

# TORR MILL, NEW MILLS Derbyshire

## Archaeological Evaluation, Survey and Watching Brief



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### SUMMARY

Following on from a desk-based assessment undertaken by Oxford Archaeology North (OA North) in April 2003, an archaeological evaluation, building survey and watching brief was conducted by OA North on behalf of United Utilities Ltd at the site of Torr Mill, New Mills, Derbyshire (SK 001852). The work was carried out between May and November 2003, prior to a proposed development to improve sewage management along the west bank of the river Sett.

The study area is situated within a conservation area known as the Torrs, positioned on the flat bottom of a deep natural gorge which runs through the centre of New Mills. The ruins of Torr Mill sit on the north bank of the river Goyt and the west bank of the river Sett. The proposed development lies in an approximately rectangular area, c40m by 250m, within the upstanding remains of the mill.

Torr Mill was built during the 1780's as a water powered cotton spinning operation. The Schofield family owned it from 1794 until 1912, when the mill was destroyed by fire. In 1828 an estate plan was drawn up which showed the mill had two buildings, and three millworkers cottages. By the mid-nineteenth century, the mill had extended substantially as a result of incorporating steam power. The mill ceased to manufacture cotton in the 1890's, when its function changed to spinning linen yarn. At the time of the fire in 1912, the five-storey mill was used by fustian cutters.

In addition to a building survey of the standing remains of the mill, a series of test pits and a trial trench were excavated along the proposed pipe route to determine the extent and character of surviving archaeological deposits. These interventions revealed walls associated with the original cotton mill. Further modifications of the internal structure of the later mill building (post-1840s) were encountered, including partition walls, yard surfaces, the water wheel pit, and a cellar.

A watching brief of ground disturbance was also conducted during the excavation of an electricity pipe trench through the public footpath, which runs around the mill, and excavation of the main sewer trench. The two pipe trenches provided a glimpse of a broader plan of the multi-phased mill thought to have been in use from the late eighteenth century.

### ACKNOWLEDGEMENTS

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The building survey was undertaken by Chris Wild, and the evaluation by Sean McPhillips, Rod Bale, and Richard Jackson. The watching brief was undertaken by Sean McPhillips, Paul Clark, David Tonks, and Hannah Gajos. The report was compiled by Sean McPhillips who also undertook the finds analysis, and the illustrations were produced by Emma Carter. The report was edited by Ian Miller together with Alison Plummer, who also managed the project.

### 1. INTRODUCTION

### 1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 Following a pre-planning enquiry by United Utilities Ltd regarding the proposed sewerage improvements at the Torrs, New Mills, the Derbyshire County Council Archaeologist (DCC) recommended that an archaeological desk-based assessment should be carried out, in order to inform the planning process. This was undertaken by OA North in April 2003.
- 1.1.2 The archaeological desk-based assessment (OA North 2003) suggested the potential survival of sub-surface deposits relating to an eighteenth century cotton mill. The DCC Archaeologist recommended a programme of further archaeological work for the site, which was to comprise a building survey, archaeological evaluation and watching brief of all ground disturbance. Following the acceptance of a project design submitted by OA North (*Appendix 1*), the work was carried out between May and November 2003.
- 1.1.3 This report sets out the results of the building survey, archaeological evaluation and watching brief.

### 2. METHODOLOGY

### 2.1 **PROJECT DESIGN**

2.1.1 OA North were commissioned by United Utilities Ltd to a undertake a programme of building survey, archaeological investigation and watching brief of Torr Mill as part of a pre-planning application for improved sewerage system improvements of the site the work. OA North then submitted a Project Design (*Appendix 1*) in response to the request from United Utilities Ltd. The project design was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

### 2.2 BUILDING SURVEY AND ARCHAEOLOGICAL EVALUATION

- 2.2.1 The programme of building survey and archaeological evaluation was undertaken within the upstanding remains and grounds of the mill in order to establish the character and extent of the archaeology under threat of disturbance from the proposed pipe route. This involved an instrument survey to record the extent of the standing remains to be affected, and the manual excavation of a trial trench and a series of test pits.
- 2.2.2 The surface features were surveyed by EDM tacheometry using a total station linked to a pen computer data logger, the accuracy of detail generation being appropriate for a 1:250 output. The instrument survey was enhanced by manual survey on site using AutoCAD R14 within the pen computer. The position of the study area was located with respect to surrounding landscape features, and was also recorded using a total station linked to a pen computer data logger.
- 2.2.3 The evaluation comprised the excavation of a trench measuring 8m x 5m (TR 1) at the site of a proposed sewer chamber, and four 2m x 2m test pits (TP 1 to 4) at the site of the manholes, service channel and outflow chamber. Following the removal of overburden by machine, the underlying features and deposits were recorded in spits at 0.05m 0.10m intervals to a maximum depth of 1.20m. The manual excavation was undertaken in a stratigraphic manner, and features and deposits were recorded using *pro-forma* context sheets based on those designed by English Heritage's Centre for Archaeology (CfA); a list of contexts appears in *Appendix 3*. Sections were drawn at a scale of 1:20, and a photographic record was created in digital, colour slide, and monochrome print formats. Planning was carried out manually, and the plans were superimposed onto a digital topographic plan of the site (Figure 5).

### 2.3 WATCHING BRIEF

2.3.1 A programme of field observation recorded accurately the location, extent, and character of surviving archaeological features within the two pipe

trenches. The first pipe trench, which was 1.50m wide, extended north/south across the study area for a distance of 36m. The second trench was excavated through the footpath around the site and terminated at Union Road bridge, over a distance of 110m (Fig 5). This work comprised observation during the excavation for these works, the systematic examination of subsoil horizons exposed during the course of the groundworks, and the accurate recording of all archaeological features and horizons and any artefacts identified during observation.

### 2.4 FINDS STRATEGY

2.4.1 All artefacts were recorded using the same system as the contextual information, and were handled and stored according to standard practice, following current Institute of Field Archaeologists' guidelines. The assemblage was subject to analysis by the OA North in-house finds specialist and the results are presented in *Section 6*.

### 2.5 ARCHIVE

2.5.1 A full archive of the watching brief, evaluation, and building survey has been produced to a professional standard in accordance with current English Heritage guidelines (English Heritage 1991). The archive will be deposited in the Derbyshire County Record Office (Matlock), with a copy of the report given to the Derbyshire Sites and Monuments Record (SMR). An archaeological fieldwork record form will be forwarded for deposition to the National Monuments Record (NMR).

### 3. BACKGROUND

### 3.1 LOCATION

3.1.1 The study area is located within a conservation area known as The Torrs (SK 001852), and is positioned on the flat bottom of a deep natural gorge which runs through the centre of New Mills (Fig 1). The water power potential of the gorge brought about a wave of new industry in the late eighteenth century, with the introduction of 15 mills producing cotton and printing within the New Mills area. The development area lies in an approximately rectangular area, c40m by 250m, within the upstanding remains of the mill.

### 3.2 GEOLOGY

3.2.1 A carboniferous limestone plateau occupies much of north-west Derbyshire encompassing an open landscape, interrupted only by outlying hills standing above the plateau level. The plateau is almost encircled by a horseshoe-shaped stretch of land formed of grit, sandstone, and shale (Whitaker 1974). The formation of these conglomerates is absent in the southern margin of the limestone. East and south of the gritstone uplands is the lower ground of coal measures. The physical characteristics of this region is determined by the stratigraphy of shales and sandstones throughout the coal bearing sequence. The alternating layers of rock dips eastwards resulting in a distinct north/south grain to the landscape (Wolverson Cope 1976). Ridges of sandstone form the high ground with shale floored valleys in between.

### 3.3 TOPOGRAPHY

3.3.1 New Mills sits astride the river Goyt at its confluence with the river Sett; both rivers being deeply incised into a wooded sandstone gorge approximately 30m deep, known as the Torrs. The Torrs were particularly suitable for mill construction, with rocky waterfalls and cascades in the beds of the rivers (Brumhead 2002). This allowed the construction of weirs, and the provision of a steady supply of water. The sides of the gorge also provided a readily available source of sandstone for buildings.

### 3.4 HISTORICAL BACKGROUND

- 3.4.1 The historical background consists almost entirely of information from secondary sources. Many references derive from the desk-based assessment of the area undertaken by Oxford Archaeology North (OA North 2003). Direct references to the study area, and even to New Mills itself, do not really occur until the post-medieval period, and for this reason the historical background is fairly generalised until this point.
- 3.4.2 *Prehistory*: there is no evidence for any prehistoric activity around New Mills.

- 3.4.3 *Roman*: the area covered by the town of New Mills has produced no Roman remains.
- 3.4.4 *Medieval*: New Mills is almost entirely a product of the Industrial Revolution; there was no evidence of nucleated settlement in the pre-industrial New Mills region other than the ancient villages of Hayfield and Chapel-en-le-Firth.
- 3.4.5 During the Middle Ages, the area formed part of the Royal Forest of the High Peak in which the Manor of Thornsett contained seven hamlets along the river Sett on its course from Kinder Scout to the river Goyt (Anthony 1955). The name New Mill derived from a manorial corn mill situated in the hamlet of Ollersett in the Peak Forest, which Bunting stated was built '*some time prior to 1500*' (Brayles and Bunting 1940). However, according to Samuel Lewis in his 1831 account, its origins derive from the 1730s: '*until this time the inhabitants of the hamlets ground their corn at a mill in Hayfield, but after the division of the seven hamlets a century ago, a new mill was erected at Ollersett, hence the name New Mills'* (Bryant 1990). The nucleus of houses which built up around the 'New Mill' subsequently gave its name to the district, eventually changing to New Mills.
- 3.4.6 **Post-medieval:** in 1740 the area was divided; three hamlets remained attached to Hayfield, and four, Beard, Ollersett, Thornsett and Whitle, formed a separate township (*ibid*). During this time, agriculture in these regions began to give way to the rapidly developing cotton industry. This is demonstrated by Arkwright's initiative at nearby Cromford in 1771, where he took advantage of the water power available there and improved the preparation of cotton prior to spinning and its manufacture by means of his 'water frame'. Arkwrights method of housing multiple machines, gave rise to the expansion of water powered mills and the beginning of new factory-based industries in isolated regions.
- 3.4.7 No primary documentation has been found for the introduction of cotton spinning in rural workshops during the late eighteenth century in the New Mills area, although in 1789 Pilkington recorded that 'A considerable quantity of cotton is spun upon hand machines or wheels in the northwest part of the county' (Brumhead 1997). The developments of the spinning jenny, the water frame, and Arkwrights carding machine patent of 1775, brought about a transition into water powered machinery that would have a lasting effect upon the rural economy. This effect was reflected in the land tax assessments of 1796, which listed 15 mills or machines in the New Mills area (OA North 2003).
- 3.4.8 The first cotton mill in the area was established in 1785, and was owned by Thomas Beard a woollen manufacturer. Beard Mill represented the evolution of the woollen trade to the cotton trade in the late eighteenth century. There after, the developing industry no longer needed to rely on outsiders for mill-produced yarn (King 1979).
- 3.4.9 Little is known of the origins of Torr mill, but records indicate that the mill was built for the Schofield family around the 1780s (Brumhead 1996). Factory mills of this period generally had fairly small dimensions, frequently no bigger

than a barn, demonstrating the step change from cottage style economy to bigger industrial premises and the increased use of resources. Torr Mill in 1828 consisted of two mill buildings. The larger, which contained the water wheel, measured 28 yards by 15 yards, and the other 15 yards by 8 yards (OA North 2003). The width of the larger mill would accommodate spinning mules, as is confirmed by Crompton in his 1811 survey, in which he gives 2,808 spindles in Schofield's mill, twelve mules of 216 spindles and two mules of 108 spindles (Chapman 1967).

- 3.4.10 The first known occupier of Torr Mill was Samuel Schofield, a cotton spinner, who lived in a cottage on the site in 1808. Other records indicate that the properties, which included the mill and three mill workers cottages, were initially rented out to John Sheldon for the sum of £50 per annum (OA North 2003).
- 3.4.11 After a destructive fire in 1838, John Schofield leased the mill to John Roberts in 1841. When the tithe map was produced in 1841, the mill was of the same size as in 1828. Between 1841 and 1856 the mill was extended significantly to five storeys in height, with four ancillary buildings to accommodate the transition to steam power. A plan of the mill in 1892 depicts the room usage comprising; yarn warehouse, water wheel house and yarn store, carding and drawing room, and blowing room. The engine and boiler house were not recognised on the plan.
- 3.4.12 Until the 1840's the mills in the New Mills area were powered by the water wheel. Steam power brought about rebuilding of the mills around this time, however, cotton manufacturers in the area were discouraged by the expense of purchasing and installing steam engines, the large amounts of coal required and the difficulties of access. The water wheels were not taken out of use as they proved more economical when production levels were low (Brumhead 1997). Torr Mill was originally horse and water powered, *worked chiefly by water power conveyed from the River Goyt*' (1856 insurance document, OA North 2003) but in 1846 the mill was using steam power in tandem with the water wheel when the river flow was at its slowest particularly in the summer months. This change in power source for the mill was commemorated by a plaque placed on the chimney celebrating the advent of steam power.
- 3.4.13 By the early nineteenth century the growth of the cotton factory industry resulted in the development of new towns, and the expansion of New Mills; the new town spread up the valley and over the field of Torr Top estate. Turnpike roads were constructed as a result of the demand for improved communication. The primary source of transportation prior to the turnpike roads, was made via the Peak Forest Canal which ran from Whaley Bridge to Marple, an arm of which connected New Mills and opened in 1796. Torr Mill was depicted upon Brown's plan of the canal in 1793 as a cluster of three buildings (OA North 2003). The earliest road to reach New Mills was a branch road from Stockport in 1806, which ran across the Torr Top estate. This road has since become known as Market Street. In 1833, an Act of Parliament allowed long stretches of new roads to be constructed to the south and east of New Mills. Albion Road included a new bridge over the Peak Forest Canal, and the first high level bridge over the river Goyt near Torr Mill. The opening

of the high level Union Road bridge in 1884, joined Albion Road to New Mills, creating a major stimulus in the economic growth of the town.

### 4. EVALUATION AND SURVEY RESULTS

#### 4.1 INTRODUCTION

- 4.1.1 Summary results of the evaluation trench and the four 2m x 2m test pits are presented below. The context list is presented in *Appendix 2*, and the trench locations and features are shown graphically in Figure 6.
- 4.1.2 The survey results are also summarised below. The standing remains are illustrated on plan in Figure 5, and wall elevations in Figures 11 to 19.

#### 4.2 **TRENCH 1**

- 4.2.1 Trench 1 was located at the north end of the study area (Fig 5), positioned on a north-west/south-east alignment, measuring 8m x 5m over the course of the sewer pipe, and within the confines of the proposed sewer chamber. The trench was excavated to a maximum depth of 1.60m.
- 4.2.2 The trench was characterised by the remains of three contigious walls (103, 105 and 107) forming an enclosed internal space room (Fig 7), which possibly originated from an early phase of the mill. The walls were located in the vicinity of the workers cottage marked on the 1828 plan (Fig 2). The longest of these walls, 105, was of dry stone construction with a north/south alignment. It was exposed in the west-facing section of Trench 1 (Fig 10), running for 5m and to a maximum height of 0.80m. The fabric of the wall consisted of roughly-hewn, sub-rectangular and rectangular sandstone blocks measuring on average 0.40m x 0.20m, within a reddish-brown silty clay backfill 124 containing pottery sherds dating to the mid nineteenth century. A return of 105 (wall 107) was observed running east/west for a distance of 0.60m, in the northern area of the trench. In the southern area of the trench, wall 105 was butted by an east/west aligned wall (103), running for a distance of 2.80m (Plate 4). The full extent of these walls was indeterminate as the eastern edges were truncated by a 1m wide twentieth century sewer pipe (100) running north/south through the length of the trench (Plate 3, Fig 7).
- 4.2.3 Running below walls *103* and *107* were the collapsed remains of a northeast/south-west aligned culvert *104*. The culvert had dimensions of 3.58m by 0.40m and was partially capped with thin sub-rectangular sandstone flags. The base of the drain utilised natural bedrock *116*, shaped and rectified to create a slight sloping surface.
- 4.2.4 The walls were sealed by a 0.20m thick demolition layer *121* (Fig 10), comprising shingle, charcoal and fuel ash within a dark brownish-black sandyclay matrix. The layer spread for a distance of 4m across the trench and was clearly observed running 5m north in the west-facing section. The deposit represents deposition of material following the fire in 1838.
- 4.2.5 A further wall (117) was observed running into the north-facing section of the trench exposing a length of 1m and width of 0.40m, cutting a layer of

- 4.2.6 Layer 115 (Fig 7), disturbed bedrock and sand, was used as a levelling layer for an extensive mortared floor (111) in the west Trench 1. This surface measured 2.80m x 1.60m, and butted the perimeter wall which runs round the site (Plate 6). Surface 111 possibly represented a remnant of the floor of the original mill building. Subsequently, the surface was used as a bedding layer for a flagstone yard (109) made up of rectangular sandstone flags measuring 1m x 0.60m. The flags survived in the north area of the trench to a maximum length of 2.40m and width of 1.40m (Plate 5). A single flag of similar dimensions survived in the south butting wall foundation 117.
- 4.2.7 Overlying *117* was an 0.30m thick buried topsoil and demolition layer (*118*), composed of friable brown sandy-silt containing twentieth century debris. This was sealed by the bedding layer for an unsurfaced twentieth century footpath constructed as part of the Torrs Environment Scheme in 1974.

### **4.3 TEST PIT 1**

- 4.3.1 Test Pit 1 was located in the southern half of the mill site, and west of the area previously used as a picnic ground (Fig 5). The picnic area lay on a small mound, which was probably caused by upcast from the twentieth century demolition of the mill. The test pit was excavated to a maximum depth of 1.80m over the site of a proposed manhole.
- 4.3.2 The test pit was filled by loose twentieth century material comprising rubble, bricks, and modern plastics, within redeposited topsoil and heavily disturbed by tree roots. No features or deposits of archaeological significance were encountered in the test pit, although the depth of the debris could indicate the close proximity of a cellar, illustrated on the 1892 plan of the mill buildings (Fig 4).

### 4.4 **TEST PIT 2**

- 4.4.1 The pit was positioned 6m to the south of Test Pit 1, and 8.50m south of Trench 1 (Fig 5). It was excavated to the surface of the natural bedrock, which was encountered at a depth of 1.25m.
- 4.4.2 Cutting natural bedrock (220) at the base of the test pit was a corner return of a substantial external wall (202) (Plate 1, Fig 8). The dimensions of wall 202, within the limit of excavation, were 1.40m north/south and 1.50m east/west. The width varied from 0.80m to 1m. The fabric of the wall comprised five courses of rectangular, square, and sub-rectangular sandstone of various dimensions, exposed to a maximum depth of 1.2m down the north face (Plate 2). The upper course was 1.21m below the present ground level. The stone blocks were bonded by light brown, sandy, limestone-based mortar. The wall represents an early phase mill building (Fig 6).

- 4.4.3 Butting wall **202** at the same height on the west side of the test pit, was a dry stone wall **204** (Fig 8) seen in the east-facing section of the test pit. Extending on a north/south alignment for 1.10m, the wall had four courses of roughly hewn sandstone ranging from 0.10m to 0.50m in size. Removal of the larger stones in the section revealed further blocks of stone, extending in width by at least 0.30m, with noticeable reduction in stone size.
- 4.4.4 Sealing walls 202 and 204 was a greyish white, gritty-sand layer 201, interpreted as a bedding horizon or make up for a flagged surface (205). The layer varied in thickness and composition, gradually compacting at a level immediately below the flags.
- 4.4.5 The 0.10m thick sandstone flag surface **205** survived in the south and west area of the test pit, 0.40m below the ground surface. It was found at the same height as the flags encountered in Trench 1, and was probably a continuation of the same floor.
- 4.4.6 Overlying **205** was a 0.36m thick deposit of topsoil (**200**), containing an abundance of twentieth century demolition material comprising stoneware, glass bottles, and modern plastic.

### 4.5 **TEST PIT 3**

- 4.5.1 Test Pit 3 was located between Test Pit 1 and Test Pit 2 (Fig 6) and excavated to a maximum depth of 1.60m.
- 4.5.2 The test pit was characterised by a 0.70m wide east/west aligned wall (301) in the southern extent of the test pit (Fig 8). The upper three courses were dressed on the north face and bonded by a pinkish-white mortar, to a depth of 0.45m. Immediately below 301 was an earlier wall, 305, having a greater width than 301. The section of wall exposed comprised eight courses of rough-cut undressed sandstone, which protruded 0.40m from the lowest course of 301 (Plate 8). The location of the wall 305 possibly represents the north wall of the Water Wheel House, marked on the 1892 sketch plan (Fig 4).
- 4.5.3 Butting **301** in the eastern limit of the test pit, were traces of a north/south wall (**302**) seen extending beyond the pit. The west-facing section exposed five courses of rough cut sandstone. This construction may represent a partition wall within the Water Wheel House (Fig 6).
- 4.5.4 Butting 305 in the west of the test pit was a north/south aligned wall, 306, running for 1.2m. The wall was similar in fabric to 305 and probably contemporary in construction.
- 4.5.5 Sealing wall **306** was a 0.20m thick deposit of mortar-enriched tumble containing nineteenth century material (**304**), which became thicker in the north area of the pit, up to a maximum of 1.2m. The deposit comprised frequent gravel and mortar inclusions within a loose sandy-silt and yielded lead waste, ceramic building material and closely dateable pottery of no later than 1830 (see *Section 6.2.4* below).

- 4.5.6 Overlying **304** was a level deposit of coarse sand (**303**) used as a bedding layer for a course of flagstones **300** (Fig 8). The flagstones were exposed at a depth of 0.32m below the ground surface, and were spread evenly across the test pit for a distance of 2m x 1.60m, butting the lower course of **301** in the south, and continued beyond the north section. Four of the flags in the south had a row of square bolt holes, one of which contained iron residue. The upper surface of the flags to the immediate south of the holes was imprinted with shallow depressions, resembling pressure caused by a machine base (Plate 7, Fig 8). The flags could represent an internal ground floor surface of the Shed building marked on the 1892 plan (Fig 4).
- 4.5.7 Overlying *300* was a sequence of two demolition layers associated with the destruction of the mill in the early twentieth century. The thickest layer, *309*, measured 0.18m and contained building material rubble and nineteenth/twentieth century ceramics.

### 4.6 **TEST PIT 4**

- 4.6.1 The test pit was located at the southern edge of the study area (Fig 5), in the vicinity of the Cellar marked on the 1892 plan (Figs 4 and 6), and at the site of the proposed outflow chamber into the river Goyt. The area around the pit comprised a modified landscaped bank adjacent to the picnic area. The bank was composed of upcast demolition debris created from the 1974 Torrs Environment Scheme, and was bordered in the south by a stepped footpath. The test pit was excavated to a maximum depth of 2.30m after the removal of a 1.5m section of the bank by machine. The east and west sections were shored to prevent soil collapse from the test pit edges.
- 4.6.2 The bank demolition debris (402) overlaid a rectangular sandstone flagged surface 400, which extended throughout the pit at a depth of 0.75m below the footpath. The surface probably functioned as a working platform associated with access to the water wheel. The flags measured an average of 0.80m x 0.40m wide and of 0.10m thick, and in turn overlaid two sand bedding layers in the south of the test pit. In the north, the flags were laid directly over the brick roof of an arched drain (401), bonded to the bricks with mortar (Plate 9, Fig 9). Further north the flags butted a sandstone block wall (406) aligned east/west.
- 4.6.3 Drain **401** aligned north-east/south-west, was probably used to divert excess water from behind the water wheel pit, and from the source of water in the south-east known as the Goyt Leat (Fig 6). The fill of the drain was partially excavated to a depth of 0.70m in the west and 1m in the east and contained pottery dating no later than the nineteenth century. The roof contained two courses of bricks keyed in the centre by a layer of sandstone tiles laid side on (Plates 11 and 12).
- 4.6.4 The alignment of wall **406** would suggest a location for the south wall of the water wheel pit. The south-facing edge of the wall had been modified along the line of drain **401**, with chamfered and dressed edges demonstrating that this had taken place around the time of the drain insertion. The blocks

measured approximately 1m in width and showed upper surface depressions resembling machine bed scars. East of the scars, a north/south step or slot (410) had been inserted across the west edge of 406 (Plate 10). If the feature was used as a step, it could have provided access to drain 401 from the north. Alternatively, the feature could have acted as an overflow chute from the wheel pit.

### 4.7 SURVEY

- 4.7.1 Approximately one tenth of the mill existed as standing remains. Most of the structures derive from the later development of the mill after 1841; however, several features relating to the earlier mill also survive. These earlier features include: a single track stone bridge which crosses the Goyt to the south-west of the mill; the Goyt leat that crosses the river Sett in the south-east, remnants of two cottages built into the gorge rock face; and a section of the tail race surviving at water level along the north bank of the river Goyt, west of the Union Road Bridge. These structures were depicted on the 1828 plan of the property and represent the earliest standing remains on the site. The surviving elements of the post-1841 mill are concentrated mainly in the west of the site, particularly along the north bank of the river Goyt, comprising the remains of two single-storey ground floor buildings, and the external south wall of the mill (Figs 6, and 11 to 19). Further remains include a chimney observed east of Union Road Bridge (plate 11), and the present day footpath wall which runs along the same alignment to the exterior walls marked on the 1892 plan of the mill.
- 4.7.2 The remains of an 1828 cottage were recorded as standing to a height of 3m against the rock face of the gorge, to the north-east of the mill complex (Plate 18). The wall was constructed from sandstone and had irregularly spaced voids across its face, and a triangular-shaped internal buttress in the mid section. The cottage remains to the north-west of the mill (Plate 20) retained a section of internal brick wall, which projected from the rock face of the gorge, and a single sandstone gate post marking the entrance to the building, survived to the south of the wall, along the modern footpath.
- 4.7.3 The south-facing external wall of the mill, adjacent to the river Goyt, comprised five courses of rectangular dressed sandstone blocks representing foundations, which were overlain by random-coursed rubble, bonded by a lime mortar. The sandstone blocks may represent evidence for foundations of the earlier mill. Within the external face of the wall were four partially blocked windows and a number of rectangular sockets. The windows had been raised at least 1m from a lower position in the wall, and were quite possibly blocked at the time of the mill transition between 1841 and 1856. A socket positioned close to a window associated with the remains of the yarn warehouse to the west could have been used to position mounts for a machine inside the building. Further openings in the wall were observed close to the water level in the form of rectangular-and square-shaped holes probably used for drainage or venting air.

- 4.7.4 Five walls survive from the single-storey remains of the yarn warehouse at the west end of the mill complex (Figs 11 to 19). The external walls were constructed of faced rubble, whereas the internal face was squared sandstone laid in regular courses. The west side of the building (Plate 22) was accessed from a series of steps from ground level, through a wide arched doorway into the floor of the building (approximately 1m below the present ground level). The west elevation contained the remains of three windows at equidistant intervals, two of the windows had mouldings on sandstone lintels relating to mullions (Fig 13). Evidence of a fire was observed within the internal walls of the room with scorch marks streaked over the sandstone face. A single burnt timber was observed *in situ* within the blocking of a doorway within the north-facing partition wall (Figs 11 and 14).
- 4.7.5 Butting the dividing wall of the yarn warehouse, were the remains of two standing walls representing Building 1 on the 1892 plan (Fig 17 and 18). A comparison of the ground plans from 1856 and 1892, illustrate that little modification had taken place. There was no documentary evidence of the function of the building, although the ground floor was possibly used as an office. The west wall contained two large windows, one of which blocked a doorway (Fig 17). The north wall of the building angled at 45 degrees, returning sharply to the east terminating at a second entrance (Fig 15, elevation 8).
- 4.7.6 The chimney, built into the face of the gorge, was square in plan, and was constructed from brick and sandstone. The chimney survives up to a height of 20m rising up to the present road level of the Union Road Bridge (Plate 19). The base of the chimney contained evidence of a partially exposed stone arched flue. A landscaped bank surrounding the base of the chimney obscured the flue dimensions.
- 4.7.7 The dry-stone constructed footpath wall, which runs parallel to the river Sett, and borders the west area of the site, overlys the east and west walls of the building depicted as Shed from the 1892 plan of the mill (Fig 6).
- 4.7.8 There was no standing remains of the engine or boiler house relating to the transition to steam power.

### 5. WATCHING BRIEF RESULTS

#### 5.1 **INTRODUCTION**

- 5.1.1 The watching brief was conducted following the evaluation between June and November 2003. The deepest areas of excavation were in the vicinity of Test Pit 4 (outflow chamber) and Trench 1 (the filter chamber). Excavation between Test Pit 4 and Trench 1 was intended to comprise a narrow pipe trench with a maximum width of 1.50m, gradually widening near the areas of man-hole installation. The depth of the trench varied, dependent on ground build up, between 1m in the north of the site to 2.60m through the modified bank adjacent to the river Goyt.
- 5.1.2 An electricity cable trench was excavated along the edge of the unsurfaced footpath, to the east of the study area, within the site of the mill. The trench ran for approximately 110m heading south-west from the power supply kiosk on the footpath wall, to the retaining wall along the south bank of the river Goyt, underneath Union Road Bridge. The trench had a maximum depth of 0.65m.

#### 5.2 **RESULTS**

- 5.2.1 The extension of Test Pit 4 involved the removal of the modern footpath flags which butted the east/west external wall of the mill. Drain 401 (see Section 4.6.1) was fully excavated in this area to a 2m depth below the footpath. Lying above the drain and below the footpath was a 1.10m thick deposit of levelling material comprising twentieth century backfill. This material sealed a void within the lower courses of the external wall, and also served as backfill around 401.
- 5.2.2 The south wall (406) of the water wheel pit (see Section 4.6.4) was fully exposed within the pipe trench, revealing more sandstone ashlar blocks (Plate 14). One of the blocks had a bore hole inserted on the upper surface beneath slot 410. The wall was exposed to a maximum depth of 1.80m. The lower courses of the wall were bonded with light reddish-brown mortar particularly in the western extent. Further east the mortar was replaced by a sandy-silt infill which sealed a section of wall that had been rebuilt. The rebuilt section revealed a blocked arch bonded by bitumen-based mortar in the east, and a remnant of drain 401 to the west (Fig 9). The arch could be a residue of the drive shaft that serviced the water wheel, such as a high breastshot wheel. Alternatively, the arch may represent a modification to the pit during the period of change in water management in 1856 (see Section 7.1.9 below).
- 5.2.3 Behind the blocked arch, there was a ?machine-scarred sandstone block with a small bore hole and fixed iron fittings attached to its upper surface. North of wall **406** was a void stretching 2m across, and bordered by another east/west wall (Plate 13). The void probably represented the alignment of the water wheel pit. However, at a depth of 1.80m down the north-facing elevation of

**406**, the wall did not bear evidence of axle bearings or drive shaft scars associated with a water wheel. This suggests the wheel was located further east or west. The east/west wall north of the void was slightly different in fabric. The upper course was made up of sandstone at a depth of 1.40m below the bank overburden. The lower four courses comprised a buttress of orange bricks bonded by a bluish-grey ?waterproof mortar. The bricks rested on a 0.30m thick sandstone stepped foundation. Within this foundation was a 0.10m wide vertical shaft cutting the western end of the brick courses. It was not certain that the north wall was intended to border the wheel pit, as upon removal the deposit below comprised loose dark brown soil containing demolition debris.

- 5.2.4 In the vicinity of Test Pit 3, the pipe trench breached wall **301** (Section 4.5.2). The width of the wall measured 0.60m and was capped by square flagstones. The east and west trench sections also exposed the lower courses of wall **305** sitting immediately below **301**. The core of **305** was made up of flat stones laid horizontally and bonded by a light grey mortar. The deposits in this area consisted of a loose light yellowish-brown sand associated with wall backfill. The west-facing section also exposed a 4.4m length and 1.5m deep face of the north/south wall **302**. A total of six courses of roughly-shaped sandstone were built over modified bedrock, bonded by weathered lime mortar.
- 5.2.5 The pipe trench along the footpath exposed a cobbled surface 0.32m below the footpath-bedding layer. The cobbles quite possibly represent a yard area between the mill buildings. Near Union Road bridge in the vicinity of the bridge over the river Goyt, the cobbles were replaced by a series of sandstone slabs which have been interpreted as a floor surface. Overlying the slabs was a 0.20m thick deposit of ash and waste debris.
- 5.2.6 The ashy waste was evident in thin patches further south within the trench, and gradually thickened to 0.40m beneath Union Road bridge pillars. The waste could either be a result of rake-out from the chimney to the west of the footpath, or debris from the fire in 1912.

### 6. FINDS

### 6.1 INTRODUCTION

6.1.1 In total, 161 fragments of artefacts were recovered from the archaeological evaluation and watching brief. The bulk of the assemblage comprised ceramic vessel fragments (48 sherds), but also included glass (32 vessel fragments), iron (28 objects), lesser amounts of copper, lead, enamel, ceramic building material, clay tobacco pipe, animal bone, shell, and industrial residue. Catalogues of the artefacts have been included in *Appendix 3* in context number order. All finds were treated in accordance with standard OA North practice.

### 6.2 FINDS ASSEMBLAGE

- 6.2.1 *Ceramics:* the finds assemblage was dominated by a small collection of postmedieval pottery. In total, 48 sherds of pottery were retrieved mostly from topsoil deposits, demolition layers and wall backfills from the archaeological evaluation and watching brief. Analysis of the pottery was based solely on visual inspection of individual sherds, and has been described using the terminology developed by Orton *et al* (1993). In general terms, the material was in fair condition, and some fragments were clearly rolled and water worn. The date ranges suggested for these fabrics are approximate, and are based on parallels from fabrics discovered within the North-West region.
- 6.2.2 The bulk of the assemblage broadly dates to the twentieth century period, with smaller proportions dating to the late eighteenth and nineteenth centuries. A limited range of fabric types and vessel forms from the eighteenth and nineteenth century were represented within topsoil deposits across the site. These comprised ornaments, common domestic and utilitarian wares, and vessels serving an industrial function.
- 6.2.3 The eighteenth century material compriseD a flower relief red striped moulded Pearlware plate, a blue transfer plate with stipple decoration, and Creamware plates which ceased production in the early nineteenth century.
- 6.2.4 The nineteenth century was represented by: dark glazed red earthenware storage jars; brown and grey stoneware bottles and broth mugs, industrial slipware mugs of Staffordshire type; an English porcelain figurine, blue shell edge transfer-printed plates and a vegetable dish; and a variety of vessels made from glazed white earthenwares. A small group of material was of interest from deposit (304) sealed by flagged surface 300 in Test Pit 3. Amongst the three sherds was a style of rouletted industrial slipware that ceased production in 1830, and a closely dated Creamware plate. Although the group only accounted for three sherds, the date range of the pottery and other debris from the deposit could possibly represent the period prior to the 1838 fire. This hints that the flagstone yard surface was laid around the time of remodification of the mill in the 1840s.

- 6.2.5 **Glass:** the 32 fragments mostly derive from topsoil and modern demolition layers with just two fragments yielded from the back-fill of walls. The bulk of the assemblage dates to the twentieth century with a small amount dating to the nineteenth century. The vessels range from green beer bottles, battery lantern cases, tumblers and patinated window glass. Two wine bottle rim fragments dated to the nineteenth century were yielded from the back-fill of wall **105**.
- 6.2.6 *Iron:* all of the objects had suffered from severe encrusted corrosion products, and approximately 20% of the 28 objects were unidentifiable. The bulk of the identified objects related to debris from machinery, such as: gear cogs (3); clamps; a clasp arm; fixing plates; collars and binding strips. The remainder comprised miscellaneous industrial items, including nails (6) and a bucket handle. The objects were mostly recovered from demolition layers and topsoil deposits; however 19 machinery pieces were yielded from the area in proximity to the cellar (7) and wheel pit (12).
- 6.2.7 *Metalwork:* in total, five objects of reasonable condition were collected from back-fill deposits of walls and culverts across the site. The functions of the objects comprised articles for leisure; a 'Hedges' tin snuff box (fill *106*), dress accessories; copper button backfill *408*), household equipment; enamel bowl (backfill *124*), and industrial debris; lead strip (mortar layer *304*) and melted waste (backfill *213*). The objects have a date range of early to mid nineteenth century.
- 6.2.8 *Ceramic building material*: the material derives mostly from the machine clearing deposit *500*, demolition layers, topsoil, and levelling layer. A total of six fragments of orange moulded bricks were collected. One yellow refractory brick was recovered from machine clearance (*500*) close to the upstanding mill remains. The small amount of building material remaining on site was surprising, though it was probable that most of the demolition material was removed as part of the 1974 environment scheme.
- 6.2.9 *Clay Pipe*: a total of six stems (three burnt) were collected from *500*, topsoil and demolition layers. The stems were of a type probably used in the nineteenth century. The fragments were of negligible value and add little to aid interpretation of the site.
- 6.2.10 *Animal Bone:* the site yielded three cow fragments from demolition layers, and a bird (fowl) fragment from layer **304**.
- 6.2.11 *Shell:* a total of eight cockleshells were recovered from the machine-clearing layer that probably derived from river wash.
- 6.2.12 *Industrial Residue*: five lumps of slag with a ferrous content and a piece of coal were recovered from demolition layers. The slag could be discarded debris from a contemporary blacksmith's workshop that was in production to the north of the mill.
- 6.2.13 In conclusion, the finds assemblage is of limited archaeological significance and can add little to the interpretation of the site. The assemblage of iron

objects recovered from the wheel pit contributes questionable evidence for the wheel mechanism, although the pottery does provide broad dating for certain features exposed during the evaluation and watching brief.

### 7. SYNTHESIS

### 7.1 **DISCUSSION**

- 7.1.1 The building survey, evaluation and watching brief revealed evidence of at least three phases of mill structure and construction of ancillary buildings. The sketch plans from 1828, 1856 and 1892 (Figs 2 to 4) provided an understanding of the basic layout and development of the site. The 1828 plan illustrates the Schofield property as a small water- powered mill housed within two buildings and three rows of cottages. The 1856 plan reflects the changes of water management caused by a demand for a more reliable source of power, and modifications to the structure at the west side of the property. The more detailed 1892 plan demonstrates further expansion of the mill complex, and of the room usage during the period of steam-assisted power. The archaeology revealed during the evaluation and watching brief was linked to the general location of walls from the 1828 and 1892 plans.
- 7.1.2 The first phase of mill activity encompasses the period of ownership from the 1780s prior to reconstruction in the 1840s conversion to steam-power, when the mill was powered solely by a water wheel.
- 7.1.3 Evidence from the first phase of mill activity was found in Test Pit 2. Wall **202** demonstrated evidence for a north-east return of an external wall of the larger mill building, which in 1828 measured 28 x 15 yards. The wall showed evidence for re-use as a foundation for the later mill (wall **204**). Evidence of the larger mill building was also observed within the lower courses of the external south wall, reflected by large sandstone blocks similar in fabric to wall **202**. Evidence of the workers cottages marked on the plan were encountered in the west-facing section of Trench 1 (walls **103**, **105**, and **107**), and standing remains built into the gorge rock face. The south external wall facing the river Goyt had evidence of raised windows demonstrating the second phase of modification. Other surviving features from the first phase of mill activity include the Goyt leat, the tailrace, and the single-track bridge to the south-west of the mill.
- 7.1.4 Evidence of the fire in 1838 was discovered in Trench 1. Debris from this period was localised in the north area of the site sealing the cottage walls within Trench 1.
- 7.1.5 The second phase of activity concentrates on the development of the mill during the 1840s, until the second fire in 1912. By 1856 Torr Mills power transmission was coupled by steam and water wheel. The evidence of the introduction of steam was commemorated by an 1846 plaque placed on the chimney. No physical evidence of steam-operated machinery was encountered, nor the location of an engine or boiler house. However, modifications of the water wheel pit hinted at an attempt to improve water efficiency into the mill.

- 7.1.6 Two parallel sandstone walls were revealed in the vicinity of the area marked Cellar (1892 plan). The walls were separated by a 1.80m wide void. The walls contained bore holes and joints for machine fittings suggesting the position of a wheel pit. Surface details on the south elevation of the wheel pit wall (**406**), revealed a modification of the lower courses possibly relating to alternative water entry into the wheel pit.
- 7.1.7 The *Goyt leat*, dating to 1828, provided the main body of water into the mill prior to modification. A water lease management document granted to John Schofield in 1856 for the term of 71 years (New Mills Heritage Centre) mentioned the weir to the immediate south of the mill, which provided extra water entry to the water wheel house. This access was by means of a sluice or trunk below the Goyt Leat entering the mill at a lower level. This would suggest the replacement of water wheels from a high breastshot, to a low breastshot wheel to provide a more efficient water supply. Evidence of water entry was demonstrated in the south elevation of the south wheel pit wall, which revealed a blocked arch backfilled with river silt. Although no clear breach of the mill external wall was observed, the river silts indicate water may have entered the mill below the wheel pit wall. Dating of the blocked arch was difficult to determine, but the insertion of the overflow drain (401) in front of the wheel pit, possibly represents these changes in water management.
- 7.1.8 The third phase reflects the incorporation of steam power-assisted machinery and expansion of ancillary buildings, such as the construction of the Shed. By 1892 the mill had been significantly extended to five storeys in height and an additional four buildings erected. The upstanding remains from this period survive in the south-west area of the site. These include the single-storey remains of two buildings serving a multi-purpose function. The building in the south-west housed a Yarn Warehouse, the Watchhouse Office, together with a Store and Roving room. The adjoining building to the north existed on the 1856 plan, but had an unknown function. An amendment recorded on the 1892 plan, depicted a doorway that led out onto a yard, replaced by a window within the west-facing external wall of the building. The perimeter wall, which borders the present day footpath, lies along the same alignment as the exterior walls of the Shed.
- 7.1.9 The Shed housed a Blowing room on the ground floor, with Carding and Drawing rooms on the upper floors. Several features relating to the 1892 plan survived below ground within Trench 1, and Test Pits 2, and 3. Cobbled and sandstone flagged yard and floor surfaces were exposed in Trench 1 (109), Test Pit 2 (205), and Test Pit 3 (300), and along the footpath within the electricity cable trench. The cobbles represent the Yard area between the Cotton in Bale building and the Shed. Floor surface 300 in Test Pit 3 contained surface evidence of bolt holes and scars of machine bed impressions that possibly housed spinning machinery. The flagged surface in Trench 1 and Test Pit 2 were in the vicinity of the Shed and probably represent the floor level of the building.
- 7.1.10 Other archaeological evidence from this phase included; wall **204** in Test Pit 2, representing a temporary wall that was not recorded on any plan. Wall **301** in Test Pit 3 re-used an original foundation course overlaying a hardcore and dry-

stone construction 305. Other features associated with the later mill were encountered during the watching brief, close to Test Pit 3, comprising partition walls between the Cellar (wall 306) extending south, and the Yarn store (wall 302).

7.1.11 Debris from the fire of 1912 was encountered within the upstanding remains in the south-west corner of the complex. Scorch marks on the internal walls and *in situ* timber within the partition wall of the single-storey building remains a souvenir of this catastrophic event.

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showing



Figure 1: Location map



Figure 2: Plan of Torr Mill in 1828



Figure 3: Plan of Torr Mill 1856



Figure 4: Plan of Torr Mill 1892



Figure 5 : Trench location plan



Figure 6 : Detailed trench location and phase plan






Figure 9: Sections and plan of wheel pit in Test Pit 4







Figure 12: South-facing external mill wall



Figure 13: West-facing wall of yarn warehouse





Figure 15: North wall elevations of Building 1

Figure 16: East-facing internal wall of yarn warehouse











Figure 19: North facing internal wall of yarn warehouse



Plate 1: Wall 202, looking south



Plate 2: Wall 202, looking north



Plate 3: Trench 1 walls 105 and 103, looking south-east



Plate 4: Trench 1 wall 103, looking south



Plate 5: Trench 1 surface 109, looking north



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Plate 20: Remains of cottages to north-west of the mill complex, showing buttress



Plate 21: East wall of yarn warehouse showing picnic area



Plate 22: West wall of yarn warehouse

# APPENDIX 1: PROJECT DESIGN

Oxford Archaeology North

April 2003

# THE TORRS, NEW MILLS, DERBYSHIRE ARCHAEOLOGICAL EVALUATION, SURVEY AND WATCHING BRIEF

**PROJECT DESIGN** 

**Proposals** 

The following project design is offered in response to a request by United Utilities for an archaeological evaluation, survey and watching brief in advance of sewage improvements at the Torrs, New Mills, Derbyshire.

#### 1. INTRODUCTION

- 1.1 United Utilities (hereafter the client) propose to undertake improvements to sewerage works at the Torrs, New Mills, Derbyshire. The Derbyshire County Council Archaeologist (DCC) advised that a desk-based assessment should be undertaken prior to the proposed works being carried out. Following the completion of a draft assessment report (OA North April 2003), which suggested the potential survival for buried remains of the eighteenth century cotton mill to be present on site, a further programme of archaeological work was recommended for the site.
- 1.2 OA North has considerable experience of the assessment, evaluation and excavation of sites of all periods, having undertaken a great number of small and large-scale projects during the past 17 years. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables.
- 1.3 OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is an Institute of Field Archaeologists (IFA) registered organisation, registration number 17, and all its members of staff operate subject to the IFA Code of Conduct.

## 2 **OBJECTIVES**

- 2.1 The following programme has been designed to provide for accurate recording of any archaeological deposits that are disturbed by ground works for the proposed development.
- 2.1.2 *Evaluation, survey and watching brief:* a programme of trial trenching and test pits will be undertaken in conjunction with a survey of the standing remains and watching brief during assoicated ground disturbance, to determine the quality, extent and importance of any archaeological remains on the site.
- 2.1.3 **Report and Archive:** a report will be produced for the client within eight weeks of completion of the fieldwork. A site archive will be produced to English Heritage guidelines (MAP 2) and in accordance with the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990).

## **3 METHOD STATEMENT**

#### 3.1 BUILDING SURVEY

3.1.1 *Instrument survey:* the proposed plans and elevations will be surveyed by means of a reflectorless electronic distance measurer (REDM). The REDM is capable of measuring distances to a point of detail by reflection from the wall surface, and does not need a prism to be placed. The instrument to be used will be a Leica T1010 theodolite coupled to a Disto electronic distance meter (EDM). The disto emits a viable laser beam, which can be visually guided around points of detail. The digital survey data will be captured within a portable computer running TheoLT software, which allows the survey to be directly inserted into AutoCAD software for the production of final drawings.

- 3.1.2 Detail captured by the instrument survey will include such features as window and door openings, quoin stones, outline of industrial detail, an indication of ground and roof level, and changes in building material.
- 3.1.3 The following drawings will be produced:
  - (i) Ground plan showing outline detail of the standing remains on site (1:100);
  - (ii) Outline elevations of the standing remains for a total of approximately 300m of standing walls, and a height varying from 3.4m to 1.2m (1:50). This includes remains from both the eighteenth and nineteenth century mills.

#### 3.2 EVALUATION

3.2.1 Following the initial removal of overburden by machine a minimum 3% sample of the site will be subject to evaluation trenching/test pits:

1 x 8m x 5m trench (TR1) site of proposed chamber;

4 x 2m x 2m test pits (TP1, 3-5) site of power supply, outflow, service channel (x2) repectively;

1 x 1m x1m test pit (TP 2) site of manhole.

In all cases the overburden will be removed by machine (to be supplied by the client) under archaeological supervision to the surface of the first significant archaeological deposit. This deposit will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features. Thereafter all excavation will proceed by hand in a stratigraphic manner to the maximum depth required for the sewage improvements or as health and safety restrictions specify.

- 3.2.2 Any investigation of intact archaeological deposits will be exclusively manual. Selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal. It is hoped that in terms of the vertical stratigraphy, maximum information retrieval will be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features, which appear worthy of preservation *in situ*.
- 3.2.3 All information identified in the course of the site works will be recorded stratigraphically, using a system, adapted from that used by Centre for Archaeology Service of English Heritage, with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.
- 3.2.4 Results of all field investigations will be recorded on *pro forma* context sheets. The site archive will include both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20 and 1:10). All artefacts and

ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.

- 3.2.5 The deposition and disposal of any artefacts recovered in the evaluation will be agreed with the legal owner and an appropriate recipient museum prior to the work taking place.
- 3.2.6 Where environmental deposits are encountered, an appropriate sampling strategy will be agreed with DCC. (Environmental sampling would be subject to a variation to this project design).
- 3.2.7 *Health and Safety*: OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). A written risk assessment will be undertaken in advance of project commencement and copies will be made available on request to all interested parties.
- 3.2.8 *Site specific H&S:* tests undertaken on behalf of the client have shown that there is contamination present on site from lead, copper and zinc. The client will provide all necessary PPE and washing facilities. If ground water is encountered any excavation will cease immediately, and will not resume until the client has carried out tests for contamination and issued an instruction that it is safe to do so. All shoring, battering and pumps as required, will also be provided by the client. in addition the client will also be responsible for the storage/removal of all spoil that results from the archaeological evaluation. Safety notices and fencing will also be provided by the client. The archaeologists on site will at all times take instructions from the client's health and safety representative
- 3.2.8 OA North has professional indemnity to a value of  $\pounds 2,000,000$ , employer's liability cover to a value of  $\pounds 10,000,000$  and public liability to a value of  $\pounds 15,000,000$ . Written details of insurance cover can be provided if required.

#### 3.3 WATCHING BRIEF

- 3.3.1 *Methodology:* a programme of field observation will accurately record the location, extent, and character of any surviving archaeological features and/or deposits within the proposed ground disturbance. This work will comprise observation during the excavation for these works, the systematic examination of any subsoil horizons exposed during the course of the groundworks, and the accurate recording of all archaeological features and horizons, and any artefacts, identified during observation.
- 3.3.2 Putative archaeological features and/or deposits identified by the machining process, together with the immediate vicinity of any such features, will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and where appropriate sections will be studied and drawn. Any such features will be sample excavated (ie. selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal).

- 3.3.3 It is assumed that OA North will have the authority to stop the works for a sufficient time period to enable the recording of important deposits. It may also be necessary to call in additional archaeological support if a find of particular importance is identified or a high density of archaeology is discovered, but this would only be called into effect in agreement with the Client and the County Archaeology Service and will require a variation to costing. Also, should evidence of burials be identified, the 1857 Burial Act would apply and a Home Office Licence would be sought. This would involve all work ceasing until the proper authorities were happy for burials to be removed. In normal circumstances, field recording will also include a continual process of analysis, evaluation, and interpretation of the data, in order to establish the necessity for any further more detailed recording that may prove essential.
- 3.3.4 During this phase of work, recording will comprise a full description and preliminary classification of features or materials revealed, and their accurate location (either on plan and/or section, and as grid co-ordinates where appropriate). Features will be planned accurately at appropriate scales and annotated on to a large-scale plan provided by the Client. A photographic record will be undertaken simultaneously.
- 3.3.5 A plan will be produced of the areas of groundworks showing the location and extent of the ground disturbance and one or more dimensioned sections will be produced.

#### 3.4 ARCHIVE/REPORT

- 3.4.1 Archive: the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (Management of Archaeological Projects, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct. OA North conforms to best practice in the preparation of project archives for long-term storage. This archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the CSMR (the index to the archive and a copy of the report). OA North practice is to deposit the original record archive of projects (paper, magnetic and plastic media) with the appropriate County Record Office, and a full copy of the record archive (microform or microfiche) together with the material archive (artefacts, ecofacts, and samples) with an appropriate museum. Wherever possible, OA North recommends the deposition of such material in a local museum approved by the Museums and Galleries Commission, and would make appropriate arrangements with the designated museum at the outset of the project for the proper labelling, packaging, and accessioning of all material recovered.
- 3.4.2 The Arts and Humanities Data Service (AHDS) online database project *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.

- 3.4.3 **Report:** one bound and one unbound copy of a written synthetic report will be submitted to the client, and a further two copies submitted to the Derbyshire SMR within eight weeks of completion of fieldwork. The report will include a copy of this project design, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above and will include a full index of archaeological features identified in the course of the project, with an assessment of the overall stratigraphy, together with appropriate illustrations, including detailed plans and sections indicating the locations of archaeological features. Any finds recovered will be assessed with reference to other local material and any particular or unusual features of the assemblage will be highlighted and the potential of the site for palaeoenvironmental analysis will be considered. The report will also include a complete bibliography of sources from which data has been derived.
- 3.4.4 This report will identify areas of defined archaeology. An assessment and statement of the actual and potential archaeological significance of the identified archaeology within the broader context of regional and national archaeological priorities will be made. Illustrative material will include a location map, section drawings, and plans. This report will be in the same basic format as this project design; a copy of the report can be provided on 3.5" disk (IBM compatible format), if required.
- 3.4.5 Provision will be made for a summary report to be submitted to a suitable regional or national archaeological journal within one year of completion of fieldwork, if relevant results are obtained.
- 3.4.6 *Confidentiality:* all internal reports to the client are designed as documents for the specific use of the Client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.

## 4 **PROJECT MONITORING**

4.1 Monitoring of this project will be undertaken through the auspices of the DCC Archaeologist, who will be informed of the start and end dates of the work.

## 5 WORK TIMETABLE

- 5.1 OA North could commence the archaeological programme of works within two weeks of receipt of written notification from the client.
- 5.2 The survey is expected to take in the region of four days to complete.
- 5.3 The programme of trial trenching will take approximately 10 days in the field to complete.
- 5.4 The duration of the archaeological presence for the watching brief is as yet unknown, being dictated by the schedule of works.

5.5 The client report will be completed within eight weeks following completion of the fieldwork.

#### 6 STAFFING

- 6.1 The project will be under the direct management of **Alison Plummer BSc** (**Hons**) (OA North Senior Project Manager) to whom all correspondence should be addressed.
- 6.2 The survey and valuation will be supervised in the field by either an OA North project officer or supervisor experienced in this type of project. All OA North project officers and supervisors are experienced field archaeologists capable of carrying out projects of all sizes.
- 6.3 Present timetabling constraints preclude detailing at this stage exactly who will be undertaking the watching brief element of the project.
- 6.4 Assessment of the finds from the evaluation will be undertaken by OA North's in-house finds specialist **Sean McPhilips BA** (OA North project supervisor) and **Ian Miller BSc** (OA North senior project manager). Sean acts as OA North's inhouse finds specialist and has extensive knowledge of all finds of all periods from archaeological sites in northern England. Ian has a particular interest and knowledge of industrial remains.
- 6.5 Assessment of any palaeoenvironmental samples which may be taken will be undertaken by **Elizabeth Huckerby MSc** (OA North project officer). Elizabeth has extensive knowledge of the palaeoecology of the North West through her work on the English Heritage-funded North West Wetlands Survey

## 7 INSURANCE

7.1 OAN has a professional indemnity cover to a value of  $\pounds 2,000,000$ ; proof of which can be supplied as required.

Context	Site SubDiv	Description
100	Trench 1	Sewer pipe
101	Trench 1	Construction trench for 100
102	Trench 1	Sand and gravel back-fill of <b>101</b>
103	Trench 1	East/west cottage wall
104	Trench 1	Culvert
105	Trench 1	North/south cottage wall
106	Trench 1	Fill of <b>104</b>
107	Trench 1	East/west cottage wall
108	Trench 1	Topsoil
109	Trench 1	Flagged yard
110	Trench 1	Mortar bedding layer below 109
111	Trench 1	Mortared surface below 110
112	Trench 1	Cut for wall 113
113	Trench 1	Perimeter wall bordering Torrs footpath
114	Trench 1	Bedding sand below 111
115	Trench 1	Disturbed rock and sand
116	Trench 1	Natural bedrock
117	Trench 1	North/south wall
118	Trench 1	Demolition debris below 108
119	Trench 1	Bedding layer for unsurfaced Torrs footpath
120	Trench 1	Compacted gravel below 108
121	Trench 1	Demolition layer
122	Trench 1	Mortar and stone deposit
123	Trench 1	Sandy-red mortar bonding <i>103</i> and <i>105</i>
124	Trench 1	Reddish-brown silty clay backfill within 105
200	Test Pit 2	Topsoil

## APPENDIX 2: CONTEXT LIST
201	Test Pit 2	Demolition layer	
202	Test Pit 2	Corner return Wall	
203	Test Pit 2	Sand backfill	
204	Test Pit 2	North/south Wall	
205	Test Pit 2	Flagstone surface	
206	Test Pit 2	Bedding layer below 205	
207	Test Pit 2	Gravel layer below 200	
208	Test Pit 2	Same as 207 in southeast corner	
209	Test Pit 2	Crushed debris below 201	
210	Test Pit 2	Sandy gravel layer below 201 in northeast corner	
211	Test Pit 2	Same as <b>210</b>	
212	Test Pit 2	Lens of orange sand between 203 and 210	
213	Test Pit 2	Rubble backfill of 202	
214	Test Pit 2	Sand backfill of 202	
215	Test Pit 2	Burnt horizon within 214	
216	Test Pit 2	Burnt horizon within 203	
217	Test Pit 2	Gravel lens within 203	
218	Test Pit 2	Construction trench	
219	Test Pit 2	Fill of <b>218</b>	
220	Test Pit 2	Natural bedrock	
300	Test Pit 3	Flagstone surface	
301	Test Pit 3	East/west curtain wall	
302	Test Pit 3	North/south wall	
303	Test Pit 3	Bedding layer below 300	
304	Test Pit 3	Mortar layer below <i>303</i>	
305	Test Pit 3	East/west wall below 301	
306	Test Pit 3	North/south wall butting 305	
307	Test Pit 3	Backfill of <b>306</b>	
308	Test Pit 3	Foundation layer below 306	

309	Test Pit 3	Demolition layer
310	Test Pit 3	Mortar layer between 303 and 309
400	Test Pit 4	Flagstone floor
401	Test Pit 4	Culvert below 400
402	Test Pit 4	Demolition layer overlying 400
403	Test Pit 4	Mortar bedding layer below 400
404	Test Pit 4	Orange sand bedding layer below 403
405	Test Pit 4	Compacted cement layer below 404
406	Test Pit 4	Sandstone block wall (?south wheel pit wall)
407	Test Pit 4	Modern flag surface overlying 402
408	Test Pit 4	Sand backfill of <b>401</b>
409	Test Pit 4	Fill of <b>401</b>
411	Test Pit 4	Slot/step within 406
412	Wheel Pit	Fill between walls 406 and 413
413	Wheel Pit	North wall
414	Cellar	Backfill
500		General machine clearing layer across site

Context	Object	No	Material	Description	Date
106	1010	1	Tin	Hedges snuff box	20th century
108	1070	1	Glass	Beer bottle neck	19th/20th century
108	1071	1	Ceramic	Brown stoneware jug handle	19th/20th century
108	1072	1	Glass	Tumbler	20th century
108	1073	1	Ceramic	Partially glazed red earthenware	19th/20th century
108	1074	2	Plastic	Bakelite fitting	20th century
108	1075	1	Ceramic	Industrial spindle whorl	19th/20th century
108	1076	3	Ceramic	Industrial spindle whorls	19th/20th century
108	1077	3	Ceramic	Porcelain saucer, cobalt blue transfer saucer (imitation of 18th century decoration)	19th/20th century
108	1078	1	Ceramic	Brown stoneware	19th century
108	1079	1	СВМ	Brick	19th/20th century
108	1080	1	Ceramic	Stoneware ironstone pie dish	19th century
118	1001	1	Glass	Medicine Bottle	20th century
118	1003	1	Clay pipe	Stem	19th century
118	1004	3	Ceramic	Flower relief red striped moulded pearlware plate, porcelain figurine, glazed white earthenware saucer	Late 18th to early 20th century
118	1005	1	Glass	Battery case	20th century
118	1006	1	Ceramic	Red earthenware inverted bowl	19th/20th century
124	1008	3	Glass	Clear vessel fragment	19th/20th century
		1	1		

## **APPENDIX 3: FINDS LIST**

124

1009

3

Ceramic

Willow pattern plate, blue shell edge

Mid 19th to

				vegetable dish, pink transfer sheet pattern mug	early 20th century
124	1011	1	Enamel	Bowl	20th century
200	1002	2	Ceramic	Biddle brown stoneware bottle	1930
200	1026	1	Iron	Strip	Not dated
200	1027	1	Bitumen	Lump	Not dated
200	1028	1	Animal Bone	Cow	Not dated
200	1029	2	Glass	Clear lemonade bottle	20th century
200	1030	1	Slag		Not dated
200	1031	2	Clay pipe	stems	19th/20th century
200	1032	1	Ceramic	Brown stoneware lidded jar	19th/20th century
200	1033	2	Glass	Blue and green body frags	19th/20th century
200	1034	1	Glass	Milk bottle base	20th century
203	1055	1	Glass	Clear vessel	20th century
213	1015	1	Iron	Collar	19th/20th century
213	1016	1	Lead	Folded waste	19th/20th century
213	1017	3	Ceramic	White stoneware jam jar, stippled blue transfer plate, red earthenware jug	Late 18th/early 19th century
303	1046	1	Slag		Not dated
304	1035	4	Iron	Nails (3), bar	Not dated
304	1036	2	Iron	Arrow pin, riveted strip	Not dated
304	1037	2	Coal		Not dated
304	1038	13	Glass	Window	19th/20th century
304	1039	3	Ceramic	Rouletted industrial slipware (1800- 1830), Creamware, white glazed earthenware	Late 18th to 20th century
304	1040	1	Lead	Strip	Not dated

304	1041	4	Mortar		Not dated
304	1042	1	Animal Bone	Bird	Not dated
304	1043	2	СВМ	Brick fragment	19th/20th century
304	1044	1	Ceramic	Rouletted stoneware bowl	Late 18th to early 20th century
304	1053	2	Wood	Iron stained, decayed	Not dated
304	1054	1	Slag		Not dated
402	1056	1	Slag		Not dated
402	1057	2	Iron	Binding	Not dated
402	1058	1	Ceramic	Drain pipe	20th century
402	1059	1	СВМ	Brick	20th century
402	1060	1	Mortar		Not dated
402	1061	1	Iron	Strip	20th century
402	1062	1	Ceramic	Teapot spout with pink lustre ware type decoration	19th/20th century
402	1063	1	Glass	Green vessel	19th century
402	1064	1	Ceramic	Encrusted dark glazed red earthenware jar	18th to 20th century
402	1065	1	Ceramic	Water worn white glazed earthenware	19th/20th century
402	1066	1	Iron	Object	Not dated
402	1067	1	Bitumen		Not dated
402	1068	5	Ceramic	Rouletted stoneware, blue transfer hollow ware, 2 industrial slipware mugs	Late 19th to early 20th century
402	1069	1	Clay pipe	Stem	19th/20th century
408	1007	7	Copper	Button	19th century
408	1093	5	Iron	Nails(2), objects(3)	Not dated
409	1045	6	Ceramic	White slip glazed red earthenware, blue transfer bread crock, enamelled transfer plate	Mid 19th to 20th century

411	1081	1	Ceramic	Blue transfer moulded dish	19th century
411	1082	3	Iron	Cog, bar, bearing ring	19th/20th century
412	1085	2	Iron	Grooved disc, object	Not dated
412	1086	1	Iron	Square plate fitting	Not dated
412	1087	1	Iron	Rod attached to rectangular plate	Not dated
412	1089	2	Iron	Cog and circular fitting	Not dated
412	1090	1	Iron	Disc	Not dated
412	1091	2	Iron	Bolts	Not dated
412	1092	1	Iron	Clamp	Not dated
414	1088	1	Iron	Curved linked strip	Not dated
500	1012	1	СВМ	Fire brick	19th/20t century
500	1013	1	Ceramic	Creamware	Late 18th to early 19th century
500	1014	1	A.Bone	Cow	Not dated
500	1018	8	Shell	Cockles	Not dated
500	1019	2	Clay pipe	Stems	19th/20th century
500	1020	5	Ceramic	Porcelain saucer with flower enamel dec, glazed white earthenware bowl industrial slipware collarware jug	Not dated
500	1021	2	Ceramic	Stoneware broth mug, industrial slipware mug	Late 18th to early 19th century
500	1022	1	СВМ	Brick	19th/20th century
500	1023	1	Glass	Clear bottle	20th century
500	1024	1	Glass	Battery case	20th century
500	1025	2	Ceramic	Glazed red earthenware bowl	19th /20th century
500	1047	1	Slate		Not dated
500	1048	1	Glass	Shot glass	20th century
500	1049	1	Animal	Cow	Not dated

			Bone		
500	1051	1	СВМ	Brick	19th century
500	1083	2	Ceramic	Rouletted stoneware, cobalt blue transfer saucer	19th century
500	1084	1	Glass	Clear jar rim	19th century

Key: CBM - Ceramic building material