quarters	-	-	1	-	3	3	1	2
One-piece quarters	-	-	-	-	1	-	-	-
One-piece upper	-	-	1	-	1	4	1	-
Throat extension	-	-	-	-	-	-	1	-
Upper insert	-	-	-	-	-	2	1	-
Upper fragment	3	5	1	-	13	40	5	5
Tongue	-	-	-	-	2	-	-	-
Internal binding	-	-	-	-	-	2	-	-
Heel stiffener	-	-	1	-	4	1	1	-
Split lace	-	-	-	-	2	1	-	-
Lace fragment	-	-	-	-	2	-	-	-
Shoe strap	-	-	-	-	-	1	-	-
Scabbard	-	-	-	-	1	1	-	-
Spur leather	-	-	-	-	1	-	1	-
Strap	-	-	1	-	-	-	-	-
Disc	-	-	-	-	1	-	-	-
Waste, primary	-	-	-	-	8	20	1	-
Waste, secondary	-	-	2	1	2	53	2	2
Waste, trimming	2	-	2	-	14	147	5	1
Scrap	-	-	-	-	5	30	-	15
Total	11	7	19	11	101	352	28	34

The leather was recovered from seven individual contexts: five in Trench A, (1002, 1004, 1008, 1009 and 1010) and two in Trench D (4012 and 4018). A small amount (6%) was found unstratified. The majority of the material, some 63%, came from context 4012, intact organic ditch silts. A further 18% came from context 1010, also undisturbed ditch silts. The leather in the remaining contexts occurred in quantities of 5% and below. The datable items all belonged to the late 14th to mid/late 15th centuries, without any signs of residual earlier medieval leather or contamination by later items.

A7.4.2 The assemblage comprises principally shoe components of turnshoe construction and waste from shoemaking. In addition, two scabbards were found, a length of spur leather, a strap and a perforated disc.

The total shoe assemblage from the excavation appears to form a discrete group, likely to date to a period of less than one hundred years. The shoe styles and construction method date from the late 14th to mid/late 15th centuries.

Primary waste from the initial cutting of hides and secondary waste, that is the offcuts and trimmings produced when shaping and cutting the pattern pieces to size, were recovered. Waste leather comprised 63% of the leather from context 4012, suggesting that it was refuse from a shoemaking workshop. In addition, eleven of the shoe components recovered from 4012 in Trench D had been cut to salvage reusable leather before being discarded, indicating that cobbling waste is also represented. Nearly a quarter of the leather from context 1010 in Trench A was waste, similarly ten items had been cut up to salvage leather.

The remains of two decorated scabbards were found. One scabbard from context 1010 survived to a length of 650mm. The metal chape had been cut off and it had apparently been deliberately 'slighted' by being cut along the whole of its length before being discarded. It is decorated with a front panel of 'feathering' with a series of converging oblique lines and stamped 'flower' motifs with random dots between. The reverse has a crudely executed running scroll. It is from a civilian blade (Ward-Perkins 1940, 188-9). The decoration on each scabbard is consistent with a 14th/15th-century date.

The perforated disc can be paralleled elsewhere. Usually interpreted as a fastening, it may well be an offcut from the production of another object. The occurrence of examples associated with various children's toys in a well in St Paul-in-the-Bail, Lincoln, may indicate another use as a spinning top.

A7.5 *The Animal Bone* Lesley Harrison

A7.5.1 The animal bones were rapidly scanned and identified to species and bone type. Identifications were based on the presence of diagnostic anatomical features using both modern and archaeological comparative material. No attempt was made to distinguish sheep from goat, all caprid bones being classed as sheep/goat. All large rib fragments were classed as cattle-size, some fragments may be from horse, although given the low frequency of recognizable diagnostic horse bones in the assemblage this is unlikely. Bird bones were identified when possible using the small collection held at Chester Archaeology. Butchery marks and pathology were noted. The assemblage was quantified by fragment count and weight by context. No measurements, sex/ageing or assignment of side was undertaken.

A7.5.2 In total, 432 fragments were recorded with a total weight of 14.2kgm. The quantity from each context is shown in Table A5.

Table A5: Quantification of animal bone.

	Context							Total
	(1004)	(1008)	(1010)	(1018)	(1026)	(4012)	(4018)	
Fragment count	6	36	52	8	1	326	3	432

Most of the bone (75%) came from context 4012 in Trench D. Large quantities also came from contexts 1008 and 1010 in Trench A. The animal bone assemblages recovered from 1004, lower organic silts making up the fill of the ditch, from 1010, thought to be the organic preserved ditch deposits with no disturbance, and from Trench D 4012, intact organic ditch silts, appear to come from deposits which have suffered little or no post-depositional disturbance. However, intrusive post-medieval pottery sherds from 1010 and 4012 point to some contamination of these deposits, possibly as the time of excavation. A fragment of human skull (from overlying deposits) was recovered from 4012, which seems to confirm this possibility.

Provisional dating (from the pottery and especially the leather assessment) suggests that the assemblage from Trench A 1010 and Trench D 4012 is late 14th to mid/late

15th century, although as mentioned the pottery showed evidence of some later contamination.

Animal bone recovered from 1018, mixed modern overburden, and 1026, highly disturbed ditch silts, was discounted from further analysis because of the problems of modern contamination. Differential preservation of the animal bone from context 1008 also suggests some disturbance, although there was no evidence of this in the pottery assemblage. The bone from Trench D context 4018, disturbed ditch silts, was also discounted from further study.

A7.5.3 Cattle, sheep/goat, pig, horse,?deer, dog, cat, domestic cat, domestic fowl and goose were noted, plus a few shells of mussle and oyster.

The entire assemblage was dominated by fragments of mature animals. Only a few sub-adult/immature bones were noted. This bias could have been caused by taphonomic processes, human selection or recovery techniques. Similar factors may have also caused the bias towards larger species. It should be noted that no bulk sieving of the deposits was carried out, and this would bias the assemblage in favour of larger bones from adult animals and/or larger species.

The range of species recovered was dominated by domestic species: cattle, sheep/goat, and pig. Almost 40% of the bone fragments from the undisturbed ditch fills (1004, 1010 and 4012) were cattle. A small number of horse bones were recovered. Possible deer fragments, dog and cat were also noted. This species diversity is typical of ditch assemblages and compares closely with the medieval ditch collection from 5-7 Foregate Street, Chester. There was also a bias towards head and foot fragments; this again is characteristic of ditches.

Absences in body parts could be due to a wide range of post-depositional processes as well as human selection. However, the domination of the assemblage by chopped metatarsals, metacarpals, metapodial shaft fragments and foot bones probably implies a deliberate pattern of refuse disposal in this part of the town. It is suggested that the assemblage is characteristic of tanners' waste, the feet being left attached to skin to aid handling and pegging out of the hide. The tanner dealt with ox, cow and calf hides bought at market from the slaughter house or butchers. Only a small amount of the bone could be regarded as domestic refuse, not enough to suggest that significant amounts of household/kitchen rubbish were being dumped, although obviously some would have found its way into the ditch.

A range of butchery marks was noted, including chops made with a heavy cleaver or chopper. Finer knife marks were also visible, resulting from the severing of tendons or skinning.

A7.5.4 The assemblage was highly fragmented as a result of intensive processing/butchery, especially of the cattle bones. There was little surface weathering, except on a few fragments from the overburden, and the bones were a dark brown/black colour with a smooth texture, thought to be due to rapid immersion in waterlogged deposits. This meant that knife marks resulting from butchery, carcass dismemberment and skinning could be easily seen. Gritty cassy accretions similar to that seen from ditch deposits in Chester (5-7 Foregate) were present on some fragments. No calcined or burnt bone was recovered, nor was metal staining noted. The condition of most of the bones suggests that if they were stockpiled, it was in very temporary middens prior to disposal.

A7.6 *Clay Pipes*

A7.6.1 A total of 35 fragments of clay tobacco pipes were found scattered throughout the site. The majority were stem fragments but there were also fragments of bowls, including three from contexts 599/3133, 521/3033 and 3004 which were almost complete with

makers' marks on the heels. The marks are slightly worn, but it may be possible to decipher them. The bowl forms of these stamped pipes suggest they are 17th-century.

A.7.7 *Glass*

A7.7.1 The glass assemblage consisted of 19 pieces of post-medieval window glass and green bottle glass. It is all very fragmentary, which prevented precise dating of the bottle glass.

A7.8 *Window Lead and Glass*

A7.8.1 Three pieces of buckled lead window tracery with some quarries still in place were retrieved from the infill of the cellarage during the evaluation. The glass is in good condition, and is either colourless or slightly tinted yellow. Some pieces have moulded surfaces. The lead comes are closely milled. These pieces appear to be 19th- or early 20th-century and perhaps relate to bomb damage to the Cathedral in the Second World War (excavator's comment).

Appendix B: Archaeological Recording at the Cathedral Visitor Centre, 2000-2

B1 Introduction

- B1.1 This appendix reports the results of a programme of archaeological recording at Hanging Bridge Chambers and the adjoining building Nos 10-12 Cateaton Street, during groundworks and building works undertaken for the conversion of these properties to the Cathedral Visitor Centre. This work was undertaken by the University of Manchester Archaeological Unit and was commissioned by Manchester City Council Chief Executive's Department Special Projects Office.¹
- B1.2 Hanging Chambers and Nos 10-12 Cateaton Street are bounded on the west by the narrow thoroughfare of Hanging Bridge. It overlies and follows the line of the medieval bridge of that name which has statutory protection as a Scheduled Monument. Prior to the redevelopment works, the east face of the bridge was hidden behind the cellar wall of these buildings. Under that redevelopment the bridge was made a feature of the Visitor Centre. The east cellar wall was removed and the floor of the cellar lowered to reveal this elevation of the bridge. In addition access was provided below the bridge's two arches. The south arch had formerly been accessible from the basement of the neighbouring Mynsull's House, but a wall blocking its west side was now taken down. The exterior of the north arch was formerly visible in a viewing well in the adjoining public gardens. The wall blocking this arch was also removed and glass panelling inserted, including an emergency exit from the Visitor Centre basement.
- B1.3 Works affecting the bridge were undertaken following the granting of Scheduled Monument Consent by the Department of Culture Media and Sport, under the Ancient Monuments and Archaeological Areas Act 1979.

B2 Location

- B2.1 Hanging Bridge lies in Manchester city centre on the south side of Manchester Cathedral, and links Cathedral Yard with Cateaton Street (NGR SJ 8385 9869) (**III B1**). The thoroughfare of Hanging Bridge is lined on the east by a range of buildings comprising Hanging Bridge Chambers on the north, dating from 1880-1, and a slightly later continuation, Nos 10-12 Cateaton Street, on the south. On the west, the southern end of the thoroughfare is bordered by Mynshull's House, No 14 Cateaton Street, built in about 1890, which is adjoined on the west by Nos 42-46 Victoria Street. The plot adjacent to these buildings on the north is not known to have been built upon since 1900, when the Tower Hotel was demolished. Prior to the redevelopment work it had for a number of years been laid out as an area of public gardens, known as Victoria Gardens. Its south-east corner included a rectangular well running alongside the northern arch of the bridge and allowing a view of its fabric.

Both Hanging Bridge Chambers and Nos 10-12 Cateaton Street included cellarage, which on the east extended under Cannon Court. In Hanging Bridge Chambers the basement of this cellarage lay at a height of c 32.14m, and in Nos 10-12 Cateaton Street at c 32.25m AOD (these heights being extrapolated from architects/engineers drawings for the Cathedral Visitor Centre and the adjacent gardens).

¹ This report is based on the site archive generated by Peter Arrowsmith, Simon Askew, Peter Connelly, Richard Gregory, David Lloyd, Graham Mottershead and David Power. The pottery was analysed by Jeff Speakman, Liverpool Museum, and was drawn by Timothy Morgan, MAAIS.

B3 **Geology and Ground Conditions**

B3.1 *Solid and Superficial Geology*

B3.1.1 The solid geology of the study area, as shown by the OS Geological Survey, is Sherwood (formerly known as Bunter) Sandstone of the Permo-Triassic.

B3.1.2 The OS Geological Survey shows the superficial geology of the study area as comprising late glacial flood gravels, part of a band of such deposits alongside the course of the River Irwell.

However, this picture is complicated by the presence of Hanging Ditch. Excavation by UMAU at Cathedral Yard in 1997 confirmed the hypothesis (Morris 1983, 47) that the ditch had originated as a natural feature, cut through the glacial deposits, the bottom of which contained waterborne deposits (see Appendix A).

Where crossed by Hanging Bridge, Hanging Ditch was at least 28m wide to judge from the known extent of bridge fabric, with the twin arches and central pier spanning a distance of c 15.2m. This compares with an excavated width of c 11m recorded or projected at Cathedral Yard in 1997; there the upper part of the ditch profile had been removed by cellarage, and the actual width can be assumed to have been greater.

B3.2 *Boreholes*

B3.2.1 In the area of Hanging Bridge, a number of boreholes have been dug to test below-ground conditions, summary details of which are given below.

Victoria Gardens, 1981

In January 1981 nine boreholes were dug in the gardens close to the west side of Hanging Bridge by GeoResearch, commissioned by the Greater Manchester Archaeological Unit. BH1-7 were approximately 1m apart, to the north of the viewing well in the gardens; BH8-9 were approximately 0.5m apart to the west of the well. Ground level at the location of the boreholes at this time is believed from later mapping to have been in the order of 33.3m AOD. The approximate position of these boreholes is shown in **III B3** and a summary of the results is given in **III B4**.

All the boreholes dug in Victoria Gardens in 1981 show an infilling of relatively modern material and brick. On the north, in BH1-4 this infilling shows a depth of c 3.1-3.67m and can be identified as backfilling of the cellarage of the Tower Hotel. To the south of this, in BH5 the depth of this infilling increases to 4.49m, with further increases in BH6 and BH7 to 4.83m and 5.46m respectively.

In the five northernmost boreholes, BH1-5, the layers below the brick fill present a consistent picture, comprising a sloping layer of sandstone fragments overlying a red/brown silty clay with occasional pebbles, sandstone and coal fragments. Boreholes BH6, BH7 and BH8, on the other hand, show silts below the upper brick infill, which continue to depths of 9.33m, 9.61m and 8.75m respectively.

Victoria Gardens, Cateaton Street and Cathedral Yard, March 2000

In March 2000 three boreholes were dug by GeoResearch on behalf of Manchester City Council Special Projects Office (**III B3**).

BH 2 was dug on the site of Victoria Gardens, c 6m west of Hanging Bridge and c 2m north of Nos 42-46 Victoria Street. Below the modern paving, this revealed an infill of loose dark grey clayey silty sand and gravel, with brick, wood and glass fragments. This infilling continued to a depth of 10.8m and directly overlay the natural sandstone.

BH3 was situated on the south side of Nos 10-12 Cateaton Street, c 3m from the

building. Here below the modern concrete surface was infill material, including brick fragments, which continued to a depth of 4.4m and may be the result of groundworks for the building's construction. Below this was a brown sandy silty clay (the natural), with rounded gravel, sandstone siltstone fragments continuing to depth of 10m, and in this case overlying sand and gravel, before the sandstone was encountered at a depth of 11m.

BH1 was located in Cathedral Yard c 2m north of Hanging Bridge Chambers. Below the modern concrete surface, this uncovered infill containing brick fragments, continuing to a depth of 3.2m. Below this were brown sandy silty clays, with rounded gravel, sandstone and siltstone fragments (the natural), continuing to a depth of 11.1m and overlying the sandstone. Prior to boundary changes in the 19th century Cathedral Yard was part of the churchyard and the infill recorded in this borehole may relate to that former use.

Victoria Gardens, July 2000

In July 2000 four additional boreholes were dug in Victoria Gardens by Strata Surveys Limited (**III B4**).

BH3 was positioned in the north-east corner of the gardens and produced results reasonably consistent with the sampling undertaken in 1980. Made ground was encountered to a depth of 4m, below which was a brown clay layer with a little gravel to a depth of 5.5m. Below this was brown sand and sandy clay, overlying the sandstone at 10.9m.

BH2 in the north-west corner of the gardens provided a somewhat similar sequence, with made ground to a depth of 5.6m, with an underlying layer of brown clay and gravel to a depth of 6.3m, brown clay to 9.5m, and brown sand below this.

BH1 was located in the south-west corner of the gardens and revealed made ground containing brick and coal inclusions to a depth of 6.8m. Below this were two layers described as clayey peats, the lower of which lay at a depth of 8.4m and included sandstone cobbles. Below this in turn was sandstone, at 10.8m (Strata Surveys 2000).

The Strata Surveys report places the fourth borehole, BH4, in the south-east corner of the gardens, within the viewing well for the north arch of the bridge. The borehole log, however, makes this position questionable and its actual location may have been adjacent to that well. This borehole revealed made ground including brick rubble to a depth of 7.1m. This overlay a silty clay with fragments of wood, to a depth of 8.3m below which was a very loose layer composed predominantly of wood, continuing to 9.5m. This in turn overlay a brown clay layer with gravel, below which at a depth of 10.0m was brown and black sand, with sandstone being encountered at 10.8m.

B3.2.2 *Summary of Results*

Although the boreholes show localised variations, the overall picture appears consistent. The majority of boreholes dug along the southern two-thirds of the gardens show silts or 'peaty' deposits, including organic material (ie BH 6, 7 and 8 in 1981, BH1 and BH4 in July 2000, and possibly BH2 in March 2000). In addition the base of these deposits seems to have sloped downwards from east to west across the gardens, from c 9.6m close to Hanging Bridge, ie c 23.7m AOD, to c 10.8m by Victoria Street, ie c 22.5m AOD. The assumption must be that these deposits indicate the accumulation of silts within the channel of Hanging Ditch.

B3.3 *Test Pits in Hanging Bridge Chambers, 1999*

B3.3.1 Prior to the main programme of work described in this report, the direct information on ground make-up below the Visitor Centre itself was derived from four preliminary test

pits dug in 1999 in the cellar of Hanging Bridge Chambers. Three lay to the north of the northern arch (**III B2**).

B3.3.2 The most easterly of these, TH2, encountered a solid obstruction at a depth of c 0.9m below the cellar floor level (ie c 31.24m AOD). The position of the test pit coincided with the east wall of Hanging Bridge Chambers above ground level (the cellar itself continued eastward below Cannon Court) and the intrusion may relate to footings along the line of that wall.

TH1 revealed a red sand from c 0.75m to at least c 2.2m below the basement floor (ie from c 31.39m to c 29.94m AOD). This borehole lay against the west wall of the cellar, at a point where fabric of the bridge abutment was exposed in 1880, but the red sand was at a depth below the level of the fabric and ground disturbance as recorded at that time (**III B5 & B13**). It is believed to be natural.

TH3 lay close to the same cellar wall but c 3m to the south, close to the southern end of the bridge's north abutment. It revealed a dark brown silty sand from a depth of c 0.9m, to at least c 2.8m below the cellar floor (ie from c 31.24m to c 29.34m AOD). This lies below the depth of disturbance at this point as recorded in the late 19th century (**III B5 & B13**).

TH4 lay c 3m north-east of the north-east corner of the bridge's central pier. The boreholes revealed a black organic silt from a depth of 1.6m to at least 3.2m below the cellar floor (ie from c 30.54m to c 28.94m AOD). This is believed to be ditch-fill (**III B13**).

B4 Previous Recording of Hanging Bridge

B4.1 Hanging Bridge was originally built as a free-standing structure but by the second half of the 17th century, as shown on the c 1650 map of Manchester, a continuous range of buildings ran along its eastern side. By 1741, as shown on Casson and Berry's map of the town, the eastern side was similarly built against. This process meant that the fabric of the bridge was largely hidden from view, other than from the properties which now butted against it. In the early 19th century, for example, Aston noted that one of the arches was visible 'from the back window of a hair-dresser's shop' (Aston 1816, 7).

B4.2 *The Building Works of 1880-1890*

B.4.2.1 Since the time when the sides of the bridge were first effectively obscured by buildings, its fabric has been temporarily uncovered on several occasions as those buildings were replaced. It is reported that in July 1828 one of the arches of the Hanging Bridge was 'discovered in the course of excavations. It had been concealed for an unknown period' (Gill 1890, 104-5). By far the best documented exposure occurred, however, between 1880 and 1900 when the buildings which then hid the bridge were removed during four phases of redevelopment.

B4.2.2 *1880*: Work was begun for Hanging Bridge Chambers, which replaced a building damaged by fire. In the process, Hanging Bridge was exposed 'several feet below the level of the present roadway'. Excavations to a depth of 28ft, c 8.5m, below the keystone of the arch were reported to have not yet reached bedrock (*Manchester Examiner and Times* 22 September 1880, 5). On this occasion only the north-east arch of the bridge was exposed (Gill 1890, 105; *TLCAS* 8 (1900), 133; 'R F' 1900, 4).

Finds uncovered during this work were exhibited at a meeting of the Manchester Literary and Philosophical Society by the president Mr E W Binney, and comprised a lead seal, with the arms of the Duchy of Lancaster, said to be 15th-century; a lead spoon; 'a very old-fashioned' iron key; and a metal object described as a 'battledoor', with the alphabet in raised characters on one side and a cross on the other, said to

be 14th-century (Gill 1890, 105-6) (SMR 9915.1.0).

According to Binney, 'a stream of water, about eighteen inches in width and seven inches in depth, was seen to be flowing in a channel under the arch towards the Irwell' (Gill 1890, 106). Elsewhere it is reported that the finds exhibited by Binney were recovered from the bed of a narrow stream, flowing under the arch, presumably a reference to the same watercourse (*Manchester City News* 7 December 1901, 2).

Other finds reported to have been found in the Hanging Bridge excavations in 1880 are a Bronze Age dagger c 5.5in long, and a fragment of a bronze axe, a bronze coin of Hadrian, and human remains. Timbers said to have been uncovered during building work by Hanging Bridge in the 1880s may also have been found on this occasion (see below, B4.4.3).

B4.2.3 1882: The range on the south side of Hanging Bridge Chambers was taken down for a new building, the present Nos 10-12 Cateaton Street, exposing the southern arch on this side (*III B44*). Gill reported that 'Nothing is known to have been found in the course of the excavations, nor was there any water flowing towards the arch' (Gill 1890, 106; 'RF' 1900, 4).

B4.2.4 1890: 'The premises No. 14, Cateaton Street, and Nos. 1, 3, and 5, Hanging Bridge were taken down'; situated on the west side of Hanging Bridge, this site had previously been occupied by Messrs Bromiley, tea merchants (Gill 1890, 106). Demolition revealed the southern arch on this side and part of the northern arch, 'the back wall of the Tower Hotel preventing the remainder of the arch being seen' (Gill 1890, 97).

This building work was for the present Mynshull's House. It is reported that the 'architect and the trustees for the property took the greatest care not to obliterate the interesting arches of the old bridge, as had been done on the eastern side, but at considerable cost and trouble so arranged that as much as possible should be rendered available for future inspection' ('R F' 1900, 4). This was achieved by carrying the east elevation of the building on pillars, which left the bridge itself exposed to view in the basement. A mezzanine gallery here further helped inspection. In addition the arches were left open on the west, basement, side, although new brick walls were built across their eastern sides, ie adjacent to the cellar wall of Nos 10-12 Cateaton Street. This arrangement remained in place until the works for the Cathedral Visitor Centre, when the eastern elevation of the bridge was exposed and a new brick wall was built on the west side of the bridge, removing access from Mynshull's House (*III B16*).

Following the completion of Mynshull's House, the public were admitted for a fee into the basement to view the bridge. Such was the level of interest, that 32,000 are said to have made this visit within the first three months (Bradshaw 1985, 26-7).

B4.2.5 1900: The Tower Hotel was demolished, bringing to the light of day the remainder of the northern arch on the west side of the bridge. In this particular case, part of the bridge was already visible within the fabric of the building. J J Phelps reported to a meeting of the Lancashire and Cheshire Antiquarian Society on 6 April 1900, that 'the north-west portion of the old bridge, has now, owing to the clearing of the cellars of the Tower Hotel and the demolition of the premises occupying the site, become much more accessible' (*TLCAS* 8 (1900), 133). Photographs taken in that same year show that the east wall of the cellarage of the Tower Hotel incorporated the north arch of the bridge and the stonework of the north abutment. The arch itself was open, in effect providing additional cellar space (*III B48 & 49*).

Rebuilding on this site was successfully opposed by a hastily formed Hanging Bridge Preservation Committee, which ensured that the bridge here was left open to view (Bradshaw 1985, 27).

B4.3 *The Drawings of 1890 and 1900*

B4.3.1 The stonework uncovered on these successive occasions was recorded in sketches and photographs, and measurements of the bridge were also taken.

As a result, in November 1890 the antiquarian George Rowbotham was able to produce elevations of both faces of the bridge, as had been uncovered up to that time (*III B5*). According to the annotation on this drawing, the east elevation was 'from sketches taken in 1880 and 1882', while the western elevation was 'from photographs taken 1890' (MA Ms ff741 R107; Gill 1890). A measured elevation was also drawn in 1890 by an unknown surveyor (*III B6*). Rowbotham himself also painted a composite watercolour of the east elevation revealed in the 1880s (*III B44*).

Rowbotham's published drawing of 1890 includes a plan of the central pier and stepped southern base of the south arch as seen on the east side of the bridge, together with a section through the southern arch, and two sketches of detail of the stonework. Until the uncovering of the eastern face during the recent works, Rowbotham's drawing was the principal source of information for this elevation. In particular, it shows a beak-like cutwater projecting from the eastern, upstream, face of the central pier, and also indicates the coursing of the eastern face of the bridge as being somewhat larger than on the western elevation.

B4.3.2 In 1900 this drawing was revised to show the stonework at the north end of the west elevation revealed by the demolition of the Tower Hotel. The original of this amended drawing has not been traced, but it is known from published works ('R F' 1900; Wilkinson 1910). That part added in 1900 is annotated as being from sketches taken in that year (*III B7*).

B4.4 *Other Features*

B4.4.1 *The Supposed Western Pier*

In 1890, 'some 15 feet to the west' of the bridge, there was discovered

'the foundation of what seemed to be another pier directly in line with the middle pier. The stonework exactly corresponded in appearance and size with the stones at the base of the middle pier. The soil around was cleared to a depth of about eight inches, but the stones were not removed, as their position did not interfere with the foundations of the new Minshull House' (Gill 1890, 107).

This has been interpreted as the base for an arch, butting onto Hanging Bridge at a right angle and intended to serve as the foundation of a chapel as well as giving the bridge additional support (Gill 1890, 108). More recently it has been suggested that this pier 'possibly represents the foundations of an earlier bridge or an extension to the existing one' (Morris 1983, 48).

The boreholes dug in 1981 and 2002 suggest that at the location of the supposed pier there are likely to be deposits of silt within the channel of Hanging Bridge to a depth of several metres below the basement in Mynshull's House. This might favour the pier being a more shallow and more recent feature. One possibility is that it was walling associated with the buildings known to have been erected against the west side of the bridge by the 1740s.

B4.4.2 *Human Remains*

In September 1880 newspapers describing the uncovering of the north arch of the bridge reported that 'Several brick walls were found under the arch, and in one chamber at the side were found a quantity of human bones' (*Manchester Examiner and Times* 22 September 1880, 5; *Manchester Weekly News* 25 September 1880). In

1901 the antiquarian H T Crofton wrote to a local newspaper, seeking confirmation of a tradition that bones had indeed been discovered in 1880. According to the story known to Crofton, 'the workmen came across the outline of the blocked-up archway, and, an opening being made, and the interior examined, five or six skeletons with fragments of clothing, and a small copper coin, the size of a farthing, with a [?Lati]n (original damaged) inscription, were found buried close to the surface'. The remains were said to have been reburied in the churchyard (*Manchester City News* 7 December 1901, 2; SMR 1370.2.0). In reply to Crofton, James Bottomley wrote to the paper. He had attended the meeting of the Literary and Philosophical Society in the early 1880s at which E W Binney had spoken about the findings at Hanging Bridge, and recalled Binney 'saying that some human remains had been encountered in digging about the foundations' (*Manchester City News* 14 December 1901, 2).

It is probable that these bodies had been buried in the southern extremity of the churchyard, which came right up to the end of Hanging Bridge until the creation of Cathedral Yard in the early 19th century.

B4.4.3 *Timbers*

In 1890 a newspaper reported that 'The workmen who did the excavation, some two years ago, for the foundations of the new building on the higher side of Hanging Bridge, say they came upon the timbers of a possible bridge at a much lower level than the present stone bridge' (*Manchester Weekly Times* 14 June 1890). The chronology may be doubtful, for the excavations in question were on the east side of the bridge, where the known groundworks took place in 1880 and 1882 rather than later in that decade. The report continues that the timbers suggest 'that passengers from the Cateaton-street side had to descend a slope of some 15 feet to reach the wooden footbridge across, the ditch; then, of course, to climb a similar slope on the churchyard side'. If the figure of 15ft (c 4.5m) is reliable, it would seem to make the level at which these timbers was found roughly equivalent to the base of the arches of the stone bridge. Without further evidence, their function and date remain uncertain.

B4.4.4 *The Supposed Southern Smaller Arches*

In September 1880 local newspapers reported that 'On the Cateaton-street side of the bridge are a number of smaller arches, which have been penetrated by the workmen, but are not exposed' (*Manchester Examiner and Times* 22 September 1880, 5; *Manchester Weekly News* 25 September 1880). In recent years this has been interpreted as referring to smaller arches to the south of the known southern arch (Morris 1983, 48).

No other evidence has been found for these 'smaller arches' and at the time of the original newspaper report in 1880 only the northern arch was exposed. The most likely explanation would seem to be that the workmen had located and misinterpreted fabric belonging to the southern half of the bridge.

B5 **Recording Methodology and Programme**

B5.1 Subsequent to a desk-based assessment in February 1999 (Arrowsmith 1999), the recording work undertaken by UMAU at Hanging Bridge comprised the following.

B5.2 *Watching Brief on Test Pits*

B5.2.1 The initial phase of work comprised the inspection and recording of five test pits dug within the basement of Hanging Bridge Chambers and Nos 10-12 Cateaton Street in February 2000 (**III B2**). At this stage internal walls and floors had not yet been removed from the buildings.

Test pits TP1-4 were dug against the outer wall of the basement. TP5 was dug in the

north-west corner of the basement of Nos 10-12 Cateaton Street, to locate the cutwater shown on the east elevation of Hanging Bridge on Rowbotham's drawing of 1890. The results are given in B8.1 below.

B5.3 *Watching Brief during Removal of Brick Facing of Bridge and Infill of Arches*

B5.3.1 From March 2001 an ongoing watching brief was maintained as the brick walls of the basement were removed from in front of the east elevation of the bridge (**III B14**) and, later in the year, the walls blocking the arches of the bridge were taken down.

This watching brief also included the examination of the upper surface of the bridge where this was exposed prior to the insertion of a post-tension beam along the eastern elevation.

B5.4 *Initial Recording of the 'Cutwater'*

B5.4.1 Following the removal of the internal walls within the proposed Visitor Centre, including the dividing walls between Hanging Bridge Chambers and Nos 10-12 Cateaton Street, the contractors revealed significantly more of the supposed cutwater.

This was now cleaned, recorded in plan and its elevations also recorded where visible (**IIIs B10, B35 & B36**). The stratigraphy adjacent to the 'cutwater' was also recorded in section. This phase of recording was carried out in April 2001.

B5.5 *Watching Brief during Piling Works*

B5.5.1 Also following the removal of the internal divisions between Hanging Bridge Chambers and Nos 10-12 Cateaton Street, a watching brief was carried out during groundworks for a series of piles within the body of the building. This involved the presence of an archaeologist during drilling, who made a visual inspection of the material removed from each hole. This watching brief was carried out in April 2001.

B5.6 *Watching Brief prior to Shoring of North Wall of Basement*

B5.6.1 In April 2001 removal of part of the northern wall of the basement of Hanging Bridge Chambers resulted in the uncovering of human remains which had been buried in the churchyard. These were recorded and removed for reburial, prior to shoring of this area.

B5.7 *Watching Brief during Reduction in Level by Arches*

B5.7.1 On 12 July 2001 inspection was made of a trench being dug by mini digger in the basement against the bridge's south arch, and on 27 July of a trench dug against the north arch.

B5.8 *Measured Survey of the Bridge*

B5.8.1 As the eastern elevation of the bridge was exposed and the walls blocking the two arches were removed, measured survey was carried out on the bridge fabric. This work comprised the following. All measurement was carried out by tape, unless otherwise specified.

i) Survey of stonework towards the northern end of the east elevation, revealed following the removal of the brick facing between two brick piers. The survey was carried out in June 2001. This section of walling was 2.5m wide and 4m high, the greater part of which was later covered over.

ii) Survey of the eastern elevation and the 'cutwater', carried out in January 2002. This record of the 'cutwater' was made before its subsequent reduction in height (see

below, B5.9).

iii) Survey of the western elevation as visible in the basement of Mynshull's House. At the time that this was undertaken the new brick wall screening the arch from Mynshull's House was already partly built. The narrow gap between the bridge and the wall precluded full measured survey. However, it was possible in part to visually check the accuracy of the measured survey drawing of 1890 on a stone by stone basis. Where obvious anomalies were noted, these were corrected but were of a minor nature. This work was carried out on 28 January 2002.

iv) Finally, following completion of building works at the Visitor Centre, resurvey of the eastern elevation to record stonework exposed by those works. In addition measured survey was carried out of those parts of the western elevation visible externally. The latter comprised the greater part of the north arch and the upper courses of the north abutment, this survey being undertaken following new landscaping of the Victoria Gardens area.

B5.9 *Reduction and Further Recording of the 'Cutwater'*

B5.9.1 The initial design for display of the bridge was based on the premise that the feature projecting from the east face of the pier was a cutwater, integral to the bridge's construction, and should form part of the bridge's presentation. Uncovering of the supposed cutwater revealed that it had played a different function but, in keeping with the initial design, the feature was incorporated within the display of the bridge and a new retaining wall built to the east of the bridge was carried over it.

B5.9.2 However, the height of the 'cutwater', coupled with the irregular appearance of its upper surface which included some material associated with the late 19th-century cellar walls, was felt to detract from the presentation of the bridge. The recommendation was made by Robina McNeil, County Archaeologist, to lower the wall under conditions of a controlled excavation. This would involve removal of the upper course and later intrusions, followed, if deemed appropriate, by the reduction of further courses. In the event, the upper course and part of the course below it were removed, at which point it was decided that no further reduction was either necessary or advantageous.

The excavation was carried out on 11-13 March 2002 and involved recording the feature in plan before and after its reduction (*Ills B10, B38-41*).

B5.10 *Watching Brief in Gardens*

B5.10.1 In addition to the programme of work within Hanging Bridge Chambers and Nos 10-12 Cateaton Street described in this report, in 2002 a watching brief was carried out in the area of Victoria Gardens. This took place during groundworks for the remodelling of this site, to create a stairway providing an emergency access from the basement of the Visitor Centre. The results of this watching brief have been described previously (Arrowsmith & Thompson 2003), and only the salient points are included in the present report.

The watching brief comprised four elements, the first of which was the digging of a test pit in the viewing well (*Ill B3*). The main part of the watching brief was carried out during groundworks for the remodelling of the gardens and involved an excavation c 4.8m below-ground surface in the gardens, for a new retaining wall; the removal of material between those works and Hanging Bridge, which exposed part of the fabric of the north abutment, including the upper courses of the buttress; and machine trenching for the construction of the new stairway.

B6 Hanging Bridge

B6.1 General Construction

- B6.1.1 Hanging Bridge is of two arches, separated by a central pier and springing at either end from an abutment (*Ills B8 & B9*).

The outer faces of the bridge are built of courses which are evenly laid but which vary considerably in height. In places where this facing has been removed, there is evidence of a rubble core. The stonework on the lower part of the east face of the pier has remains of a lime mortar between the courses (*Ill B31*). It is assumed that this was the original bonding material of the structure. Many of the facing stones show evidence of tooling.

The bridge is constructed from Sherwood Sandstone. This sandstone is usually poorly cemented but within Manchester there are a number of localised areas where this sandstone has a silica cement which makes it suitable as a building stone. Significantly outcrops of this type appear to be found along the line of the Irwell close to Hanging Bridge (Fred Broadhurst, pers comm). According to John Leland writing in about 1540, stonework from the Roman fort at Castlefield was reused in the bridges of the town. It is at present unknown whether Hanging Bridge includes reused Roman material.

- B6.1.2 The northern arch is c 7m wide between the two springing points, the southern arch is narrower at c 6m. The width of the bridge from face to face is c 2.8m.

The central pier is c 2.20m in width across its base. The north and south faces of this pier are set slightly askew to the east-west axis of this bridge, at an angle of c 5 degrees (*Ill B9*).

- B6.1.3 The principal source for the length of the bridge are the drawings made in 1890 and 1900 (*Ills B5 & B7*). On the west elevation they show stonework extending for a distance of c 28m, almost the full length of the present Hanging Bridge thoroughfare which measures 30m.

On the east elevation, the redevelopment work exposed the bridge over a length of 20.8m. On the south, Rowbotham's drawing of 1890 shows that the fabric was uncovered for c 3.4m beyond this (*Ill B11*).

- B6.1.4 On the north of the east elevation, the known stonework of the abutment continues 5.5m beyond the northern arch, but within this distance the lower stonework is stepped, presumably to follow the slope of Hanging Ditch. The section of walling in question was exposed and recorded in June 2001 but was subsequently covered over. Here the lowest 1.2m of stone courses butted at an angle of roughly 45 degrees against soils, of which the upper 0.8m comprised a layer of sand and clayey gravel, with a clay layer underlying this (*Ills B8 & B32*). The result was that, at the level of the springing of the arch, the stonework for the northern abutment only seems to have extended for some 2.4m. This compares with a distance of 4m on the western elevation as recorded on the drawing of 1900. The variation suggests that the banks of the ditch against which the bridge was built splayed out towards the west, ie towards the Irwell.

- B6.1.5 On the west elevation, the stonework of the north abutment includes what seems to be a more roughly made pier or buttress, projecting slightly from the bridge's face. This was partly exposed during the redevelopment works, and is known from early photographs and the drawing of this part of the western elevation of the bridge made in 1900 (*Ills B7 & B48*). It was reported at that date that 'Where the bridge is built up to the buttress the joint is a straight one', with no evidence for the two being keyed together ('RF' 1900, 4).

B6.1.6 On the opposite eastern face of the bridge, at the point where the courses butted at an angle to the natural, the stonework was also roughly finished (*III B32*). In this case the treatment of the courses may be indicative that the stonework was cut into the slope, with the face of the blocks hidden from view.

B6.2 *The Arches*

B6.2.1 The arches of the bridge are both four-centred and of equal height to their apex. However, they differ in length, with the northern arch at c 7m and the southern at c 6m, and in other details of construction. The northern arch has a chamfered double arch-ring (*IIIs B27 & 29*), while the south has a chamfered single arch-ring and three square-cut ribs (*III B20*).

B6.2.2 *South Arch*

The Ribs

The ribs of the south arch differ in size, with the two outer ribs being c 460mm wide, and the central rib c 560mm. The outer ribs are inset from the chamfered opening of the arch by between c 140mm and c 170mm. On the southern side of the arch, measuring at their base, the central rib is positioned 510-520mm from the two others (*III B21*). On the north side of the arch, however, the distance between the central and eastern ribs narrows to c 420mm (*III B24*).

The ribs are separate from the stonework which adjoins them, except for the lowest course of the ribs on either side of the arch, as noted below.

The North Side of the Arch

On the north side the ribs spring from a sill at the base of the arch (*III B24*). This sill does not have a uniform construction. Under the western and central ribs it is built of two courses of masonry rising to 410mm above the present floor level on the west of the arch and to 440mm in the centre. On the east is a single block, rising to 420mm above current floor level and inset from the remainder of the sill by c 150-250mm.

The course immediately above the sill is comprised of a row of three substantial blocks, c 400-420mm high, each of which incorporates the base of one of the three ribs (*III B25*). These blocks form a major element in the fabric of the pier and effectively show that the ribs belonged to the original design of the bridge and are not a later addition. On both the west and the east, the chamfer of the arch-ring springs from immediately above these large blocks. On the west the chamfer rises from the upper surface of the block, which is square-cut. On the east the upper surface of the block is itself chamfered, but the arrangement here is evidently not original. The chamfer is roughly cut, suggesting that it was cut when the block was in situ (*III B26*). In addition, the lower part of chamfer of the arch-ring has also been roughly cut or broken but retains evidence that it originally included a vertical splay.

The South Side of the Arch

On the south side of the arch the ribs again spring from a sill but this is only one course high. The two courses below this currently visible within the Visitor Centre are both stepped out (*III B21*). The drawings of the bridge made in 1890 show a third step below these (*IIIs B6 & B7*). The sill and the two steps exposed below it are roughly worn, and the coursing of the steps is irregular, with the lower step ranging rising from c 80mm to c 210mm above the modern floor and the upper step being from c 140mm to c 200mm in height. The height of the stonework of the sill accordingly varies to create a roughly level upper surface.

The steps and sill project beyond both the east and west elevations of the bridge, with the steps and sill being 3m wide, while the structure above them has a width of 2.86m

across the base of the ribs. The upper surface of the sill lies at a height of c 650mm above the modern floor, so that on this side of the arch the ribs spring from a level c 200-230mm higher than on the north side.

As with the north side of the arch, the course above the sill contains wide blocks which incorporate the bases of the ribs, although here this method of construction is only used for the two outer ribs and not the central (*III B22*). Again as with the north side, the chamfer of the arch-ring rises from a point above the springing of the ribs, in this case at a height of 630mm above the sill. The stonework at the base of the two chamfers varies. On the east side, this stonework is square-cut; on the west it is splayed, having its own chamfer on both the north and east faces.

B6.2.3 *North Arch*

The north arch has two arch-rings, each chamfered. On the east elevation, the chamfer of the outer arch-ring rises from a square-cut base at a height of 130mm above the modern concrete floor. The other chamfers all continue to that floor level. Rowbotham's drawing of the western elevation made in 1890 shows the south side of the arch springing from a sill on the central pier (*III B5*). However, there is no evidence of such a sill in the fabric currently visible in the Visitor Centre, and the other drawing of this elevation made in 1890 shows the arch springing from the vertical face of the pier at, or just below, the level of the present concrete floor (*III B6*).

The lower part of the south side of the inner arch-ring, to the height of c 1060mm above the modern floor, is comprised of two courses, each three blocks wide, with the straight joints between the blocks of the lower course continuing into the upper. The third course, by contrast comprises two stretcher blocks tying this lower part of the arch-ring together (*III B28*).

On the underside of the arch, at the level of the modern concrete floor, is a square aperture in the north abutment (*III B29*), which was revealed on removal of the concrete and brick infill of this arch. The aperture is centrally placed and has what may be a stone capping, suggesting that it represents more than the site of a displaced stone. If that is the case, however, its function is unclear.

B6.2.4 Both arches show evidence of structural problems. In the case of the north arch, there is a discernible lean across the width of the bridge from east to west (*III B27*). In the case of the south arch, the stonework at the top of western opening, viewed from below, shows a distinct outward bowing (*III B23*).

B6.3 *Other Details*

B6.3.1 The eastern face of the central pier includes a single stone block with a slight curving projection, suggestive of the broken springer for an arch (*III B33*). This block, which is c 520mm long, projects c 90mm out from the bridge and is situated on the northern side of the pier face, adjacent to the north arch.

B6.3.2 On the south side of the southern arch the stonework between the central and eastern ribs includes one block whose face appears to have a vertical chamfer running the full of height of the block against its left-hand edge (*III B22*). It is uncertain whether this is the result of damage or reflects a reuse of the block from an earlier structure.

B6.3.3 The ribs and underside of the arch-ring of the south arch are partly covered with what appears to be a lime wash. This seems to be located only on that part of the bridge previously accessible from the basement of Mynshull's House and may therefore be a relatively modern, post-1890, addition.

B6.3.4 In the floor below this same arch, a stone wall projects for 1.36m at a right angle from the southern abutment and is a survival from a mainly brick wall constructed across

the arch's eastern opening (*III B21*). The ghost of this wall is also visible on the underside of the arch. The wall, which was removed as part of the modern display of the bridge (*III B16*), is believed to have been contemporary with the construction of Mynshull's House. It is unknown if the remaining stonework here originally belonged to an earlier phase of blocking.

- B6.3.5 A single possible mason's mark has been identified on the bridge. This is located on the lower part of the western face of the north arch and consists of a 'W' set on its side. This area of stonework, however, was formerly visible within the viewing well. Consequently the incised mark may well be no more than a relatively modern graffito.
- B6.3.6 Above the level of the arches, the western and eastern faces of the bridge include a series of vertical grooves, cut into the stonework, and clearly a later addition to the original fabric.

On the west elevation these grooves are c 420-440mm wide and are situated above the south arch and on the central pier (*III B6*). In the former case two grooves, c 2.6m apart, descend c 1.6m from the top of the surviving stonework of the bridge to the chamfer of the arch. On the pier, a single central groove descends for c 1.8m. These vertical grooves appear to be associated with two groups of small vertical incisions. One of the groups lies on the central pier, and comprises three grooves, c 400mm apart; two of these are 600mm high and lie c 1.6m below the top of the stonework of the bridge, while the third continues to the same depth of c 2.2m and lies below the larger central groove. The other group lies on the southern abutment and comprises two grooves, c 1.70m below the top of the surviving stonework, 400mm high and c 500mm apart. The larger grooves may be rebates for the timber posts or stone or brick walls of buildings constructed against the face of the bridge, while the narrower grooves suggest the possible position of floor joists. Comparison with early mapping indicates that the large groove on the central pier closely corresponds with a property division shown on the large-scale OS plan of 1849.

On the east elevation the grooves comprise one on the central pier, two above the northern arch, and one on the northern abutment (*III s B8 & B34*). Of these, all but the groove on the pier can safely be identified as rebates cut for the buttresses of the west wall of the cellarage of Hanging Bridge Chambers in 1880 (*III B13*). This groove continues to a depth of c 2.7m below the top of the surviving stonework on this elevation. It seems to be associated with a narrow vertical incision located 40mm to the north and perhaps made to demarcate the area to be cut from the stonework to create the groove itself. While this groove does not coincide with any of the known walling of either Hanging Bridge Chambers or the adjoining Nos 10-12 Cateaton Street, it does seem to closely match the position of a property division shown on the 1849 map.

- B6.3.7 The underside of the north arch shows evidence of damage, suggestive of a hole being broken through the stonework (*III B27*). It is possible that this was carried out in or after 1900 as a means of pouring in the concrete which was recently found to fill virtually the full height of the opening to this arch (*III B15*).

B7 The Eastern Projecting Wall (the 'Cutwater')

B7.1 *Recording of the Wall*

- B7.1.1 Rowbotham's drawing of the eastern face of bridge, compiled in 1890 from sketches made in 1880 and 1882, clearly shows both in elevation and plan a beak-like cutwater projecting from the central pier (*III B5*). The desk-based assessment of the bridge noted that this would have faced into the flow of water through the ditch towards the Irwell but also that, unusually for a medieval bridge, the cutwater did not continue upwards to provide a passing point (Arrowsmith 1999, 16).

B7.1.2 During the redevelopment work the supposed cutwater was initially uncovered in TP5 dug in February 2000 specifically to confirm its survival and location (*III B2*). This test pit uncovered only the edge of the upper stonework and part of the southern face of the feature which was found to form a more acute angle with the face of the bridge than as recorded by Rowbotham. As the feature underlay the northern wall of Nos 10-12 Cateaton Street, its northern face could not be seen at this stage.

B7.1.3 However, following the subsequent removal of that wall and the adjoining southern wall of Hanging Bridge Chambers, the full width of the feature was recorded in plan and was now found to extend at least 4m from the face of the bridge (*III B10, B35 & B36*). At that time much of the western end of the feature was still overlaid by brick walling built in the early 1880s across this elevation of the bridge (*III B37*).

Subsequent to the removal of that wall and exposure of the bridge, the feature was recorded during its staged reduction in height (see above, B5.9). By this time, the feature was visible for a distance of c 2m from the face of the bridge, the remainder having been hidden behind the new revetment wall.

B7.1.4 The following combines the results of these two main phases of recording.

B7.2 *Description of the Remains*

B7.2.1 The supposed cutwater was found to consist of a length of substantial sandstone walling built with outer faces of coursed blocks and a rubble core. Four courses were recorded, with a visible height of 1.05m (*III B.10*). The facing stones were bonded with a light brown sandy mortar which was also used, though not exclusively, in the sandstone core.

B7.2.2 The form of the wall was dog-legged. The easterly part ran at an angle of 45 degrees north-eastwards from the pier. At a distance of c 2m from the face of the bridge, the wall then turned eastward through 45 degrees, to run at a right angle to the bridge. This straight section of the wall was exposed for a distance of 2m. Its full extent is unknown.

The angled and straight sections of the wall were of approximately the same width, the angled wall being c 1.24m, the straight c 1.26m. On the south elevation, the facing stones of the angled section of wall butted against those of the straight section (*III B35*). On the north elevation, there is evidence that where the angled section met the straight wall, the latter made a northward return. What appears to be a facing stone from that return is visible within the modern floor of the basement. Not only does it project from the 'cutwater' but also the angled wall seems to butt up against it. Immediately adjacent to that juncture, the north elevation of the straight wall lacks facing stones (*III B38 & B39*). On removal of the upper two courses of the 'cutwater' the line of the return was found to continue within the core of the structure as a line of fairly crude sandstone blocks, to the east of which the core at this level was comprised of a hard compact mortar with sandstone inclusions (*III B10*).

During the removal of the upper courses, the mortar of the core was found to include a small deposit of charcoal. This was carbon-dated in the hope of providing dating evidence for the construction of the 'cutwater'. However, the sample proved to be far older, at over 41,590BP (Beta Analytic 2003), suggesting that this was organic material contemporary with the original deposition of the sand used within the mortar.

B7.2.3 The angled section of wall is not bonded to the bridge pier, rather the two are separated by a narrow cavity, 500mm wide at the present upper level of the 'cutwater', and filled with a dark loam.

Nor is the angled wall centrally placed against the pier. Its northern face ends opposite the outer edge of the outer chamfered stonework of the north arch. Its southern face does not continue uninterrupted to the pier. Instead its angled face is

bonded into a section of walling, c 500mm wide, which effectively extends the opening of the southern arch.

The uppermost stone of this last section, as first revealed, had evidently been reset. As a result the width of the cavity between it and the pier was noticeably narrower (*III B40*). This part of the cavity contained a sherd of pottery of 18th-century date (see below, B9.1 no 9). The course immediately below this reset stone had a chamfered upper face lying adjacent to, and at the same level, as the chamfered stonework at the south-east corner of the pier. Between these two chamfered blocks, the fill of the cavity contained a rim sherd and a clay pipe stem, both believed to be of 17th-century date (see below, B9.1 no 10; B9.2).

B7.3 *Discussion*

- B7.3.1 It is evident that contrary to its representation on the Rowbotham drawing of 1890, the stone wall projecting from the central pier of the bridge is not a cutwater, that is a feature designed to ease the flow of water to either side of a pier set in mid-stream.

Its angled southern face, on the other hand, does make it probable that it was designed to help the flow, but only through the southern arch. In keeping with this is the care taken to make the western end of this face lie flush with the wall of the arch. Furthermore the offset position of the angled wall, which effectively narrows the opening of northern arch, makes it likely that it was part of an arrangement by which water now passed either mainly or solely through the southern arch.

This scenario is also consistent with the two further sections of walling attached to that angled wall, one running east-west at a right angle to the bridge, the other seemingly running north-south across the face of the northern arch. Together, these walls suggest the possibility of a square or rectangular building positioned within the northern half of the ditch. The west wall of this structure would have run parallel to the bridge but have been separated from it by a gap of c 1m, suggesting that the building had a jettied timber superstructure.

- B7.3.2 The finds from the cavity between the angled wall and the pier imply a date for the construction of these walls no later than the 17th century. Other evidence may indicate an earlier date. A silt deposit adjoining the north side of the straight east-west wall produced a small but important assemblage of pottery of 16th-century date. This silt layer contained no obvious cut for the wall but rather appeared to have accumulated against it (see below, B8.2; B9.1 nos 1-5).

- B7.3.3 Combining the archaeological and documentary evidence, it is possible that the suggested structure was the property which according to the records of Manchester court leet for the 1 October 1607 had been bought by Raphe Hudson having previously belonged to George Proudlove, the location of this property being given as 'scituate upon hangingbridge' and extending into the church yard (CLR ii, 231).

The court leet records for 13 October 1629 also record that Raphe Hudson had carried out some work 'for the safegard of his owne house' which had the effect of raising the level of the watercourse flowing under Hanging Bridge. This had been to the detriment of Edward Johnson, part of whose land along with a wooden fence had been washed away, and the court ordered Raphe either to restore the watercourse to its former state or 'to make itt good wth stonne' where it was causing that damage (CLR iii, 164). The implication is that Hudson had narrowed or dammed the channel adjacent to his house, but the reference is probably too late to be linked with the construction of the 'cutwater'.

B8 Below-ground Archaeology

B8.1 Test Pits 1-4

B8.1.1 TP 1 was located against the east wall of the basement of Hanging Bridge Chambers, c 7m from the basement's north-east corner (*Ill B2*). It was excavated to a depth of c 700mm. The east wall of the basement continued to c 370mm below floor level, and rested on a light-medium brown sand with pebbles. A water pipe ran along the base of the opposite, east-facing section of this test pit. The cut for this pipe continued to the base of the wall and was filled with a silt with brick inclusions.

TP 2 was located against a buttress on the northern wall of Hanging Bridge Chambers. It was excavated to a depth of c 550mm. Beneath c 200mm of floor makeup was c 300mm of light/medium brown clayey sand with pebbles, overlying a light brown soft sand.

TP 3 was located against the east wall of the basement of Nos 10-12 Cateaton Street, c 6m from the basement's south-east corner. It was excavated to a depth of c 850mm. Below c 200mm of floor makeup, the fill comprised a silt including 19th-century pottery and glass.

TP4 was located in the south-west corner of the basement of Nos 10-12 Cateaton Street. It was excavated to a depth of c 400mm. Below c 150mm of makeup was a light/medium brown sand with pebbles.

B8.1.2 Given the results of the boreholes dug in 2000 at either end of the building (see B3.3), it is possible that the sands observed at the north and south ends of the basements, in TP2 and TP4, are natural, as also may be the sands revealed towards the north-east of the building in TP1.

The fill of TP3 is believed likely to be contemporary with the construction of the building in 1882.

B8.2 Deposits adjacent to the 'Cutwater'

B8.2.1 The principal evidence from the Cathedral Visitor Centre for the make-up of deposits within Hanging Ditch is derived from recording work carried out adjacent to the south side of the 'cutwater'. The first opportunity for such recording was presented by the digging of TP5, an exploratory test pit designed to confirm the presence of the 'cutwater' and dug over the angled part of the feature (*Ills B2 & B11*). Subsequently the straight wall of the feature was also exposed, allowing the adjoining deposits to be tested by limited excavation.

B8.2.2 TP5 exposed the upper part of the 'cutwater' at a depth of c 1m below floor level, at c 31.25m AOD. The test pit was followed down alongside the 'cutwater' for a depth of a further c 700mm, ie to c 30.55m AOD. Below c 100mm of concrete flooring was c 750mm of rubble infill containing brick and coarse sand/loam. This overlay c 350mm of orange/brown coarse sand with brick inclusions, which covered the upper part of the 'cutwater' and also included three sherds of post-medieval pottery (see B9.1 nos 6-8). Below this in turn were c 450mm of medium brown sand with brick inclusions, above a light-medium brown sandy silt with occasional brick inclusions.

B8.2.3 The deposits adjacent to the straight length of the 'cutwater' were recorded as a north-facing section, running roughly parallel to the 'cutwater' wall (*Ill B10*). At the time of recording, the concrete floor here had been removed. The upper part of the section comprised a dark brown loose overburden with abundant sandstone and brick fragments, c 900mm in depth, this figure increasing to c 1060mm at the western end of the section. Below this was a medium red/brown sand with occasional stone fragments and pebbles, c 620mm in depth. It in turn overlay a dark brown silt, which continued for at least c 800mm, ie to the base of the section. Eight sherds of pottery

were recovered from this silt, representing five vessels, of 16th-century date (see B9.1 nos 1-5).

B8.2.4 The overburden recorded in the north facing-section is likely to date from the construction works of the early 1880s and implies that more of the 'cutwater' was uncovered at that date than is shown on Rowbotham's drawing. Given the depth of this disturbance, it is also likely that the soils observed against the 'cutwater' in TP5 were also redeposited at that time. The dark brown silt (8), however, appears to be an intact deposit within the ditch, as may also be the red/brown sand (7), which may represent a deliberate infilling and levelling within the ditch.

B8.3 *Features below the Arches*

B8.3.1 The reduction of ground level within the basement adjacent to the eastern elevation of bridge revealed that below each of the stone arches was a brick arch.

B8.3.2 That on the south was *c* 5m wide or more and comprised a single row of headers, set in a flattened arc, with the apex of the arch lying *c* 1m below the basement floor. At its southern end it sprang from a stone block set within a brick pier which was integral to the wall of the Nos 10-12 Cateaton Street. Its northern end sprang from a stone block, which from the photographic record appears to have been positioned against the south-west corner of the 'cutwater'. The interior of the brick arch was filled with silts, and brick rubble (*III B43*).

The brick arch itself presumably dates from 1882, its function being to carry the wall of Nos 10-12 Cateaton Street over the soils below the southern arch of Hanging Bridge.

B8.3.3 The brick arch below the north arch of the brick comprised two rows of headers, springing on either side from a brick pier which in this case was integral to the construction of the wall of Hanging Bridge Chambers. Presumably the arch was contemporary with the construction of the Chambers in 1880 and played the same function.

B8.4 *Churchyard Deposits at North End of Hanging Bridge Chambers*

B8.4.1 The watching brief carried out in connection with shoring of the north wall of the basement of Hanging Bridge Chambers recorded a number of human remains and a fragment of a gravestone (for which see below, B9.3).

The south-facing section to the rear of the wall was inspected prior to shoring, revealing human remains in situ in the section, including a skull. These were left in place.

In addition, several partial skeletons and six skulls were recovered from collapsed earth at the base of the section. These remains were recorded and removed for reburial.

B8.4.2 The presence of these burials behind the north cellar wall of Hanging Bridge Chambers reflects the fact that until the early 19th century the southern side of the present Cathedral Yard lay within the churchyard. It lends weight to the probability that human remains discovered during the construction of Hanging Bridge Chambers in 1880 were themselves derived from the churchyard, and adds to the evidence for the extent of burials derived from the test pits on the north side of Cathedral Yard in 1999.

B9 The Finds

B9.1 Pottery Jeff Speakman

Excavated from silt layer against the 'cutwater' (Ills B50-54, B58).

1. 15th- or 16th-century early post-medieval coarse earthenware bung hole pitcher with simple thickened rim and vertical strap handle, which may have originally had two handles. Similar shaped vessels are founds in Yorkshire (McCarthy & Brooks 1988, 403 no 1762), Leicestershire (McCarthy & Brooks 1988, 427 nos 2020 & 2026) and Derbyshire (McCarthy & Brooks 1988, 429 no 2038), all in similar 16th-century overfired hard fabrics.
2. 16th-century early post-medieval, dark-glazed fineware cup. An unusual squat wide bodied form with a rim narrower than the base. Fairly regular incised vertical line decoration around body from lid seat to base. The form is not dissimilar to one from Potterton, West Yorkshire, although that example has a deeper lid seating (McCarthy & Brooks 1988, 403 no 1772) and another vessel in the Staffordshire type series (Barker 1986, 57) although both have an equal rim and base. Finds from Bewsey Old Hall, Warrington, and Eccleston Hall, St Helens, are recorded as having a similar incised decoration.
3. 16th-century early post-medieval coarseware in an oxidised orange firing sandy fabric. A simple everted rimmed jar; the pulled rim suggests a spout/pouring lip.
4. Mid-late 16th-century early post-medieval, dark-glazed fineware tall narrow lid seated cup with a series of rouletted lines of trailed slip decoration forming a star pattern, with dots of slip at the ends of the lines. An illustrated sherd from Bewsey Old Hall shows a possible similar design (Jenkins & Bearpark 1980).
5. Mid-late 16th-century early post-medieval, dark-glazed fineware cup with rouletted applied lines of white slip with dots at top and one horizontal band. A similar rouletted slip decorating technique to both vessels 4 and 5 appears on vessels locally from Bewsey Old Hall, Warrington (Jenkins & Bearpark 1980) and in Northumberland (McCarthy & Brooks 1988, 387 nos 1642-4), York (McCarthy & Brooks 1988, nos 391 1667) and at Wrenthorpe (McCarthy & Brooks 1988, 403 no 1748), although the design is mirrored only on vessel 5.

TP 5 orange layer against 'cutwater' (Ills B55 & B56)

6. Early post-medieval coarseware bunghole pitcher/jug with simple cordon rim and vertical strap handle, patchy dark brown/metallic exterior and patchy glossy brown interior to thinner metallic brown.
7. 17th-century dark-glazed coarseware.
8. 18th-century dark-glazed coarseware jar/jug in a fine oxidised buff fabric, with unusual triangular section to rim. Overall dark red/purple slip and generally unglazed but with a single drip of dark glaze on the interior running towards the rim showing that the vessel was fired upside down. It is unusual for a rim form not to be glazed.

'Cutwater': soil cavity against reset stone

9. 18th-century tin-glazed hollow earthenware, possibly from a chamber pot, with pitted exterior glaze.

'Cutwater': soil cavity below reset stone (III B57)

10. 17th-century dark-glazed coarseware jar.

B9.2 *Clay Pipe*
Jeff Speakman

'Cutwater': soil cavity below reset stone

Clay tobacco pipe stem. In general stem dates are less reliable than the dates that can be determined from bowl fragments. However, the large bore hole suggests a 17th-century date.

B9.3 *Inscribed Stone*

The watching brief carried out in connection with shoring of the north wall of the basement recorded a fragment of a gravestone from the soils behind, inscribed '...ald ol... / ...d Nov 161... / ...fe h...'.
/ ...fe h...'

B10 Conclusions

B10.1 *Date and Phasing of the Bridge*

B10.1.1 The recent recording work has shown that most of the known bridge fabric is of a single phase of construction. This phase includes the different architectural treatment of the underside of the two arches, which in both cases can be seen as part of the original construction.

It also includes the facing of the bridge. On Rowbotham's drawings of 1890 and 1900 the facing blocks on the east elevation are noticeably larger than those on the west and this has led to the suggestion that one side of the bridge has been refaced at some time (Morris 1983, 48). The modern uncovering and measured survey of the east elevation, however, has shown that in reality that two faces are of very similar appearance and examination of the bridge as a whole gives no evidence for major replacement of stonework. The reason for the different construction of the two arches, the northern having a double arch-ring, the southern a single arch-ring and ribs, is uncertain. It may reflect a difference of landownership of the north and south sides of Hanging Ditch at this point or different benefactors behind the construction.

The survey work in itself has not provided any firmer evidence for dating the bridge, and the principal diagnostic feature in this respect remains the use of the four-centred arch, which has suggested a date of c 1350-1500 (Morris 1983, 48). The use of ribs is also said to be a 14th- or 15th-century feature (Overy 1990). It seems probable that the construction of the bridge post-dates the foundation of the collegiate church in 1421, the purpose being to provide the church with a suitably impressive approach from the south.

B10.1.2 It has long been recognised that the bridge may incorporate remains of a previous structure. In particular, the northern end of the west face includes a section of more irregular stonework, which has been suggested to be part of an earlier bridge, perhaps with a timber superstructure ('R F' 1900; Morris 1983, 48). It is also possible that this earlier bridge included the lower steps at the base of the south side of the southern arch, which appear to be relatively crude in form. The underside of the arch above these stepped foundations may also include a reused chamfered block.

The earliest known documentary reference to Hanging Bridge occurs in 1343, but there are grounds for supposing an earlier origin. The original south porch of the parish church is believed to have been built in the Early English style, which flourished at the end of the 12th century and in the first half of the 13th (Crowther 1893, 32). The original Hanging Bridge may have been of a similar date, making it perhaps roughly contemporary with the first Salford Bridge, spanning the Irwell, which is first documented in the 1220s.

B10.2 *The Bridge and Hanging Ditch*

B10.2.1 From the modern geotechnical and archaeological investigations it is known that the abutments of the bridge are constructed on and against the natural glacial deposits into which Hanging Ditch is itself cut. On the north the stonework is now known to have been stepped to follow the slope of the ditch, into which it may also been cut, and the same method of construction was presumably also used on the south.

B10.2.2 The full depth of the central pier was not exposed by the recent works. Drawings of the west elevation made in 1890 show the stone coursing of the pier to a depth of c 1.2m below the current floor level and below that what appears to have been the lower part of the pier, with no coursing indicated. A rough sketch of the same elevation held within the Rowbotham Collection at Manchester Archives gives the height of that lower part as '4ft 8' (c 1.4m) (MA MS ff 741 R107). If the full depth of the pier was revealed in 1890, its base would have been at a height of c 27.7m AOD. This can be compared with a depth of probable ditch silt to at least c 28.94m AOD recorded to the north-east of the pier in TH4.

B10.2.3 The geotechnical results from Victoria Gardens show greater depths of probable ditch fill. The known extent of the fabric of the bridge is also wider on the west than the east. Both factors tally with the historical sources. Early mapping, such as by Green in 1787-94, shows a widening divergence of property boundaries on the north and south sides of the ditch on the west side of Hanging Bridge. Historical accounts and early illustrations both indicate that properties which were constructed within the base of the west end of Hanging Ditch were noticeably lower than their neighbours. It is evident that to the west of Hanging Bridge the ditch was significantly broader and deeper. The bridge's slightly offset position from the north end of Deansgate may also be a result of the greater obstacle posed by the west end of the ditch. It is quite possible that Hanging Bridge stood at the lowest point on the ditch at which its channel could be crossed.

B10.3 *Former Buildings alongside the Bridge*

B10.3.1 It has long been known that a number of vertical grooves have been cut into the western elevation of the bridge, which have reasonably been associated with the timber posts or walls of one or more post-medieval buildings constructed alongside the bridge. Other grooves are now known to have been cut into the eastern elevation of the bridge but, with the exception of a narrow example over the central pier, these were created in 1880 as rebates for piers set into the west wall of Hanging Bridge Chambers.

B10.3.2 The modern investigations have found other evidence for an early building adjoining the east side of the bridge. The stone walling which in the late 19th century was believed to be a cutwater can now be recognized as part of the footing of a building which occupied the northern half of the ditch, at a time when water still flowed in an open channel through the bridge's southern arch. From the finds evidence this building was erected in the 16th or possibly the early 17th century. It is interesting to note that the position of BH4 lies within the footprint of this building, showing that an accumulation of over 1.5m of silts had already taken place within the ditch before the building was constructed (*III B2 & B12*).

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