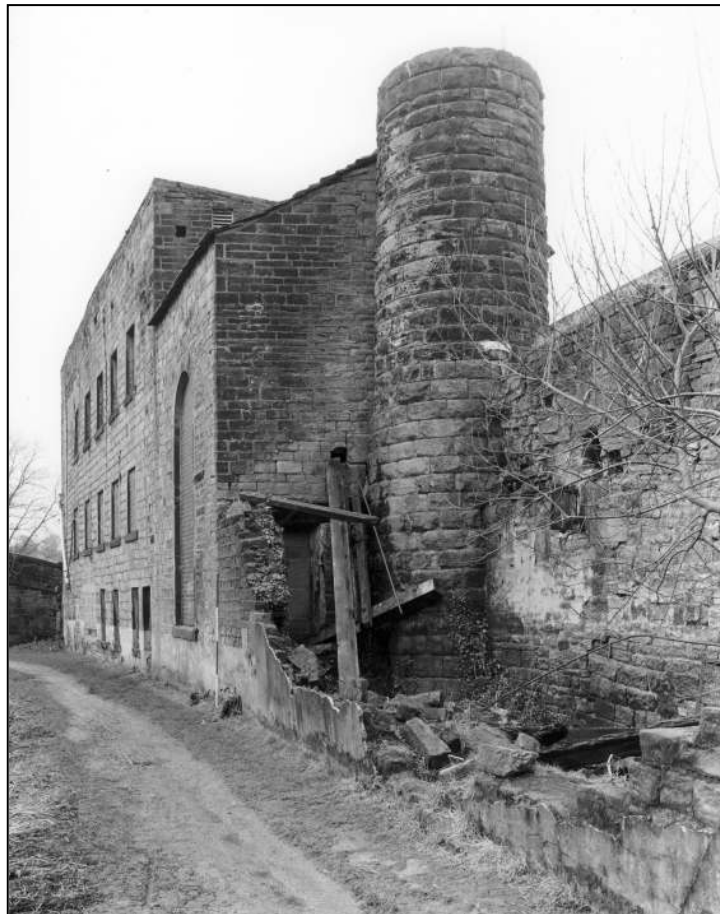


Alexandra Shed
Hawks Clough, Mytholmroyd, West Yorkshire:
Historic Building Record



June 2013
NGR: SE 00736 26361
Historic township: Wadsworth

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SUMMARY

Alexandra Shed, which stands alongside the Rochdale Canal (NGR: SE 00736 26361), originated as a steam-powered cotton spinning mill in the early nineteenth century, and the engine house and spinning mill from this phase survive largely intact. Later in the nineteenth century a weaving shed was added. Historic building recording, comprising photographic and drawn surveys, was carried out between February and May 2013 before and during demolition for the developer Candelisa Thorpe LLP, to fulfil a condition of planning consent for a residential development.

June 2013

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ALEXANDRA SHED, HAWKS CLOUGH, MYTHOLMROYD, WEST YORKSHIRE:

HISTORIC BUILDING RECORD

1 Introduction

- 1.1 This report presents the results of historic building recording of Alexandra Shed (also known as Alexandra Mill), an early nineteenth century textile mill which remained in use into the early twenty-first century, at Mytholmroyd in West Yorkshire. The work was carried out between February and May 2013, and was commissioned by the developer Candelisa Thorpe LLP, to discharge a condition attached to planning consent for the demolition of the mill and its replacement by ten dwellings.
- 1.2 Alexandra Shed stands next to the Rochdale Canal and was probably first established as a steam-powered cotton spinning mill in the early nineteenth century, but was extended on a number of occasions, with a substantial weaving shed being added later in the century.
- 1.3 The recording work was carried out in accordance with a specification from the West Yorkshire Archaeology Advisory Service (WYAAS) (Appendix 1), and involved photographic, drawn and written recording. This report will be submitted to the client, the West Yorkshire Historic Environment Record and the West Yorkshire Archive Service, and will be published on the internet via the OASIS project (ID: stephenh1-146214).

2 Location and current use

- 2.1 Alexandra Shed stands near the west end of the village of Mytholmroyd on the north bank of the River Calder, in an area known as Hawks Clough, occupying a strip of land between the A646 Burnley Road and the Rochdale Canal (figure 1). The national grid reference for the site is SE SE 00736 26361 and the postcode is HX7 8NL. The site lies at 95m above sea level, and its east end is defined by Bings Road, which leads north to Broad Bottom. The north side of the site lies immediately adjacent to the canal towpath, but the west and south sides are more irregular and run close to adjoining terraced houses. There is only a short length of frontage along Burnley Road, which now provides the main access to the mill.
- 2.2 The site has been disused for about ten years. Its last known use was as the premises for Blenders and Sliverers Ltd, who processed wool and other textiles.

- 2.3 A total of seven separate structures can be identified within the mill complex, as shown on figure 2. These include the three storey building at the north-east corner (1), with the engine house and chimney adjoining its west end (2), and the long, narrow boiler house beyond, also fronting the canal (3). The large weaving shed (4) adjoins the south side of the boiler house and a covered yard stands to the east of here (5). Between this and Burnley Road is a warehouse (6) and a smaller store (6), which also served as the vehicular entrance to the site.

3 Planning background

- 3.1 The mill is not listed as having special architectural or historic interest and does not lie within a conservation area. Planning consent was granted by Calderdale Council on 7 September 2012 for the demolition of the existing mill and the construction of ten dwellings, access and parking spaces (application number 12/00761/FUL), and condition No. 20, attached at the request of the council's archaeological advisor, WYAAS, requires archaeological recording before development or demolition. This report and the project archive are intended to allow this condition to be discharged.

4 Previous investigative work

- 4.1 A heritage statement produced for the developer during a previous planning application contains a detailed desk-top study of the site and an assessment of the existing remains¹, and information from this has been used in compiling the history of the site given below, as no new documentary research was required by the WYAAS specification. The site was also previously visited by the Royal Commission on Historic Monuments of England during their study of Yorkshire textile mills in the 1980s or 1990s², and by the West Yorkshire Archaeology Advisory Service in 2008³, both of whom provided brief descriptions and analyses.

5 Historical background

- 5.1 The date at which Alexandra Mill was established is not known, but a *terminus post quem* is provided by the adjacent canal and bridge, up to which the mill was built: the act of Parliament for the Rochdale Canal was made in 1794, so the mill cannot have been built before then. There is a suggestion that there was previously a fulling mill with medieval origins at or near the site, but if so, no part of it is believed to survive in the existing structure. According to SLR Consulting, the earliest documentary reference to the present building is from the 1840s, when it was run by the brothers Charles and Henry Horsfall, who spun cotton

¹ SLR Consulting Ltd 2011 *Alexandra Shed, Hawksclough, Mytholmroyd: Heritage Statement*

² English Heritage Archives ref BF062690

³ West Yorkshire Historic Environment Record PRN 10263).

there, but their partnership eventually filed for bankruptcy in 1878, by which time the mill was known as Hawksclough Shed, and used for cotton manufacture (which implies weaving)⁴. The name "Alexandra Shed" is supposed not to have been coined until a later date, and was perhaps intended to celebrate Princess Alexandra, who married King Edward VII in 1863. Following the Horsfalls' failure, the mill was run by the Crossleys of Clough Mill in Hebden Bridge, and in 1912 by Roger Shackleton and Co.⁵

- 5.2 The first edition Ordnance Survey 1:10560 map, surveyed in the late 1840s, shows a cluster of buildings standing between the canal and Burnley Road, but not extending to the west as far as the present weaving shed. The establishment is not named on this map, and should not be confused with another building to the west also fronting the canal, named "Hawks Clough Mill (Cotton)", a factory which is thought to have been in existence by 1825⁶. On the Ordnance Survey 1:2500 map of 1894, the mill was named "Hawks Clough Shed (Cotton)", and the buildings appear to have reached their present extent. The revision of 1907 shows it similarly but notes it as being disused, while the 1921 edition shows it as "Alexandra Shed (Cotton)", implying that it had been brought back into use.
- 5.3 The early nineteenth century was a time of rapid change and innovation in textile production, and cloth manufacturing was a key part of the industrial revolution taking place at the time. Productivity in cotton spinning had been increased in the late eighteenth century by the development of the jenny, followed shortly afterwards by the water frame and then the mule, with these machines at first being driven by water power, but towards the end of the century increasingly by steam power. On the other hand, the mechanization of cotton weaving lagged behind that of spinning, and hand-loom weaving remained the only way of producing cotton cloth until power-looms began to be widely introduced in the region in the 1820s. Hand-loom weaving was most commonly carried out at the homes of the weavers rather than in factories, though some manufacturers constructed loom-shops to accommodate groups of them under a single roof, to enable greater control of production. Power-loom cotton weaving, whether water or steam-driven, was however by necessity concentrated within a factory, and the single storey weaving shed became the favoured building type to accommodate this process, with the first examples in Yorkshire only dating from about 1830⁷. Nearby Hebden Bridge specialised in the production of fustian (a dense cotton fabric with a piled finish), to the extent that by the late nineteenth century it had become known as "Fustianopolis", and as such was a great

⁴ *London Gazette* 12 March 1878, p1992

⁵ Further details of ownership and the nature of production at the mill during the nineteenth century might be revealed by a more thorough historical survey than that undertaken by SLR Consulting for the heritage statement, particularly by a more detailed study of trade directories

⁶ Ingle, G 1997 *Yorkshire Cotton* p143

consumer of cotton yarn and cloth, and Mytholmroyd also had a number of mills involved in fustian production.

- 5.4 The mill's location next to what was then the new canal would have conferred two separate advantages: the more obvious was the opportunity to transport raw materials and finished goods by boat, rather than by wagon or pack horse, and the second was the chance to use water from the canal in the steam engine.
- 5.5 In summary, based on the firm details available, the early historical evidence for the mill is poor, and it is only in the 1870s that it is certain it was being used to weave cotton, so it is likely that it was first established only as a steam powered spinning mill, probably between the 1820s and the 1840s.

6 Recording methodology

- 6.1 The recording was carried out in accordance with the specification issued by WYAAS (Appendix 1), between 15 February and 1 May 2013, and comprised drawn, photographic and written records. The main phase of work followed the removal of boarding from the interior of the engine house, which had previously been converted to an office.
- 6.2 The drawn record was confined to the engine house, chimney and boiler house, and involved the production of a floor plan at 1:100 scale, together with internal elevation and section drawings of the engine house at 1:50, showing all significant archaeological detail and using conventions based on those specified by English Heritage⁸.
- 6.3 The photographic record was made of the entire complex, using a medium format camera with perspective control and other lenses, and black and white film for archival permanence. External and internal photographs were taken, in most cases using either a 1m or 2m ranging pole marked with 0.5m graduations as a scale, and their locations are shown on copies of the plans. All the photographs are copied in this report, and in the following description they are referred to by numbers in **bold**. A small number of photographs was also taken using a digital camera (see Appendix 2).
- 6.4 Following the main phase of work a meeting was held with WYAAS to approve this stage of recording before demolition began. Further recording then took place during the demolition of the engine house, as a "watching brief".

⁷ Giles C & Goodall I H 1992 *Yorkshire Textile Mills 1770-1930* p39

⁸ English Heritage 2006 *Understanding Historic Buildings: A guide to good recording practice*

7 Description of the buildings

Building 1: spinning mill

- 7.1 The former spinning mill at the north-east corner of the site is a substantial three storey structure, up to seven bays long and two bays deep, with an irregular plan dictated by the canal and Bings Road; originally there was a wing at its south-east corner, but this appears to have been replaced by the present covered yard (building 5). The mill has walls of coursed, watershot gritstone with plain dressings, and originally had a stone slate roof, but this was taken down in the twentieth century and replaced by a single pitched roof covered with metal sheeting; a photograph of 1910 shows the previous roofing arrangement, from the north side⁹.
- 7.2 The mill is best seen from the canal side, where it presents an elevation of well finished stonework, continuing to the west as the north side of the adjacent engine house, and the less well preserved remains of the boiler house (1-4); at the east end the manner in which it has been built over the canal bridge abutment is clearly seen (5). There are various ground floor openings in this side of the mill, all now blocked to some degree, and including at least two doorways (bays three and seven) as well as window openings of different forms (6-8), evidence that access to the canal, no doubt for taking in and passing out goods, was important. The first and second floor openings in this north side comprise only windows, and are confined to bays three to seven; east of here are the remains of a chimney serving at least one fireplace, more clearly seen in the 1910 photograph. The north-east corner of the building is chamfered above the bridge abutment pier (9), and the east gable, where the first floor of the building is at road level, has a central pair of doorways for pedestrian use, with a window to either side, the southern one having been enlarged into a taking-in doorway for road transport (10). A second taking-in door has also been contrived from a window on the floor above (11,12). There is an unusual vertical projecting jamb near the present south-east corner of the mill, just to the north of the present down-pipe, and which rises to the eaves: no explanation other than decoration has been found for it.
- 7.3 In the south side of the mill, the former presence of the demolished south-east wing is clear from the area of render, within which the former roof pitches are preserved, just below the present eaves (13,14); otherwise, the extent of this wing cannot readily be established from the surviving structures, though Ordnance Survey maps suggest its south end was on the line of the present building 5. Otherwise, the majority of the south elevation contains a row of five bays of openings, all of which on the first and second floors are windows, but on

⁹ http://www.fieldhead.net/Mytholmroyd_1860_to_1920.htm accessed 17 May 2013

the ground floor the arrangement has been altered to such a degree that it is not clear which of the existing doors and windows were original entrances (15-19).

- 7.4 A substantial masonry wall on the building's ground floor separates the east end of the mill, to form a small fireproof area, but the larger west end has a more traditional structure comprising a central row of cast iron columns supporting timber beams and joists, the columns all plain and lacking bolting faces (20-23). Much of the space is taken up by brick-built WCs and modern plant, but a flight of timber stairs stands near the west end and incorporates hinged boards so as to enable goods to be slid down, though this stair is unlikely to be an original feature of the building (24-25). There is a doorway through to the engine house at the north-west corner, and a large wall box for a horizontal shaft, which must have been used to drive machinery on this ground floor.
- 7.5 At the east end, the fireproof room has a ceiling of brick jack arches supported on cast iron beams, their west ends resting on the masonry wall, which does not tie in to the outer walls, but may nonetheless be an original component (26-30). There are blocked openings in the north wall and recesses in the east side, but no firm indication of any processes which might have taken place within this area, though they were presumably activities which had a higher incendiary risk. An alternative explanation is that the creation of the first floor taking-in doorway in the east gable required stronger support than the original timber floor could withstand, so the jack arching might simply have been introduced at a later date for this reason.
- 7.6 The first floor of the spinning mill comprises a single undivided space (except for the modern plant), also with a central row of columns supporting the timber second floor; the westernmost column has four bolting faces, but the others are all plain, and at the east end a large timber post serves the same purpose (31-34). There are indications of the former vertical shaft which seems to have risen up the west end of the building, next to the engine house, in the form of a large bracket, though this may of course not be original, and perhaps was put in when the mill was extended and power was required to the south of the spinning mill (35-37). A large fireplace with chamfered mantelshelf, which probably housed an iron range, stands in the north-east corner of this floor, and is a significant feature of the building; it does not appear to have been in its own space, enclosed from the main working area (39,40). Close to it, and of twentieth century date, is one of two staircases leading to the second floor. The other staircase (also unlikely to be original) is in the north-west corner (42).
- 7.7 Modern alterations on the second floor mean that there is very little of interest; there are plasterboard partitions dividing the area into offices, though these appear never to have been finished. However, within the ceiling the tie beams of the original roof trusses can be seen, together with some of the attached iron

straps etc (43-45). The floorboards of the original third, attic floor are also largely intact, though there is no access to that upper level as the roof now rests on top of it.

Building 2 (engine house and chimney)

- 7.8 The largely intact vertical house and its much truncated chimney stand at the west end of the mill, where these three components can be seen to have been built contemporaneously as an integrated group, as is clear from the stone coursing at lower levels. The engine house faces onto the canal, this north elevation being distinguished by the tall, arched window, so characteristic of the building type (46-48). In plan, the building is a right-angled trapezium rather than a more regular shape (as with the mill, an aspect dictated by the plot boundaries), and it is the south side, perpendicular to its neighbours, to which the engine was attached. The engaged circular base of the chimney adjoins the south west corner, and the remains of the boiler house stand to the west (49-50), its interior connected with the engine house by means of a doorway opposite that leading into the mill (51). The upper parts of the engine house are of notably thinner stone courses, particularly to the south side, a difference which is thought to reflect reduced structural requirements rather than phases of construction, and the roof is of stone slate, indicative of an early rather than a late nineteenth century date.
- 7.9 Much of the historical arrangement within the engine house can be deduced from the surviving remains, though its alteration to an office (with poured concrete floor) and the extensive presence of wool waste from more recent manufacturing hindered interpretation. It is reported however that the weaving shed was still powered by a steam engine into the second half of the twentieth century,¹⁰ quite possibly by the original one.
- 7.10 The building has a small floor area, its sides being only some 4m long, but from the present floor to the ceiling is about 7.3m, proportions which indicate it was intended to house a small vertical engine, a type of steam engine popular in the early nineteenth century textile industry, especially in smaller mills. The changes to the mill over its life and the construction of the large weaving shed no doubt resulted in minor alterations to the engine house, and conceivably the original engine's replacement, but it is not possible in all cases to establish with total certainty which, of the surviving features owe their existence to such changes.
- 7.11 The engine was located in the south part of the building, and a bearing for its flywheel (now occupied by modern plant) exists high up in the south wall, and this arrangement, with the flywheel parallel with the main drive into the mill,

¹⁰ Local resident, pers comm

rather than perpendicular to it, is indicative of a vertical, rather than a beam engine. This wall is covered with a thick layer of black grease from many years of lubrication, but within it is a pair of smaller openings below the bearing, with the remains of vertical fastening rods which must once have held the flywheel axle in place (52,53; see figures 8 & 9). To the east of these is a cast iron box for a shaft passing into the large weaving shed beyond (54), likely to have been introduced when that building was added in the late nineteenth century. These bearings can also be seen, to some degree, from outside the engine house (55,56). The remains of a timber partition which enclosed the flywheel about 0.6m from the south wall survive in the west side of the engine house, and this structure must have spanned the width of the room, to judge from the manner in which the grease is confined to this narrow strip, in both east and west sides (57,58). To the north of this partition there are sockets in these side walls, which together with remains of a skirting board, show where there was formerly a suspended timber floor, 0.6m above the present concrete one (59). There was also an upper gallery 2.9m higher than this, which spanned the room but seems to have been only 1m or so wide (60,61). Below the main timber floor there is a blocked pipe in the west side of the building, in line with the chimney, but its function is not known (62); any stone engine base below the timber floor is now buried by the modern concrete.

- 7.12 There is further evidence for the transmission of power out of the engine house in its east side, where a cast iron wall box, believed to be original, embossed with the number 101 and with a distinctive profile, would have held a shaft running into the ground floor of the spinning mill (63,64). Also visible above this are the bolts of the bracket identified on the first floor of the mill (65; see paragraph 7.6 above).
- 7.13 The interior of the engine house was plastered and decorated historically, as was commonly the case with the building type, which had a high status within the textile mill as the source of power. At Alexandra Shed the decoration comprises a dark green paint up to dado height, where a thin black line demarcates the upper part, here given a plain white colour (66-68). There is also a lath and plaster ceiling at eaves level, where there is a pair of sturdy timber beams running north-south, both with hoisting eyes in their undersides, and these would have been essential in installing and maintaining the engine (70). Above the ceiling is a small roof space, only revealed during demolition; the roof itself is supported on three purlins (71,72).
- 7.14 There is little detail to be observed of the remains of the chimney, which was reduced in height substantially in the late twentieth century. The 1910 photograph noted previously shows it standing to an estimated 21m above the canal tow-path, nearly twice the height of the multi-storey mill's roof and so a prominent local landmark, but at present it is approximately level with the engine

house roof. A north-facing opening at ground level, within the boiler house, is the entrance to the flue (73).

- 7.15 During the demolition of the engine house, the only hitherto unknown details recorded as part of the watching brief were at roof level, as the rapid method of dismantling of the building once the slates had been salvaged was by large excavator, which prevented any useful observations being made.

Building 3 (boiler house)

- 7.16 This structure forms a long, narrow, tapering structure running alongside the canal towpath to the west of the engine house, which is now roofless, partly collapsed and filled with vegetation and building debris, although the south side, which stands to full height, also forms the north side of the weaving shed. It is assumed to be the boiler house by virtue of its position next to the engine house, and the apparent absence of any alternative accommodation at the site for a boiler, though there is no definitive evidence for this supposed use, and it can be shown to be later in date than the engine house and mill.
- 7.17 The standing parts of the north elevation are of watershot sandstone, the courses of which run through from the engine house, but a large part of this wall is rendered (74-76). It is significant that this building is not depicted on the Ordnance Survey 1852 1:10,560 map, so it may be that this formed a boundary wall originally, and was made into a roofed building at a later date, most likely when the weaving shed was added in the subsequent forty years or so, a supposition borne out to some degree by the observation that its south side is less well built (77), and butts up to the chimney.
- 7.18 There is an entrance into the building from the tow-path, and a doorway nearly opposite this in the south side, at a lower level, with a third such opening at the east end, leading into the engine house (78-82). There are the remains of a timber hoisting frame near this, which was partly supported by the chimney. There are various other, miscellaneous features within the structure, none of which gives a clear indication of function: they include a high level wall box of cast iron (83,84), a sealed-off iron box or duct at a low level, partly buried (85), an opening with cast iron door which appears to have been re-used from a cooking range or boiler (86), and a vertical timber with slot next to the doorway to the weaving shed. The building narrows almost to a point at the west end (87), and remains of the lean-to roof structure remain in place here, incorporating a cast iron bracket (88,89).

Building 4 (weaving shed)

- 7.19 This building seems to be that which led to the name Hawksclough Shed having been coined by the 1870s, though the earliest map to show it dates from the 1890s. It is a single storey building of typical weaving shed construction, five bays long (from east to west) and six bays wide: outer walls of coursed stone carry a saw-tooth roof with north lights, the valleys between them supported by a grid of cast iron columns, which also served to transmit power by attached line shafting.
- 7.20 When first built, the east side of the weaving shed formed its front (**90**), as can be seen from the external wall facing, at least one blocked doorway near the north end, and high level openings for draining the roof valleys (**91-93**). Since the addition of the roof to the east of here this wall now forms an internal wall, and a jumble of modern pipework etc obscures much of it, while two new doorways have been inserted at either end. The shed's south side is not accessible for the most part, as it stands close to the cottages along Burnley Road, and much of the west end is also obscured, though part of the roof profile can be seen here from the yard (**94,95**). As noted above, the north wall largely forms the south part of building 3. The roof can be seen from the spinning mill, and has blue slates to its south-facing pitches, with the frames of the north lights being of timber, with some iron or steel members (**96,97**). The supporting columns are slender and plain, and most have bolting faces for line shaft brackets (**98-99**). There is also intermittent evidence for the main shaft, which emerges from the south-east corner of the engine house, to run along the west face of the east wall, and from which secondary shafts would have distributed power to the looms (**100-101**). Otherwise, there is little of particular interest within the building, which is in a poor condition.

Building 5 (covered yard)

- 7.21 The building to the east of the weaving shed had also been built by the 1890s according to the Ordnance Survey, though structurally it post-dates building 4, and comprises infill between earlier buildings on three sides. In part it also seems to have replaced the south-east wing of the original spinning mill (**105**). The only outer wall is therefore the east side (**106,107**), which is of deep courses of sandstone, rising to a parapet which hides the north-light roof (**108**). Inside the building however, the upper part of this wall is brick-faced, with only the lower part, which retains Bings Road, being of stone (**109**). The roof is carried on iron or steel beams with a few plain columns (without bolting faces) (**110-112**), their north ends set into the south side of the spinning mill and their south ends being carried by a steel beam which replaces the original north side of the adjacent warehouse (building 6), while the west ends of the roof valleys are set into the east side of the weaving shed. There is no evidence for transmission of power

through this area and it is therefore likely to have been roofed over to create additional accommodation for storage or perhaps subsidiary processes, rather than weaving.

Building 6 (warehouse)

- 7.22 It is not certain whether the present building 6 is shown on the 1852 Ordnance Survey map but it was clearly standing by the 1890s. It is of two storeys, and of similar stonework to the other buildings at the mill, but the original roof covering has been replaced by modern steel sheeting (113). Before the addition of the smaller building 7, its south side formed the mill frontage to Burnley Road, and there are a number of blocked openings (windows or doorways) here, though the larger vehicular entrance has no doubt been enlarged (114-116). There is also a blocked entrance in the north-east corner (117), but the remaining part of the north wall has been entirely removed, so that the interior conjoins with building 5 to form a single, open space. Inside, the original upper floor has also been removed although a modern two storey office of stud walls occupies the west end (118-121). There are queen strut roof trusses dividing the building's four bays (122).

Building 7 (store)

- 7.23 Although demonstrably later than building 6, this small store was extant by the 1890s, when it probably represented the latest expansion of buildings on the site, and it appears to have completely filled the available land within it, though it probably incorporated part of an existing boundary wall, as suggested by the skewed west elevation (123). Apart from this earlier stonework the walls are of thinly coursed stone, and the roof is blue slate; there are plain eaves brackets to the south side. The large entrance is original, to judge from the tie-stones within the jambs, so it is clear that latterly this represented the principal vehicular entrance to the mill (124,125). There is little to remark of the interior, which has plastered walls and ceiling, and some modern fixtures (which resemble stabling, but are not) (126-128).

8 Conclusion

- 8.1 Alexandra Shed, known previously as Hawksclough Shed and probably by other names, originated as a small cotton spinning mill powered by a vertical engine, probably between the 1800s and the 1840s, but by the late nineteenth century had developed into a cotton weaving mill. At this later date it is likely that yarn was bought in from larger specialist producers, and the original spinning mill had been given over to warehousing or other ancillary functions. While the majority of the surviving buildings are only of low significance as examples associated

with the cotton industry, the engine house, which contains distinctive evidence for the operation of a vertical engine, provides more valuable information.

Appendix 1: WYAAS Specification

**Specification For Building Recording Structural Watching Brief
Alexandra Shed, Burnley Road, Mytholmroyd Hebden Bridge, West Yorkshire
(400736 426361)**

**Specification prepared at the request of the Andy Philip of Candelisa on behalf
of Calderdale Council (Planning Permission 11/01349/FUL)**

1 Summary

1.1 A building record (a limited drawn and photographic survey) is required to identify and document items of archaeological and architectural interest prior to the demolition of this early 19th century textile mill and the site's redevelopment as domestic housing (11/01349/FUL). This specification for the necessary work has been prepared by the West Yorkshire Archaeology Advisory Service, the curators of the West Yorkshire Historic Environment Record.

NOTE: The requirements detailed in paragraphs 6.1.1 to 6.1.5 inclusive, 8.3 and 8.4 are to be met by the archaeological contractor **prior** to the commencement of fieldwork by completing and returning the attached form to the WY Archaeology Advisory Service.

2 Site Location and Description

2.1 Location

(Grid ref. 400736 426361) Alexandra Shed is a small textile mill located on the southern bank of the Rochdale canal on the western outskirts of Mytholmroyd. The road to Broad Bottom Farm and a listed canal bridge form the site's western boundary while Bethesda Row (which faces on to Burnley Road) and the square form the southern and western boundaries of the site.

2.2 Description

Alexandra Shed comprises a number of distinct buildings of differing dates, The earliest comprise:

- ∞ A small, and much altered, three storey mill building
- ∞ A tall narrow engine house with attached chimney and
- ∞ A possible boiler house (roofless and collapsing)

All three are of stone construction and face on to the Rochdale canal.

To the south of these distinctive structures there is a larger area of north light sheds which shows evidence of at least two phases of construction. A more modern production shed provides access to Burnley Road.

The WYAAS did not obtain access to the interior of the mill and the details of this specification are based on external observations and a heritage statement produced by SLR Global Environmental Solutions.

3 Planning Background

The site owners, through their agents Candelis Resources Ltd. (Unit 4, Wells Road Business Centre, Wells Road, Ilkley, LS29 9JB, contact Andy Philip ☎ 01943 607 912) have obtained planning consent (Planning Application No. 11/01349/FUL) to demolish the mill and construct 10 dwellings. The WY Archaeology Advisory Service (as Calderdale's archaeological advisor) has prepared this specification in order to

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allow the developers to meet the terms of an archaeological condition which has been placed on the consent.

4 Archaeological Interest

4.1 Historical Background

A cotton spinning mill in the ownership of the Horsfall Brothers is recorded by the 1840s and some the present buildings are illustrated soon after on the Ordnance Survey First Edition 6 inches to the mile map of 1852 (SLR Consulting, 2011: 4.). The mill continued to spin cotton under various owners up to the later 20th century. The premises were ultimately occupied a company of wool blenders and silveres.

The mill exhibits a number of features characteristic of textile manufacturing sites of the 2nd quarter of the 19th century which are also characteristic of the industry in the Hebden Bridge area, in particular: the squat industrial chimney attached to the engine house, its relatively small scale and a canal-side location. Whilst most of the of the multi storey mill's internal structure is of wooden and cast iron construction a small area of fireproof construction is also present. This may indicate a process considered to be of high fire risk was located here.

Historic maps illustrate that the north-light sheds to the south of the multi-storey mill and engine were constructed in the second half of the 19th century, filling in a courtyard altering the ground plan of the mill and probably relocating the boiler house to the range by the canal.

Alexandria Shed represents a much altered small cotton mill of the second quarter of the 19th century. It is set in a archetypical industrial landscape in close proximity with workers' cottages and next to the canal. For these reasons elements of the mill are considered worthy of record before demolition.

4.2 Impact of proposed development

The proposals are to demolish the entire mill and construct 10 dwellings on the site.

5 Aims of the Project

5.1 The first aim of the proposed work is to identify and objectively record by means of photographs and annotated measured drawings any significant evidence for the original and subsequent historical form and functions of the complex, and to place this record in the public domain by depositing it with the WY Historic Environment Record (Registry of Deeds, Newstead Road, Wakefield WF1 2DE).

5.2 The second aim of the proposed work is to analyse and interpret the buildings as an integrated system intended to perform a specialised function. The archaeologist on site should give particular attention to reconstructing as far as possible the functional arrangements and division of the buildings. The roles of historical plan form, technical and process flow should all be considered in this process of interpretation.

6 Recording Methodology

6.1 General Instructions

6.1.1 Health and Safety

The archaeologist on site will naturally operate with due regard for Health and Safety regulations. Prior to the commencement of any work on site (and preferably prior to submission of the tender) the archaeological contractor may wish to carry out a Risk

Assessment in accordance with the Health and Safety at Work Regulations. The archaeological contractor should identify any contaminants which constitute potential Health and Safety hazards (e.g. chemical drums) and make arrangements with the client for decontamination/making safe as necessary and appropriate. The WY Archaeology Advisory Service and its officers cannot be held responsible for any accidents or injuries which may occur to outside contractors engaged to undertake this survey while attempting to conform to this specification.

6.1.2 Confirmation of adherence to specification

Prior to the commencement of any work, the archaeological contractor must confirm in writing adherence to this specification (using the attached form), or state in writing (with reasons) any specific proposals to vary the specification. Should the contractor wish to vary the specification, then written confirmation of the agreement of the WY Archaeology Advisory Service to any variations is required prior to work commencing. Unauthorised variations are made at the sole risk of the contractor (see para. 8.3, below). Modifications presented in the form of a re-written project brief will not be considered by the West Yorkshire Archaeology Advisory Service.

6.1.3 Confirmation of timetable and contractor's qualifications

Prior to the commencement of *any work*, the archaeological contractor must provide WYAAS in writing with:

- ∞ a projected timetable for the site work
- ∞ details of project staff structure and numbers
- ∞ names and CVs of key project members (the project manager, site supervisor, any proposed specialists, sub-contractors *etc.*)
- ∞ details of any specialist sub-contractors

All project staff provided by the archaeological contractor must be suitably qualified and experienced for their roles. In particular, staff involved in building recording should have proven expertise in the recording and analysis of industrial buildings. The timetable should be adequate to allow the work to be undertaken to the appropriate professional standard, subject to the ultimate judgement of WYAAS.

6.1.4 Site preparation

Prior to the commencement of archaeological recording work on site, the archaeological contractor should identify all removable modern material (including 20th-century partitions, dry-boarding, suspended ceilings, modern machinery *etc.*) which may significantly obscure features requiring an archaeological record, and should make arrangements with the developer for its removal. As part of this process, the contractor should also formally identify to the developer any material which needs to be retained for archaeological recording, where there is the potential for confusion with modern material during stripping-out. It is not the intention of this specification that large-scale removal of material of this type should take place with the archaeological contractor's manpower or at that contractor's expense. If necessary, however, this soft-strip should be carried out under archaeological supervision.

6.1.5 Documentary research

A desk-based assessment of the site was carried out by SRL Global Environmental Solutions in 2011. Prior to the commencement of work on site, the contractor should

gain access to and carefully examine all aspects of this assessment, including the archive, in order to inform the archaeological recording by providing background information with regard to function and phasing.

6.1.6 Use of existing plans

Candelisa hold plans of the buildings as existing. If appropriate, these plans may be used as the basis for the drawn record and for any annotation relative both to the historic and photographic record. Additional information relevant to the historic record should be indicated on the plans, which shall be re-drawn as necessary. It is the responsibility of the archaeological contractor to check the accuracy of these drawings and to make any necessary adjustments or corrections. Contractors are therefore advised to determine prior to the submission of tender whether major re-survey/re-drawing will be necessary. For this purpose, the WY Archaeology Advisory Service would suggest that the tendering contractor check a small number of randomly selected measurements across the site, e.g. a few long face measurements, the position and size of a selection of doors and windows, and a random series of internal diagonals (it is accepted that the contracting archaeologist will not be able to identify isolated and unpredictable errors by using this method). It is the archaeological contractors' responsibility to obtain the appropriate copyright permissions for any original material employed as a basis for further work.

6.2 Sequence of recording

6.2.1 Initial record

The WYAAS has not had the opportunity to inspect the interior of the mill and in order to ensure that a complete record is made recording work should take place in two stages. The structures should initially be recorded as extant, with due provision made for the removal of any debris or modern material which may obscure fabric or features requiring an archaeological record (para 6.1.4 above).

6.2.2 Watching Brief

Subsequent to the commencement of demolition of the mill and engine house, a watching brief should be maintained by the contracting archaeologist to record any pertinent historic structural or functional detail which may be exposed during the course of demolition but which are currently inaccessible, overbuilt or obscured by later alterations to a degree not remediable under normal circumstances of site preparation. This record will apply only to the engine house and should be obtained by means of notes, drawings and photographs as appropriate, to the standards outlined elsewhere in this specification. This detail should then be incorporated into the completed record or if demolition work does not take place in a reasonable time period presented as a separate appendix to the full report.

6.3 Written Record

The archaeologist on site should carefully examine all parts of the complex prior to the commencement of the drawn and photographic recording, in order to identify all features relevant to its original use and to obtain an overview of the development of the building and of the site as a whole. As part of this exercise, the archaeologist on site should produce written observations (e.g. on phasing; on building function) sufficient to permit the preparation of a report on the structure. This process should include the completion of a Room Data Sheet or similar structured recording pro-

forma¹ for each room or discrete internal space within the volume of the structure. The crucial requirement is that each room should be examined individually, that the results of that examination should be noted in a systematic fashion, and that these objective observations should be used to inform an analytical interpretation of the overall development and operation of the site.

6.4 Drawn Record

6.3.1 Drawings required

The drawn record will be limited to the engine house, chimney and suggested boiler house. The drawn record should comprise:

- ∞ Ground floor plan of engine house, chimney and boiler house group
- ∞ North-east to south-west section through the Engine house showing roof construction
- ∞ Internal elevations of the engine house should evidence of the original working floor level, beam gallery, flywheel, distribution of power etc. survive behind modern boarding.

Drawings should be made at an appropriate scale (not smaller than 1:100 for plans; not smaller than 1:50 for sections). The structures should be recorded as existing, but a clear distinction should be made on the final drawings between surviving as-built features and all material introduced in the structure during the late 20th-century.

6.4.2 Provision for Additional Drawings

6.3.2a The recording requirements outlined above are based on a brief external inspection of the site by the WY Archaeology Advisory Service and observations made by SLR Global Environmental Solutions. However, detailed examination and analysis of the site by the archaeological contractor may reveal features which merit detailed recording beyond what has been specifically required. In addition to what is requisite to complete the work specified above, the archaeological contractor should tender for a contingency period of two days recording on site (with four days drawing-up time off site – six days in total) in order that features so identified may be adequately recorded. This contingency should be clearly and separately identified in any tender document.

6.4.2b If features requiring additional drawing are identified during the course of work on site, the WY Archaeology Advisory Service should be contacted as soon as possible, and should be provided in writing with a schedule of proposed additional work. A site visit will then be arranged by the WYAAS to examine the features in question and to assess the need to apply the contingency (this visit will usually be combined with a routine monitoring visit). Implementation of the contingency will be at the decision of the West Yorkshire Archaeology Advisory Service, which will be issued in writing, if necessary in retrospect after site discussions.

6.4.3 Scope of record

¹ The WY Archaeology Advisory Service would recommend the employment of the attached pro-forma, but will consider any suitable alternative which the archaeological contractor may wish to submit (Note that agreement for the employment of an alternative *schema* must be obtained in writing from the WY Archaeology Advisory Service prior to the commencement of work on site).

All features of archaeological and architectural interest identified during the process of appraisal should be incorporated into, and clearly identified in, the final drawn record. Typically, items of interest would include:

- ∞ Evidence of original function
- ∞ Evidence power generation
- ∞ Evidence power transmission

but this list should not be treated as exhaustive. The archaeologist on site should also identify and note:

- ∞ any significant changes in construction material – this is intended to include significant changes in stone/brick type and size
- ∞ any blocked, altered or introduced openings
- ∞ evidence for phasing, and for historical additions or alterations to the building.

6.4.4 Dimensional accuracy

Dimensional accuracy should accord with the normal requirements of the English Heritage Architecture and Survey Branch (at 1:20, measurements should be accurate to at least 10mm; at 1:50, to at least 20mm; at 1:100, to at least 50mm). - Major features such as changes in structural material may be indicated in outline. The recording of individual stones or stone courses is not required unless greater detail is needed in order to adequately represent a particular feature of interest, e.g. evidence relating to the placement of the mill's engine.

6.4.5 Drawing method

The survey may be executed either by hand or by means of reflectorless EDM as appropriate. In accordance with national guidelines², drawings executed on site should be made either on polyester-based film (minimum thickness 150 microns) with polymer-bonded leads of an appropriate thickness and density, or on acid-free or rag paper. If finished drawings are generated by means of CAD or a similar proven graphics package, recorders should ensure that the software employed is sufficiently advanced to provide different line-weight (point-size); this feature should then be used to articulate the depth of the drawings. CAD repeats or cloning of features should **not** be used. What is required as an end product of the survey is a well-modelled and clear drawing; ambiguous flat-line drawings should be avoided. Drawing conventions should conform to English Heritage guidelines as laid out in English Heritage 2006, *Understanding Historic Buildings – a guide to good recording practice*, and the WYAAS would recommend that the CAD layering protocol detailed in the same volume (8.3, Table 2) should be adhered to.

6.5 Photographic Record

6.5.1 External photographs

An external photographic record should be made of all elevations of Alexandra Shed, from vantage points as nearly parallel to the elevation being photographed as is possible within the constraints of the site. The contractor should ensure that all visible elements of each elevation are recorded photographically; this may require photographs from a number of vantage points. A general external photographic record should also be made which includes a number of oblique general views of the buildings from all sides, showing them and the complex as a whole in their setting. In addition, a 35mm general colour-slide survey of the buildings should also be

² English Heritage 2006, *Understanding Historic Buildings – a guide to good recording practice*, 7.1.1ff

provided (using a variety of wide-angle, medium and long-distance lenses). While it is not necessary to duplicate every black-and-white shot, the colour record should be sufficiently comprehensive to provide a good picture of the form and general appearance of the complex and of the individual structures.

6.5.2 Internal photographs

A general internal photographic record should be made of the entire mill. General views should be taken of *each room* or discrete internal space from a sufficient number of vantage points to adequately record the form, general appearance and manner of construction of each area photographed. In areas which are wholly modern in appearance, character and materials, a single shot to record current appearance will suffice.

6.5.3 Detail photographs

In addition, detailed record shots should be made of all individual elements noted in section 6.3.3 above. Elements for which multiple examples exist (e.g. each type of roof truss, column or window frame) may be recorded by means of a single representative illustration. **N.B.** Detail photographs must be taken at medium-to-close range and be framed in such a way as to ensure that the element being photographed clearly constitutes the principal feature of the photograph.

6.5.4 Equipment

General photographs should be taken with a Large Format camera (5" x 4" or 10" x 8") using a monorail tripod, or with a Medium Format camera which has perspective control, using a tripod. The contractor must have proven expertise in this type of work. Any detail photographs of structural elements should if possible be taken with a camera with perspective control. Other detail photographs may be taken with either a Medium Format or a 35mm camera. All detail photographs must contain a graduated photographic scale of appropriate dimensions (measuring tapes and surveying staffs are not considered to be acceptable scales in this context). A 2-metre ranging-rod, discretely positioned, should be included in a selection of general shots, sufficient to independently establish the scale of all elements of the building and its structure.

6.5.5 Film stock

All record photographs to be black and white, using conventional silver-based film only, such as Ilford FP4 or HP5, or Delta 400 Pro (a recent replacement for HP5 in certain film sizes such as 220). Dye-based (chromogenic) films such as Ilford XP2 and Kodak T40CN are unacceptable due to poor archiving qualities.

6.5.6 Digital photography

As an alternative to our requirement for colour slide photography, good quality digital photography may be supplied as an alternative, using cameras with a minimum resolution of 4 megapixels. Note that conventional black and white print photography is still required and constitutes the permanent record. Digital images will only be acceptable as an alternative to colour slide photography if each image is supplied in three file formats (as a RAW data file, a DNG file and as a JPEG file). The contractor must include metadata embedded in the DNG file. The metadata must include the following: the commonly used name for the site being photographed, the relevant centred OS grid coordinates for the site to at least six figures, the relevant township

name, the date of photograph, the subject of the photograph, the direction of shot and the name of the organisation taking the photograph. Images are to be supplied to WYAAS on gold CDs by the archaeological contractor accompanying the hard copy of the report.

6.5.7 Printing

6.5.6a Record photographs should be printed at a minimum of 5" x 7". In addition a small selection of photographs (the best of the exterior setting shots and interior shots) should be printed at 10" x 8". Bracketed shots of identical viewpoints need not be reproduced, but all viewpoints must be represented within the report.

6.5.7b Prints may be executed digitally from scanned versions of the film negatives, and may be manipulated to improve print quality (but **not** in a manner which alters detail or perspective). All digital prints must be made on paper and with inks which are certified against fading or other deterioration for a period of 75 years or more when used in combination. If digital printing is employed, the contractor must supply details of the paper/inks used in writing to the WY Archaeology Advisory Service, with supporting documentation indicating their archival stability/durability. Written confirmation that the materials are acceptable must have been received from the WYAAS prior to the commencement of work on site.

6.5.8 Documentation

A photographic register detailing (as a minimum) location, direction and subject of shot must accompany the photographic record; a separate photographic register should be supplied for any colour slides or for colour digital photographs. The position and direction of each photograph and slide should be noted on a copy of the building plan, which should also be marked with a north pointer; separate plans should be annotated for each floor of each building

7. Post-Recording Work and Report Preparation

7.1 After completion of fieldwork

Prior to the commencement of any other work on site, the archaeological contractor should arrange a meeting at the offices of the WY Archaeology Advisory Service to present a draft of the 1st- stage drawn record (fully labelled and at the scale specified above), a photo-location plan, and photographic contact prints adequately referenced to this plan (material supplied will be returned to the contractor). **N.B.** if full-sized prints or digital versions of contact sheets are supplied for this purpose, they must be accompanied by a sample of the processed negatives. If appropriate, the WY Archaeology Advisory Service will then confirm to Calderdale Planning Services that fieldwork has been satisfactorily completed and that other work on site may commence (although discharge of the archaeological condition will not be recommended until the watching brief has been carried out and a completed copy of the full report and photographic record has been received and approved by the West Yorkshire Archaeology Advisory Service). Please note that as of the 1st April 2011, the WYAAS will charge the archaeological contractor a fee for each fieldwork verification meeting.

7.2 Report Preparation

7.2.1 Report format and content

A written report should be produced. This should include:

- ∞ an executive summary including dates of fieldwork, name of commissioning body, and a brief summary of the results including details of any significant finds
- ∞ an introduction outlining the reasons for the survey
- ∞ an architectural description of the buildings presented in a logical manner (as a walk around and through the buildings, starting with setting, then progressing to all sides of the structure in sequence, and finally to the interior from the ground floor up)
- ∞ a discussion placing the mill in its local, historical and technological contexts, describing and analysing the development of individual structures and of the complex as a whole. This analysis should consider the spinning mill as an integrated system intended to perform a specialised function, with particular attention being given to historical plan form, technical layout and process flow.

Both architectural description and historical/analytical discussion should be fully cross-referenced to the drawn and photographic record, sufficient to illustrate the major features of the site and the major points raised. It is not envisaged that the report is likely to be published, but it should be produced with sufficient care and attention to detail to be of academic use to future researchers. A copy of this specification and a quantified index to the field archive should also be bound into the back of the report. The cover sheet should include a centred eight-figure OS grid reference and the name of the township in which the site is located (Wadsworth).

7.2.2 Report Illustrations

Illustrations should include:

- ∞ a location map at a scale sufficient to allow clear identification of the site type in relation to other buildings in the immediate area
- ∞ an overall keyed plan of the site showing the surviving buildings in relation to each other and to the buildings on site which have been demolished
- ∞ any relevant historic map editions, with the position and extent of the site clearly indicated
- ∞ a complete set of site drawings completed to publication standard, at the scale stipulated in Para. 6.4.1 above (unless otherwise agreed in writing by the West Yorkshire Archaeology Advisory Service)
- ∞ a complete set of site drawings at a legible scale, on which position and direction of each photograph has been noted
- ∞ any additional illustrations pertinent to the site
- ∞ a complete set of good-quality laser copies of all photographs (reproduced at a minimum of 6" by 4").

The latter should be bound into the report in the same logical sequence employed in the architectural description (Para. 7.2.1 above) and should be appropriately labelled (numbered, and captioned in full). When captioning, contractors should identify the individual photographs by means of a running sequence of numbers (e.g. Plate no. 1; Plate no. 2), and it is this numbering system which should be used in cross-referencing throughout the report and on the photographic plans. However, the relevant original film and frame number should be included in brackets at the end of each caption.

7.3 Report deposition

7.3.1 General considerations

7.3.1a The report should be supplied to the client and identical copies supplied to the West Yorkshire HER, the WY Archive Service (Calderdale) and to the National Monuments Record (English Heritage, Kemble Drive, Swindon SN2 2GZ – for the attention of Mike Evans, Head of Archives). The report supplied to the NMR should be in digital format only. A recommendation from WYAAS for discharge of the archaeological condition is dependant upon receipt by WYAAS of a satisfactory report which has been prepared in accordance with this specification. Any comments made by WYAAS in response to the submission of an unsatisfactory report will be taken into account and will result in the reissue of a suitably edited report to all parties, within a timescale which has been agreed with WYAAS.

7.3.1b The report copy supplied to the West Yorkshire HER should include a complete set of photographic prints (see Para. 7.3.2 below). The finished report should be supplied within eight weeks of completion of all fieldwork, unless otherwise agreed with the West Yorkshire Archaeology Advisory Service. The information content of the report will become publicly accessible once deposited with the Advisory Service, unless confidentiality is explicitly requested, in which case it will become publicly accessible six months after deposit.

7.3.1c **Copyright** - Please note that by depositing this report, the contractor gives permission for the material presented within the document to be used by the WYAAS, in perpetuity, although The Contractor retains the right to be identified as the author of all project documentation and reports as specified in the *Copyright, Designs and Patents Act 1988* (chapter IV, section 79). The permission will allow the WYAAS to reproduce material, including for non-commercial use by third parties, with the copyright owner suitably acknowledged.

7.3.1.d The West Yorkshire HER supports the Online Access to Index of Archaeological Investigations (OASIS) project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. The archaeological contractor must therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>. Contractors are advised to contact the West Yorkshire HER officer prior to completing the form. Once a report has become a public document by submission to or incorporation into the HER, the West Yorkshire HER may place the information on a web-site. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the case officer at the West Yorkshire HER.

7.3.1e With the permission of the developer, the archaeological contractor are encouraged to consider the deposition of a copy of the report for this site with the appropriate Local History Library (Hebden Bridge Library, Hebden Bridge Library Cheetham Street Hebden Bridge HX7 8EP).

7.3.2 Deposition with WY Archaeology Advisory Service (West Yorkshire Historic Environment Record)

The report copy supplied to the WY Archaeology Advisory Service should also be accompanied by both the photographic negatives and a complete set of labelled photographic prints (mounted in KENRO display pockets or similar, and arranged in

such a way that labelling is readily visible) bound in a form which will fit readily into a standard filing cabinet suspension file (not using hard-backed ring-binders). Labelling should be on the *back* of the print in pencil giving film and frame number only and on applied printed labels on the front of the appropriate photographic sleeve which should include:

- ∞ film and frame number
- ∞ date recorded and photographer's name
- ∞ name and address of building
- ∞ national grid reference
- ∞ specific subject of photograph.

Negatives should be supplied in archivally stable mounts (KENRO display pockets or similar), and each page of negatives should be clearly labelled with the following:

- ∞ Township name (Wadsworth)
- ∞ Alexandra Shed
- ∞ Date of photographs (month/year)
- ∞ Name of archaeological contractor
- ∞ Film number

- ∞ Colour slides should be mounted, and the mounts suitably marked with – 'Wadsworth' (the Township name) with 'Alexandra Shed' under, at the top of the slide; grid reference at the bottom; date of photograph at the right hand side of the mount; subject of photograph at the left hand side of the mount. Subject labelling may take the form of a numbered reference to the relevant photographic register. The slides should be supplied to the WY Archaeology Advisory Service in an appropriate, archivally stable slide hanger (for storage in a filing cabinet).

7.4 Summary for publication

The attached summary sheet should be completed and submitted to the WY Archaeology Advisory Service for inclusion in the summary of archaeological work in West Yorkshire published on the WYAAS website. During fieldwork monitoring visits WYAAS officers will take digital photographs which may be published on the Advisory Service's website as part of an ongoing strategy to enable public access to information about current fieldwork in the county.

7.5 Preparation and deposition of the archive

After the completion of all recording and post-recording work, a fully indexed field archive should be compiled consisting of all primary written documents and drawings, and a set of suitably labelled photographic contact sheets (only). Standards for archive compilation and transfer should conform to those outlined in *Archaeological Archives – a guide to best practice in creation, compilation, transfer and curation* (Archaeological Archives Forum, 2007). The field archive should be deposited with the Calderdale District Office of the West Yorkshire Archive Service (WYAS, Calderdale Central Library Northgate House Northgate Halifax HX1, 1UN: 01422 392636), and should be accompanied by a copy of the full report as detailed above. Deposition of the archive should be confirmed in writing to the WY Archaeology Advisory Service.

8 General considerations

8.1 Technical queries

Any technical queries arising from this specification should be addressed to the WY Archaeology Advisory Service without delay.

8.2 Authorised alterations to specification by contractor

It should be noted that this specification is based upon records available in the West Yorkshire Historic Environment Record and on a brief examination of the site by the West Yorkshire Archaeology Advisory Service. Archaeological contractors submitting tenders should carry out an inspection of the site prior to submission. If, on first visiting the site or at any time during the course of the recording exercise, it appears in the archaeologist's professional judgement that

- i) a part or the whole of the site is not amenable to recording as detailed above, and/or
- ii) an alternative approach may be more appropriate or likely to produce more informative results, and/or
- iii) any features which should be recorded, as having a bearing on the interpretation of the structure, have been omitted from the specification,

then it is expected that the archaeologist will contact the WY Archaeology Advisory Service as a matter of urgency. If contractors have not yet been appointed, any variations which the WY Archaeology Advisory Service considers to be justifiable on archaeological grounds will be incorporated into a revised specification, which will then be re-issued to the developer for redistribution to the tendering contractors. If an appointment has already been made and site work is ongoing, the WY Archaeology Advisory Service will resolve the matter in liaison with the developer and the Local Planning Authority.

8.3 Unauthorised alterations to specification by contractor

It is the archaeological contractor's responsibility to ensure that they have obtained the West Yorkshire Archaeology Advisory Service's consent in writing to any variation of the specification prior to the commencement of on-site work or (where applicable) prior to the finalisation of the tender. Unauthorised variations may result in the WY Archaeology Advisory Service being unable to recommend discharge of the archaeological recording condition to the Local Planning Authority and are made solely at the risk of the contractor.

8.4 Monitoring

This exercise will be monitored as necessary and practicable by the WY Archaeology Advisory Service in its role as 'curator' of the county's archaeology. The Advisory Service should receive at least one week's notice in writing of the intention to start fieldwork. A copy of the contractor's Risk Assessment should accompany this notification.

8.5 Valid period of specification

This specification is valid for a period of one year from date of issue. After that time it may need to be revised to take into account new discoveries, changes in policy or the introduction of new working practices or techniques.

Any queries relating to this specification should be addressed to the WY Archaeology Advisory Service without delay.

**West Yorkshire Archaeology Advisory Service
David Hunter**

May 2012

**West Yorkshire Archaeology Advisory Service
Registry of Deeds
Newstead Road
Wakefield
WF1 2DE**

**Telephone: (01924).
Fax: (01924) 306789
E-mail: dhunter@wyjs.org.uk**

Appendix 2: List of digital photographs

CD of photographs (in JPG, ORF & DNG formats) deposited with the West Yorkshire Historic Environment Record

Number	Subject
d01	General view of the site from the north-west, along the canal
d02	North elevation of the spinning mill and engine house
d03	Spinning mill, engine and boiler houses, from the north-east
d04	Spinning mill, engine and boiler houses, from the north-east, across Broadbottom Bridge
d05	North-east corner of spinning mill, from across Bings Road
d06	First floor openings in east elevation of spinning mill, from across Bings Road
d07	East elevation of spinning mill, from the north-east
d08	East elevation of spinning mill, from the south-east
d09	The engine house and remains of the chimney, from the north-east
d10	The engine house and remains of the chimney, from the north-west
d11	The engine house and remains of the chimney, from the north-west
d12	Interior of engine house: south-west corner, showing remains of decoration and grease from flywheel
d13	Interior of engine house: south-east corner, showing remains of decoration and skirting, and grease from flywheel
d14	Interior of engine house: north-east corner, showing doorway and wall box for shaft to mill
d15	Engine house and remains of boiler house, from the north-east
d16	North side of boiler house, from the west
d17	West elevation of weaving shed, where visible between cottages
d18	General view of weaving shed interior, from the east
d19	General view of the site from the south-east, across Burnley Road
d20	The east side of the buildings alongside Bings Road
d21	The covered yard: interior view, from the south-east
d22	Store fronting Burnley Road, from the south-west
d23	Store fronting Burnley Road, from the south-east
d24	Store fronting Burnley Road, from the south

Appendix 3: Contents of the project archive

To be deposited with the Calderdale office of the West Yorkshire Archive Service

1 file, containing:

- a copy of the report
- photographic contact sheets (10 no)
- site notes including room record sheets, annotated plans etc

Complete list of black and white photographs taken, in film order

Photo	Film	Frame	Subject
98	1	1	General view of weaving shed interior, from the north-east
104	1	3	General view of weaving shed interior, from the east
103	1	4	Doorway in south side of weaving shed
99	1	5	Typical column in weaving shed interior, from the north-west
97	1	6	Underside of weaving shed roof, from the west
77	1	10	South side of boiler house/north side of weaving shed, from the south
50	1	11	Foot of the chimney and engine house, from the south-west within the weaving shed
102	1	12	South side of engine house, from within weaving shed
101	1	13	Recess in east wall of weaving shed, for large bearing
86	1	15	Detail of cast iron door in south side of boiler house, from the south
83	1	16	Detail of wall box in south side of boiler house, from the south
56	1	17	North-east corner of weaving shed, showing bearing from engine house and bracket for main shaft
110	1	18	The covered yard: interior view, from the south-east
90	2	1	East elevation of weaving shed (south part)
91	2	3	East elevation of weaving shed (central part)
93	2	4	Detail of line shaft brackets etc in east elevation of weaving shed
92	2	5	Detail of former doorway in east elevation of weaving shed
112	2	6	Underside of roof in covered yard, from the east
15	2	7	Ground floor openings, south elevation of spinning mill
18	2	9	Ground floor openings, south elevation of spinning mill
19	2	10	Detail of ground floor window opening, south elevation of spinning mill
117	2	11	Blocked doorway in south-east corner of warehouse, from the north-west
118	2	12	Interior of warehouse, from the north-west
119	2	13	Interior of warehouse, from the south-west
120	2	15	Interior of warehouse (upper floor level), from the south-west
122	2	16	Roof truss in warehouse, from the north-east
121	2	17	Interior of warehouse, from the north
114	2	18	South side of warehouse, within later building, from the south
115	3	1	South side of warehouse, within later building, from the south
127	3	3	Interior of store, from the east
126	3	4	Interior of store, from the west
116	3	5	Present south entrance into warehouse, from the south
128	3	6	Detail of cast iron valley gutter between store and warehouse
37	3	7	First floor of spinning mill: detail of shaft bracket in west wall
36	3	9	First floor of spinning mill: detail of shaft bracket in west wall

109	3	10	The covered yard: interior view, from the west
35	3	11	First floor of spinning mill: west wall, showing shaft bracket etc
33	3	12	First floor of spinning mill, with stairs to second floor, from the south-east
25	3	13	Stairs up to first floor of spinning mill, from the south
31	3	15	First floor of spinning mill, from the south-west
39	3	17	First floor of spinning mill: detail of fireplace in north-east corner
41	3	18	First floor of spinning mill: detail of secondary taking-in doorway, south-east corner
34	4	1	First floor of spinning mill, from the south-east, showing fireplace
38	4	2	First floor of spinning mill, from the north-east
32	4	4	First floor of spinning mill, from the north-west
44	4	5	Second floor of spinning mill, from the south-west, showing underside of third floor and tie beam with strap
45	4	6	Second floor of spinning mill, from the north-east, showing underside of third floor
43	4	7	Second floor of spinning mill, from the south-west, showing modern partitions
17	4	9	Ground floor openings, south elevation of spinning mill
87	4	10	Interior of boiler house, from the east
88	4	11	Detail of roof truss over boiler house, from the east
78	4	12	Internal view of doorway from boiler house to tow-path, from the south-west
79	4	13	Interior of boiler house, from the west
81	4	15	North side of doorway from boiler house to weaving shed
89	4	16	Detail of iron bracket to roof truss over boiler house, from the north-east
85	4	17	Detail of capped box in south side of boiler house, from the north
84	4	18	Detail of wall box in south side of boiler house, from the north
80	5	1	North side of doorway from boiler house to weaving shed
51	5	3	Foot of chimney and remains of east end of boiler house, from the west
73	5	4	Foot of chimney with flue opening, from the north-west
82	5	5	Remains of hoisting timbers in east end of boiler house
75	5	6	North side of boiler house, from the east
6	5	7	Ground floor of spinning mill, north elevation
5	5	9	North-east corner of spinning mill, adjoining canal bridge
7	5	10	Detail of ground floor windows in spinning mill, north elevation
95	5	11	West elevation of weaving shed, where visible between cottages
63	5	12	Interior of engine house: north-east corner, showing doorway and wall box for shaft to mill
64	5	13	Interior of engine house: detail of wall box for shaft to mill
59	5	15	Interior of engine house: remains of skirting, east side
58	5	16	Interior of engine house: south-east corner, showing remains of decoration and skirting, and grease from flywheel
54	5	17	Interior of engine house: south side, showing (later?) bearing to weaving shed and openings for fastening rods
53	5	18	Interior of engine house: south side, showing openings for fastening rods
52	6	1	Interior of engine house: south side, showing flywheel bearing and openings for fastening rods
57	6	3	Interior of engine house: south-west corner, showing remains of decoration and grease from flywheel
62	6	4	Interior of engine house: south-west corner, showing pipe in line with chimney
67	6	5	Interior of engine house: north-west corner, showing blocked doorway to boiler house
61	6	6	Interior of engine house: west side, showing position of former gallery
66	6	7	Interior of engine house: foot of north window, showing remains of decoration to either side

69	6	9	Interior of engine house: ground level opening, north-east corner
68	6	10	Interior of engine house: top of north window
65	6	11	Interior of engine house: upper part of east wall
70	6	12	Interior of engine house: view of beams in ceiling, from the north-east corner
60	6	13	Interior of engine house: south-east corner, upper level, showing gallery and line of former partition enclosing flywheel
24	6	15	Ground floor of spinning mill, showing wall box and doorway to engine house, and stairs, from the south-east
23	6	16	Ground floor of spinning mill, from the south-west
22	6	17	Ground floor of spinning mill, from the east
21	6	18	Ground floor of spinning mill, from the north
20	7	1	Ground floor of spinning mill, from the north-west
26	7	3	Fireproof room in east end of spinning mill (ground floor), from the south-east
28	7	4	Fireproof room in east end of spinning mill (ground floor), from the south-west
29	7	5	Fireproof room in east end of spinning mill (ground floor), from the north-west
27	7	6	Fireproof room in east end of spinning mill (ground floor), from the north-east
30	7	7	Fireproof room in east end of spinning mill (ground floor): detail of brick jack arches etc
111	7	9	Typical column in covered yard, from the east
42	7	10	First floor of spinning mill, from the east
40	7	11	First floor of spinning mill, from the south-west
96	7	12	Roof of weaving shed, from the north-east
108	7	13	Roof of the covered yard, from the north-east
100	7	15	North-east corner of weaving shed, showing arrangement with engine house
125	7	16	Store fronting Burnley Road, from the south
123	7	18	Store fronting Burnley Road, from the south-west
94	8	2	South elevation of weaving shed, where visible to east of cottages
124	8	3	Store fronting Burnley Road, from the south-east
2	8	4	North elevation of the spinning mill and engine house
3	8	5	Spinning mill, engine and boiler houses, from the north-east
4	8	6	Spinning mill, engine and boiler houses, from the north-east, across Broadbottom Bridge
8	8	8	Detail of first and second floor windows in spinning mill, north elevation
46	8	9	The engine house and remains of the chimney, from the north-east
74	8	10	Engine house and remains of boiler house, from the north-east
48	8	11	The engine house and remains of the chimney, from the north-west
47	8	12	The engine house and remains of the chimney, from the north-west
76	8	14	North side of boiler house, from the west
1	8	15	General view of the site from the north-west, along the canal
9	8	16	North-east corner of spinning mill, from across Bings Road
11	8	17	East elevation of spinning mill, from the north-east
10	8	18	First floor openings in east elevation of spinning mill, from across Bings Road
107	9	1	The east side of the covered yard, from the north-east
12	9	3	East elevation of spinning mill, from the south-east
106	9	4	The east side of the buildings alongside Bings Road
113	9	5	East side of warehouse, from the south-east
105	9	6	General view of the site from the south-east, across Burnley Road
14	9	7	South elevation of spinning mill, from the south-east, showing roof line of demolished south-east wing
55	10	1	South elevation of engine house, showing flywheel bearing in centre

49	10	3	The engine house and chimney, from the south-west, during demolition
71	10	4	Top of engine house following removal of roof, from the east
72	10	5	Top of engine house following removal of roof, from the east
16	10	6	The spinning mill, from the south-west, during demolition
13	10	7	The spinning mill, from the south-east, during demolition