NYCC HER	
SNY	8867
ENY	2161
CNY	3286
Parish	1087
Rec'd	04/05/2004

DANBY LOW MILL, THORNTON STEWARD.

REPORT ON A PHOTOGRAPHIC SURVEY.
OSA REPORT No: OSA04PS01.

APRIL 2004.

OSA

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Rec 04/05/04 1087 parish.

Report Summary.

C 3286
E 2161
S. 8867.

REPORT NO:	OSA04 PS01
SITE NAME:	Danby Low Mill
COUNTY:	North Yorkshire
NATIONAL GRID REFERENCE:	SE 1535 8700
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PERIODS REPRESENTED:	17th, 18th and 19th Century

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1.0 Abstract.

A photographic survey was undertaken by On Site Archaeology *at Danby Low Mill, Thornton Steward, Richmondshire, North Yorkshire on behalf of David R Bamford Partnership acting for Professor Sharp in advance of repair of the derelict mill and cottage and conversion to domestic use. This work was conducted in order to fulfil an archaeological condition attached to the planning permission for development of the grade II listed building. The photographic survey took place on March 18th, 2004.*

The full photographic archive will be deposited with the North Yorkshire HER. The present report presents notes on the building prepared from site visits and background research fully illustrated with photographic plates.

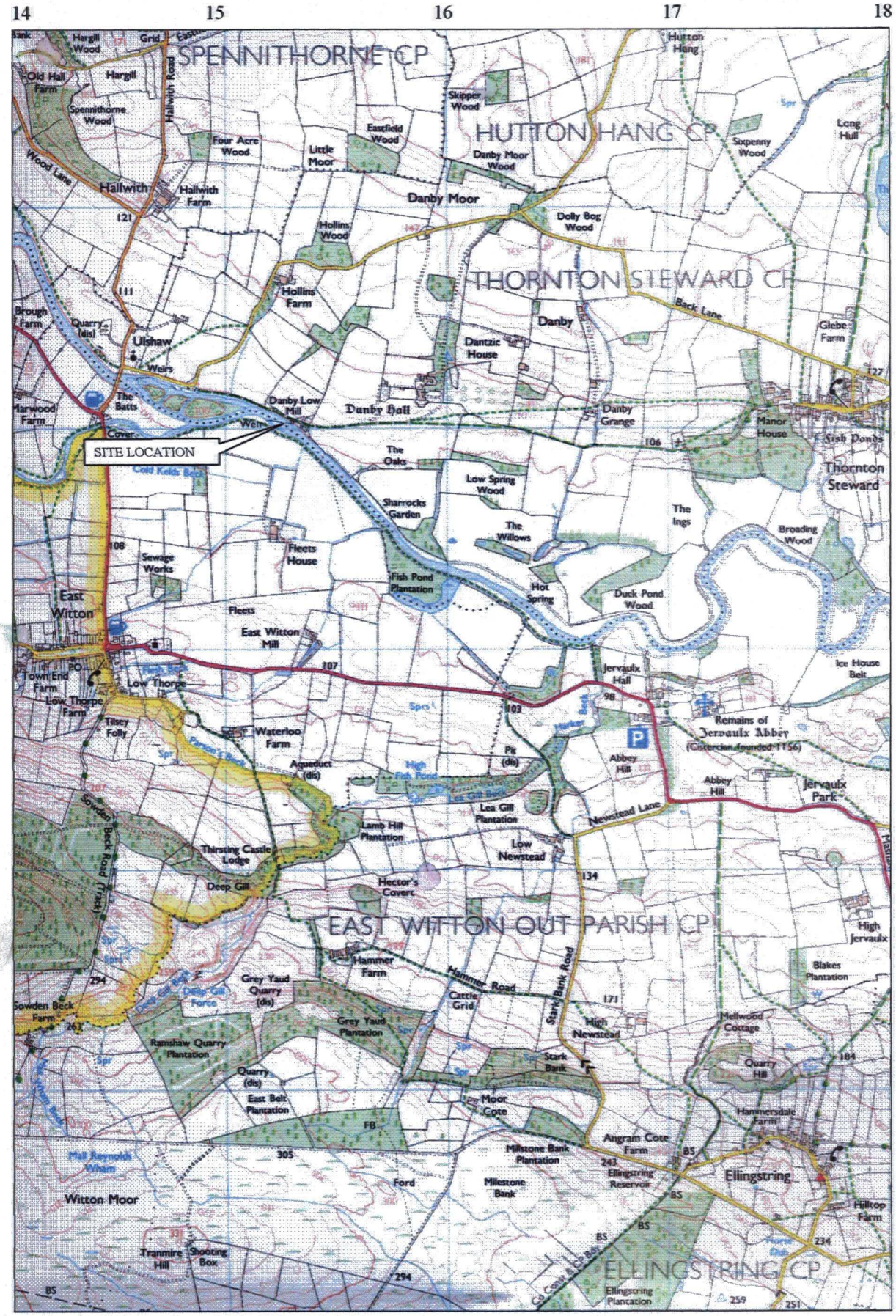

Figure 1. Site Location (NGR SE 1535 8700).

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2.0 Site Location, Geology, Topography and Land Use.

The site is centred on SE 1535 8700 on the River Ure, in the hamlet of Danby in the west of the parish of Thornton Steward in Wensleydale, North Yorkshire. The mill is built into the steep north bank of the River. This is rich dairy-farming country with open pasture fields to the north and water meadows across the river on the flood plain to the south (see plate 1). There is evidence of Roman activity in Wensleydale and the seclusion of the area attracted the Cistercian order; the site of Jervaulx Abbey is just a mile or two upstream from the mill.

3.0 Historical Background.

Danby Mill is located on the north bank of the River Ure within the hamlet of Danby in the parish of Thornton Steward in Wensleydale, Richmondshire, North Yorkshire. Danby is to the west of the main settlement of Thornton Steward and is the site of Danby Hall the seat of a branch of the Scrope family of Castle Bolton. The earliest surviving part of Danby Hall is a 14th century, pele tower, the Scropes probably resided there and held the manor of Danby from about the 16th century.

It would appear that the mill which lies just over 0.5 km to the west of Danby Hall and about west of Thornton Steward was connected with the Scrope family from the late 18th century and possibly earlier, presumably belonging to the manor of Danby. Evidence for this is the initials SS and weathered date (probably 1771) inscribed on the keystone carved on the lintel of the small opening above the tail race arch of the wheelchamber. The listing description for the mill states that SS refers to Simon Scrope III of Danby Hall.

The earliest part of the existing building probably dates from the mid to late seventeenth century. A blocked original entrance to the mill with a wide chamfered quoined ashlar surround bears graffiti dates of 1688 and 1701 on the lintel and 1787 on the northern jamb. This doorway is in a recessed bay, which suggests that the main part of the mill was later rebuilt and enlarged. The wheelchamber of ashlar gritstone with the date 1771 probably marks that rebuilding.

Further changes were made in the 19th century; the ground floor (the spout or bagging floor) was lowered by about 0.5m. This probably occurred at the time new machinery was introduced in 1882 by John Hauxwell millwright of Yarm. A new loading door was also inserted in the east wall at the new floor level cutting the 17th century mill entrance.

The names of some millers at Danby are recorded in directories of the North and East Ridings: -

1840 (White's)	Buck, Peter; corn miller
1857 (Post Office)	Buck, Francis (Miss); miller
1872 & 1879 (Kelly's)	Milner, John Ralph; miller
1889 & 1905 (Kelly's)	Robson, John; miller
1909 (Kelly's)	Fearnside, Henry; miller
1913 (Kelly's)	Hobson, Ernest; miller, farmer and assistant overseer

By 1921 (Kelly's) Hobson is described only as farmer at Danby Mill and no one is named as miller, in 1925, 1929 and 1937 (Kelly's) Hobson is still listed at Danby Mill and is reduced to smallholder. It would appear then that Hobson was the last miller and that the mill ceased working sometime between 1913 and 1921, the social and economic effects of the First World War probably saw an end to the commercial viability of the mill and the way of life it had represented.

4.0 Methodology.

Standard *On-Site Archaeology* techniques were followed throughout the photographic survey. Photographic registers were kept of all photographs taken. Notation of photo shots and directions were recorded on the scale plans.

A full record was taken using both black and white print and colour transparency film. All visible elevations were photographed and the mill was photographed in its immediate surroundings. External details such as windows, doors, the wheelchamber and millraces; and internal details such as fireplaces, roof timbers and the surviving mill machinery and equipment including the waterwheel, shafts and gearing and millstones were all photographed. Interior shots were taken of the accessible downstairs rooms in the attached domestic block and on all three floors of the mill itself. Many of these internal shots necessitated the use of a flash, as light levels were low due to the mill and cottage being boarded up. Photographs were taken both with and without photographic scales of appropriate sizes.

At the time of the photographic survey the mill and cottage were in a derelict state and some parts of the property were not accessible for health and safety reasons. The upper floors of the cottage were not accessed and the top floor of the mill was photographed from the south-west end, the rest of that floor being unsafe due to collapsed roof timbers and weakened floor boards.

5.0 Results.

5.1 Exterior description of mill.

The corn watermill (plate 2) is built into the steep valley side above the River Ure. The structure is externally of three bays and three main storeys with a basement housing the mill gearing. Although mainly constructed of coursed roughly squared rubble stone bonded with lime mortar, the wheelchamber housing the undershot waterwheel is of solid ashlar gritstone, the window sills and lintels and the west doorcase are also of ashlar stone. The low pitched hipped roof is clad with stone 'slates'. Stone lined head and tail races formerly channelled the waterflow through the wheelchamber and back to the river but are now blocked. Some large stone flags, remnants of the mill weir, still project from the mouth of the head race into the river, and there is an overflow sluice from the head race back into the river which retains some remnants of a wooden sluice gate.

A later house is built onto the north and east sides of the mill forming an L plan, this is of three storeys and bays, of rubble stone with ashlar sills and lintels like the mill. The roof is similarly clad and at the same height as the mill roof but is gabled with an end stack on the east elevation.

5.1.1 East Elevation.

At the north end of the east elevation (plate 3) is the east gable of the house with end stack and a door at first floor level, which is at ground level outside, due to the steep slope of the land. At the centre of the east side is a recessed bay in which is a blocked early entrance to the mill, this has graffiti with the dates 1688 and 1701 on the deep limestone lintel (plate 4) and 1787 on the north jamb. This entrance was wider than the later openings and was at the level of what is now the basement housing the mill gear. The lintel and south jamb of this door have been cut by the insertion of a later door at the lowered level of the ground floor (plate 5), this probably dates from the late 19th century. South of the door is a window opening into the basement through which the end of a beam of the lowered floor is visible supported by a brick pier (plate 6) the ashlar grit lintel and sill of this window are typical of most of the openings in the mill. South of this is a small blocked opening at ground level (plate 7). At the south end of this elevation is the ashlar wheelchamber with tail race arch and opening above (plate 8). The tail race arch of ashlar grit is segmental of 12 voussoirs, the opening above also of ashlar grit has a lintel with a false keystone and lintel carved in relief on it with the letters SS and a weathered date which is probably 1771 inscribed on the keystone (plate 9).

5.1.2 South Elevation.

The south elevation of the mill is the narrow elevation fronting the river (plate 10), the base of this is the ashlar side of the wheelchamber with one opening to the east of centre giving access to the wheel bearing (plate 11), above rise the three floors of the mill each with one opening and the hipped roof above. Below each opening at floor levels are lines of stones projecting

beyond the wall face, the reason for these is uncertain, possibly they are filling the ends of joist holes, and do not occur on the east and west sides because the joists run north-south.

5.1.3 *West Elevation.*

The west elevation (plate 12) has an ashlar grit door surround with keystone and interrupted jambs (plate 13), which is probably of the same date as the wheelchamber, both this door and the south wall of the wheelchamber, have the initials CP etched into the stone. At the south end the head race arch in the ashlar grit wheelchamber is a round arch of 11 voussoirs with an ashlar grit opening above into a former room within the wheelchamber (plate 14). At the north end of the west elevation is a projecting bay with no openings on the west wall and a boarded up entrance on the south side. Immediately west of this bay is a ruined outbuilding cut into the hillside, the pitched roofline and the remains of walls and south entrance are visible (plate 15)

5.1.4 *North Elevation.*

From the north only the upper storey can be seen at road level (plate 16), there is a single door with loading steps which leads into the upper floor of the mill, bagged corn could have been unloaded here and taken in for milling, similarly bags of ground flour or animal feed could have been lifted up to this floor from the ground floor by the sack hoist which was near the north end as witnessed by the sack flaps internally, this would save carrying the sacks up the steep slope to the road. The east end of this elevation is the top floor of the house with gable and end stack.

5.2 *Interior of mill: ground floor, basement and wheelchamber.*

The ground floor and basement are accessed from the ashlar entrance on the west side which is placed between these two floors, stone steps lead down into the basement, which houses the main mill gearing, and wooden steps lead up to the ground floor. This would have been known as the spout or bagging floor for here the ground flour flowed through spouts from the stones above to be bagged up and taken away. The bay of the floor immediately in front of the western entrance has no joists or boards although the beams either side bear mortices, the floor here must have been removed for some reason.

The north bay of the floor can be accessed from the loading door on the east side which cuts the 17th century doorway and was constructed at a lower level than an earlier floor. Other evidence for the lowering of this floor by about 0.5m is the sawn through end of one of the original bridging beams in the west wall and the bricked up housings of that and further bridging beams in the exterior west wall, and a bridging beam supported at one end on a later short brick pier because lowering has placed it in the centre of a window.

This inserted beam is of pine, the original beams were of oak and an adjacent oak beam supporting the north bay has been re-used, it bears two full sets of mortices for joists and the marking out and partial cutting of a third set. Also the present floor is lower than the inner wall of the wheelchamber which it was probably originally level with, extending over the wheel, the area above the wheel is presently covered by some wire mesh sheets

The floor was probably lowered at the time new machinery was introduced in 1882. This date is from a plate on a cast-iron column that sits on the basement floor and runs up to a bridging beam supporting the first floor (stone floor). Together with a second column this supports the stone nut and spindle that drove one of the pairs of stones on the floor above.

It is likely that most of the gearing was renewed in 1882 (plate 17); all the main gears are of cast-iron as is the hub of the waterwheel, which was probably renewed or refurbished at the same time. The dated plate bears the legend J. Hauxwell Millwright Yarm; Whites Directories of the East and North Ridings for 1872, 1879 and 1889 list John Hauxwell as a millwright in Yarm. A curved recess in the east wall (see also plate 17) may indicate the position of an earlier horizontally mounted gear wheel probably part of the 18th century mill machinery.

The main gearing (plate 18) is housed in the low basement (or drive floor), which has been reduced further in height by silting up from flooding since the mill was last used. The 17th century entrance on the east side is at the level of the basement and in the north wall there is a blocked opening with graffiti scratched limestone lintel at this same level (plate 19). An opening in the west end of the inner wheelchamber wall gives access to the chamber several feet above the race at the level of the wheel shaft (known as the watershaft), there is an offset in the wall at this level which has mortices for a floor across this end of the wheelchamber cut into it, there are corresponding mortices in the stonework of the opposite wall.

The undershot waterwheel (plate 20) with iron hub and wooden spokes and blades fits tightly into the wheelchamber. There are the remnants of an iron sluice immediately in front of the wheel for controlling the flow of the headrace under the wheel, a shaft for adjusting this sluice projects up to a handle on the ground floor above. The watershaft ran on bronze bearings mounted on the solid wheelchamber walls. The shaft projects through the inner wall into the basement area where it turned the vertical iron pitwheel so called because its lower half was housed in a pit cut into the floor, the pit at Danby is now completely silted up. The pitwheel turned the vertical mainshaft by means of engaging with the horizontal iron wallower, just above the wallower is the great spur wheel of iron with wooden teeth which turned the stone nuts, so named because they turned the spindles which rotated the millstones above. Only one cast-iron stone nut and spindle survives at Danby, the second set is missing.

5.3 Interior of mill: first floor.

The floor is accessed via a simple wooden stair from the ground floor. The first floor is the stone floor where the grinding of corn took place (plate 21). One full set of stones and one bedstone survive supported on frames within the floor. The bedstone (or nether stone) remained stationary whilst the upper stone (or runner) was turned by the spindle projecting from the stone nut below. The crown wheel at the top of the mainshaft is still in place and there is an ancillary wheel and shaft suspended in a frame from the ceiling, which may have powered a flour dresser or sack hoist or some other piece of machinery. The bridging beams supporting this floor are of pine, probably 19th century, from the time of the new gearing and lowering of the ground floor *c.*1882.

5.4 Interior of mill: second floor and roof.

The second floor (plate 22) is the top floor of the mill and would have been used for storage of grain prior to milling. No equipment or interior fittings survive apart from a modern toilet and waste pipe and some modern partition walls at the north end. The floor was only viewed from the south end, as the flooring further north was unsafe and part of the roof had collapsed, this was supported on scaffolding, which had been in place for some time.

The low-pitched hipped timber roof of the mill is of tie beam and principal rafter trusses (plate 23) with no bracing and with staggered butt-purlins supporting the common rafters (plate 24). The roof is clad with stone 'slates' the weight of which must have contributed to the breaking of one of the tie beams. The roof of the house and its conjunction to the mill roof was not seen due to the dangerous condition of the floor making access unsafe in that area.

5.5 The House.

The house (plate 25) of three storeys probably dates from the early to mid 19th century. The south wall of the house is butted to the east wall of the mill and is of coursed limestone rubble construction. The main entrance in the south wall has an ashlar moulded surround with paterae at the upper corners (plate 26). The windows were boarded up externally at the time of the survey and there was no access to the upper two floors, only the two ground floor rooms were viewed.

5.5.1 Room 1.

A small lobby entrance with an arched alcove at the rear leads on the right (east) to room 1. This room has a four pane sash window in the south wall (plate 27) and fireplace in the east wall with 19th century iron surround (plate 28). This room was probably the parlour, the bridging beam is chamfered whereas the bridging beams in room 2 are not chamfered or moulded. The stone walls are covered with thick lime plaster, the east wall has an inner stud lath and plaster skin.

5.5.2 Room 2.

To the west of the entrance is the second room of the ground floor of the house (plate 29). This has a sash window in the south wall, an opening to the stairs in the northeast corner, fireplace in the north wall and another door in the southwest corner. The present fireplace is a later insertion; the stone lintel of the original can be seen above it (plate 30).

5.5.3 Room 3.

The door in the southwest corner of room 2 leads to a room that has a collapsed ceiling and is in a dangerous state. This room has some sort of brick hearth against the west wall, an alcove in the north west corner and a wide opening in the south wall and looks as though it was more of a working area than a domestic one, although the precise function of this area is unknown. (plate 31).