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## **Summary**

The study suggested that the pigsty was of mid 19<sup>th</sup> Century or later date and possessed no architectural merit.

The ruined shell of the mill survived to a height of approximately 1.50m and a number of architectural embellishments were present.

The mill race and ancillary features such as leets and sluices have survived within the mill complex.

Documentary sources intimate that the mill may date from the 17<sup>th</sup> Century but this could not be verified from the recent survey.

## 1 INTRODUCTION

### 1.1 Project origins

Regarding the impact of a planning application (3/07/0791) for the conversion of a ruined structure (the mill) and a former pigsty into two holiday cottages at Ravenbridge Mill, Renwick, Cumbria County Council's Historic Environment Service (CCCHES) was consulted by Eden District Council.

The scheme affects an area of archaeological significance, recorded on the County Historic Environment Record as Huddlesceugh Corn Mill (CCC HER 10573). Further information concerning the location, survival and significance of the known archaeological remains on the site (including the two structures affected by the proposed development), as well as the potential for unknown archaeological remains was required.

A Design Brief set out the requirements for an archaeological desk-based assessment and a level 1 survey of the ruined structure and pigsty. Dependent upon the results of the desk-based assessment, an archaeological watching brief may be required as a future phase of archaeological work to record any remains disturbed by the development. The scope of the watching brief will be driven by the results of the desk-based assessment and if necessary will require the production of a separate Design Brief from Cumbria County Council's Historic Environment Service (CCCHES).

This advice was in accordance with guidance given in Planning Policy Guidance note 16 (Archaeology and Planning) and with the saved policies of the Eden Local Plan.



Figure 1. Location of Ravenbridge, Mill. (OS Copyright, Licence no. 100044205)

## **2 METHODOLOGY**

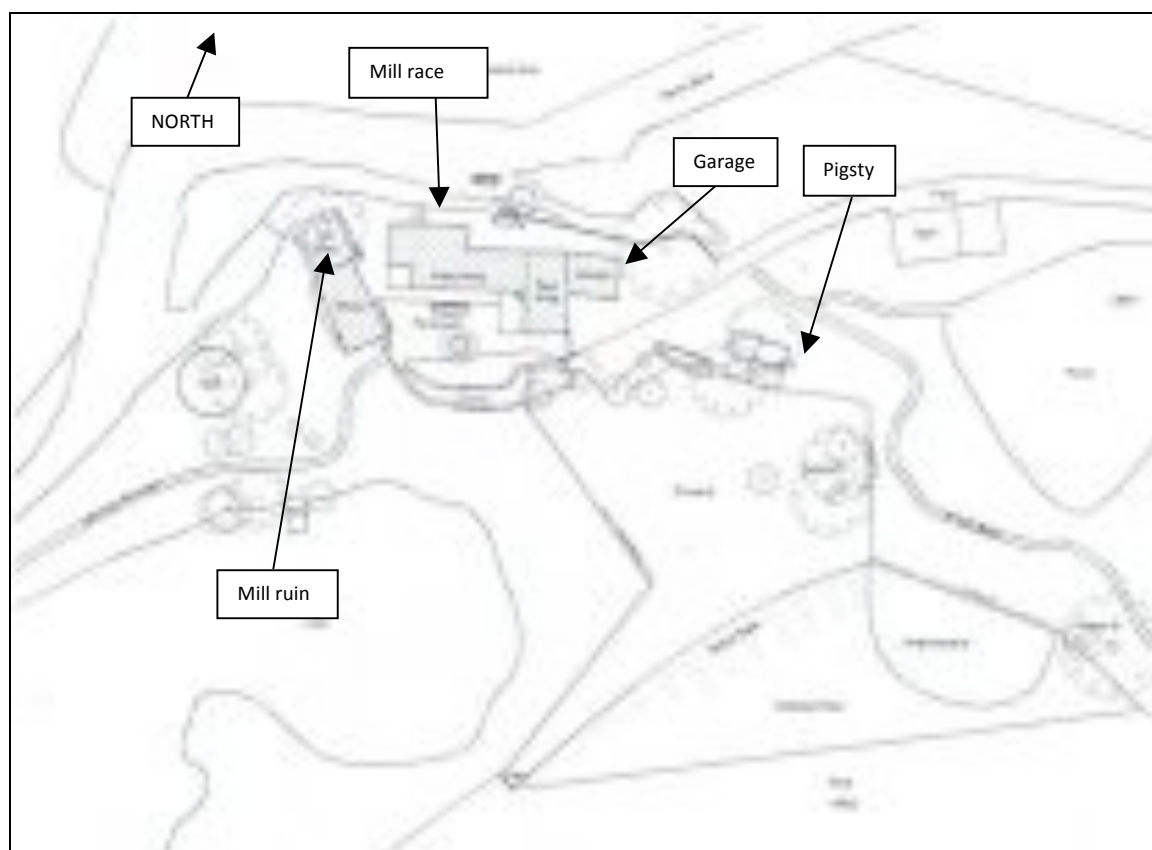
### **2.1 Project design**

In response to a request by Cumbria County Council, Gerry Martin Associates Ltd submitted a project design for an initial assessment (Level I building survey) regarding archaeological recording of extant buildings and a desk-based assessment. This document outlined the contractors' professional suitability, historical background, general objectives required for the project, the methodology and the resources required for the successful expedition of this work.

The project design on being accepted by the curatorial body, Gerry Martin Associates Ltd was commissioned by Mr K. Wilson to undertake the desk-based assessment and the building survey.

The following report has been assembled to the relevant standards and protocols of the Institute of Field Archaeologists, combined with accepted best practice and in accordance with the brief prepared by the curatorial authority.

Fieldwork took place on January 14<sup>th</sup> 2011.



*Figure 2. Location of subject buildings Ravenbridge Mill*

### **2.2 Desk-based assessment**

In accordance with the Design Brief, the desk-based assessment investigated primary and secondary historical sources, maps and other literature in order to set the survey results into their past cultural, historical and topographic context.

The physical study area centred on NY 6007 4295 and consisted of a 1,000m radius from the development.

The desk-based assessment required a search of three archival repositories:

Carlisle Library provided sources for published works including newspaper articles, archaeological and antiquarian reports and trade journals.

Cumbria Record Office, Carlisle provided the earliest tithe map for the parish, details of landowners and occupiers and cartographic evidence.

The Historic Environment Record, Kendal provided the Sites and Monuments Record describing previous archaeological observations of the study area.

### **2.3 Walk-over survey**

A walk-over of the study area revealed a number of minor points that could impact upon the development. These observations included:

- Within the shell of the Mill, there existed a build-up of debris and rubble
- The confluence of Kiln Beck and Raven Beck appears to have shifted to a new breach just east of the original culvert
- The mill race beside the ruined mill had been partly filled and vegetation had begun to encroach
- The site was in a generally good condition with no significant health and safety issues

### **2.4 Archive**

The archive has been compiled in accordance with the project design and the guidelines set out by Management of Archaeological Projects (English Heritage, 1991) and the Institute of Field Archaeologists (1994 and 2007).

The archive will be deposited with an appropriate repository and a copy of the report donated to the County Sites and Monuments Record, as requested by the curatorial authority.

## **3 BACKGROUND**

### **3.1 Location, topography and geology**

The study area lies at approximately 188m OD, within the parish of Renwick embracing the district lying between the rivulets Croglin and Ravensbeck, and extending from east to west for a distance of about four miles, and from north to south by about two miles.

Traditional local industries have been heavily reliant on agriculture either by rearing animals or crop production or through processing locally grown foodstuffs. Mining formerly important is no longer practised.

The area is generally afforested with pasture, a gravelly loam overlying Red sandstone bedrock with a subsoil of gravel and sand. About a third of the land was arable, and the remainder stunted meadow and mountain pasture.

The early-Permian Penrith Sandstone Formation was deposited in a structurally-controlled intermontane basin that was broadly coincident with the present Vale of Eden. The Penrith Sandstone is red-brown to brick red in colour, consisting of well-rounded and well-sorted, medium to coarse grains (Allen, Newell & Butcher 2010, 3).

## **4 HISTORICAL BACKGROUND**

### **4.1 Historical background**

In Bulmer's History & Directory of Cumberland for 1901, the first recorded possessors of the manor of Renwick were the Staveleys, to whom it was granted by Henry I. This family became extinct in the reign of Edward I, Renwick becoming a possession forfeited by Andrew de Hercla, Earl of Carlisle, by his rebellion and consequent attainder.

It was given by Edward III to Robert Eaglesfield, Queen Phillipa's confessor, and founder of Queen's College, Oxford, who, in the year 1341, settled it upon his newly-founded college. The manor is co-extensive with the parish, and is held partly on freehold and partly on customary tenure; the tenants of the latter pay an annual customary rent, and a twelve-penny fine upon change of tenant, as settled by indenture made in 1664.

It was also agreed that "the tenants do scour and cleanse the watercourse to the lord's mill, from the bottom up to the mill trough-head, and maintain the said mill with wall and thatch, and bring the millstones to the same, and grind their corn thereat, paying a twenty-fourth mulcuture; and that they shall cut down no timber trees, except what shall be set out to them by the steward for the necessary repairs of their houses." (Whellan 1860, 619).

This could refer to Huddlesceugh Mill (an alternative option would be Renwick Mill listed on the first edition Ordnance Survey map of 1867), the former name for Ravenbridge Mill as The Carlisle Patriot for September 20<sup>th</sup> 1844 lists the sale of Ravenbridge Mill as:

To be sold by auction, at the Scotch Arms, Rickergate, Carlisle, on Thursday the 3rd day of October 1844, at six o'clock in the evening. All the freehold messuage and tenement called HUDDLESCEUGH MILL, in the Parish of Kirkoswald, in the County of Cumberland, consisting of a dwelling house, and water grist or corn mill, a drying kiln, and other outhouses, and \*0 acres (most likely 30 or 80), or thereabouts, of rich arable and meadow land, in the occupation of LIONEL ROBINSON, or his under tenants. For further particulars apply to Mr. ROBERT WIL\*\*\*, of Mossband Hall;

Mr. JOHN NIXON, of \*ockcliffe Cross; or to Mr. DOBINSON, Solicitor, Carlisle

KIRKUP, Auctioneer  
Carlisle, 5th September, 1844

The estate of "Huddleskew" and the village of "Rennock" are mentioned on the 1576 Saxton map, the nomenclature maintained on the 1646 Jansson map.

The 1695 Morden map describes "Reunwick" but on the Hodkinson and Donald 1774 map the modern spelling for Renwick and Huddlesceugh Hall had been established.

None of the maps illustrate a mill, although a convention for Renwick Mill is present beside Harberry Beck on the 1774 map, perhaps suggesting that this particular mill had become the prominent corn mill in the locality.



Figure 3. 1576 Saxton map



Figure 4. 1644 Jansen map



Figure 5. 1695 Morden map



Figure 6. Hodkinson & Donald map 1774

The first edition 1867 Ordnance Survey map illustrates Ravenbridge Mill (the study building) and appears to show a short stretch of a mill race that coincides with a slight kink in Raven Beck.

The 1844 Tithe map DRC/161 also illustrates the Mill described as plot 256 and owned by Queens College, Oxford. The tenant was George Greenup who is described as a corn miller in the 1858 post Office Directory.

The landowners in this parish formerly paid a prescription in lieu of tithes, excepting the owners of one estate at Scalehouses, held by the Tallantire family, who claimed exemption on account of an ancient owner having slain a "cockatrice" (a form of Wyvern or dragon) during the 17<sup>th</sup> Century.

The commons were enclosed pursuant to an Act of Parliament passed in 1814, when an allotment was made to Mr. W. Lawson, in lieu of tithes. During the early 19<sup>th</sup> Century, Renwick Fell was mined



for coal producing a slight rise in the population to a peak of 375 in 1831 before declining to 316 by 1851 (Whellan 1860, 794-795).



*Figure 7. First Edition Ordnance Survey map 1867*

## **5. RESULTS**

### **5.1 Academic merits**

The buildings in the study area were surveyed on January 14<sup>th</sup> 2011.

Where possible, the survey comprised of photographic recording of the interiors and elevations of the study buildings, with detailed photography of any architectural elements.

Using surviving plans and where accessibility allowed, notations were undertaken regarding the characteristics of these buildings, including metrical data, thresholds, materials and building techniques employed.

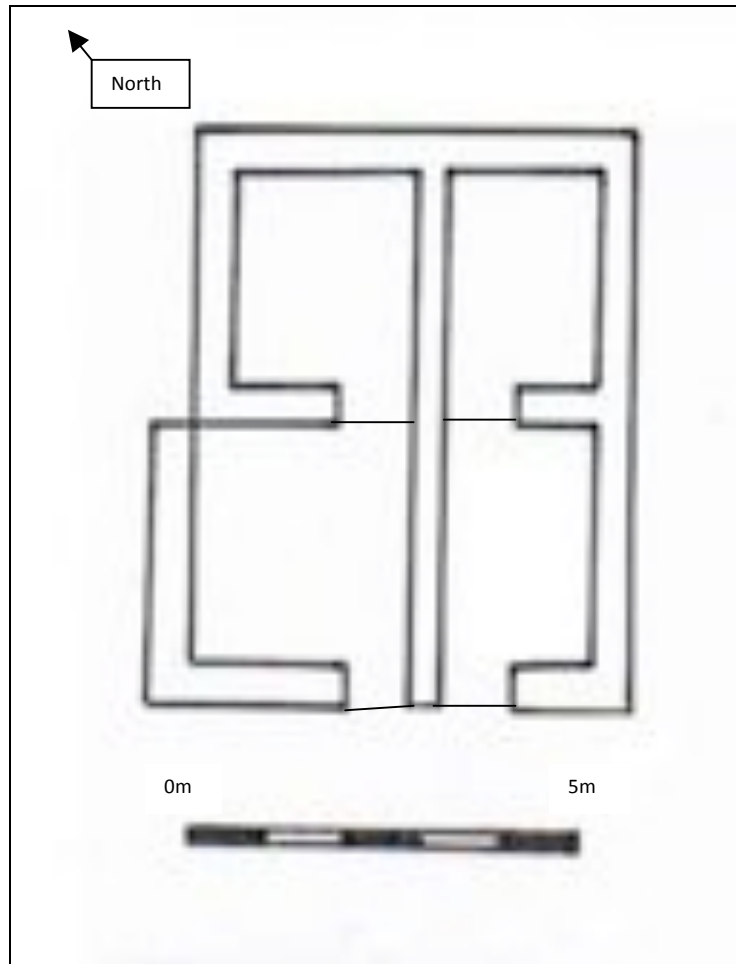
These notes and photographs form the corpus of the following report.

### **5.2 Survey results: Pigsty**

The pigsty (NY 60130 42965) consisted of two element; a pigsty and pens divided into two units.

The pigsty measured 5.55m x 3.80m in plan (figure 8), possessed a facade that was 1.30m in height, 0.50m in width with a further 1.10m in height to the apex of the roof and consisted of a central red

dressed sandstone door jamb with a 0.90m wide entrance formed from stones 0.25m in width (figure 9). A single door remained, built in timber tongue and groove. The structure was built from coursed, rough hewn dressed sandstone blocks measuring 0.20m x 0.15m x 0.12m (figure 11). No roof was present but it probably comprised red sandstone shingles. The guttering was missing.



*Figure 8. Plan of the pigsty*



*Figure 9. Facade of northern unit in the pigsty*



*Figure 10. South elevation of pigsty with vents*

Each unit within the pigsty possessed single ventilation slits (figure 10) at the rear measuring 0.25m in height and 0.10m in width.

Added later, were two stone pens measuring 6.05m x 3.80m (figure 12) comprising dry-stone walls measuring 0.50m in width, standing to 1.20m in height complemented with a coping of angled, flat stones. The southern wall had been partly repaired with breeze blocks. The pens were divided into two units with a central double entrance and were filled with rubbish.

The pigsty was probably of mid to late 19<sup>th</sup> Century date or later.



*Figure 11. North elevation of pigsty*



*Figure 12. Western elevation showing pens*

### **5.3 Survey results: Ruined mill**

The ruined mill (NY 60092 42971) consisted of a rectangular plan building measuring 6.58m x 7.28m with an internal area measuring 5.58m x 6.28m (figure 13). Considerable dumping of debris occurred on the northern side of the mill within the former mill race (figure 15).

The subject building possessed a superstructure of rough hewn stone blocks circa 0.30m x 0.40m in size, smaller towards the corner at 0.20m x 0.30m bonded by a buff sandy clay mortar forming walls 0.50m in thickness (figure 14).

The floor consisted of hard stone flags beneath rubble and undergrowth.

Access into the building was via a flight of steps in the south-eastern corner 1.20m in width. A number of architectural details were observed that included:

- A window on the eastern elevation, 0.30m from the north-eastern corner, 1.10m off the ground measuring 0.80m in width (figure 16)
- A blocked window or door on the eastern elevation, 1.80m from the north-eastern corner measuring 0.80m in width (figure 17)
- A blocked door on the northern elevation, 1.30m from the north-western corner measuring 0.80m in width that may have maintained the transmission from the wheel to the grinding stones (figure 18)
- The conjunction of two walls, 2.20m from the north-western corner that suggested two phases of construction (figure 20)

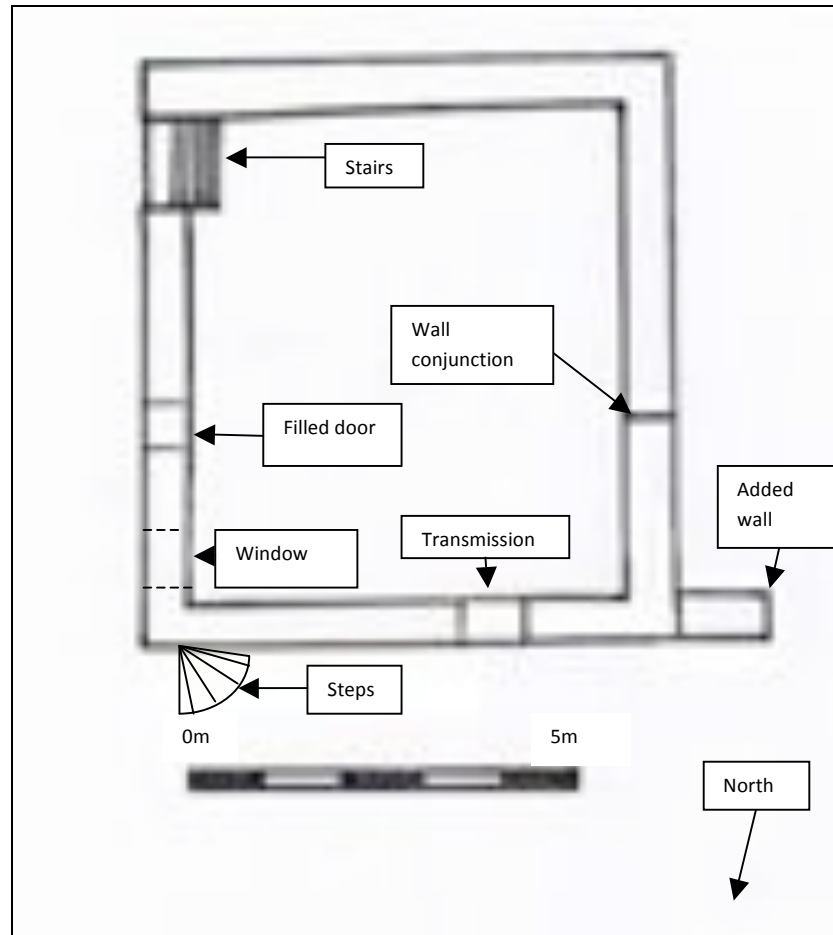


Figure 13. Plan of the ruined mill



Figure 14. Eastern elevation of ruined mill



Figure 15. Northern elevation of ruined mill

The exterior of the northern elevation, 0.80m from the north-western corner, illustrated an arced scar (figure 21) that represented the waterwheel brushing the side of the Mill. The scar measured 1.20m in radius suggesting that the waterwheel measured 2.40m in diameter.

The ground plan of the ruined mill appeared to be the original footprint with later additions and amendments.



Figure 16. Window in eastern elevation



Figure 17. Blocked "window" in eastern elevation



Figure 18. Aperture in northern elevation



Figure 19. Sluice in additional north wall



Figure 20. Conjunction of two western walls

Figure 21. Wheel scar on north elevation

A spiral set of five stone steps (figure 22) 0.70m in height and 1.20m in width was added 1.40m westwards from the north-eastern corner probably after the mill had gone out of use as it was built above the partly filled mill race.

A 1.30m length of mill wall appears to have been added that extended westwards from the north-western corner of the Mill. This wall possessed a square sluice (figure 19) within a cruder rough hewn rubble wall (figure 23).



Figure 22. Spiral set of steps

Figure 23. Western extension of the ruined mill

#### 5.4 Survey results: Mill race

A formal mill race was observed alongside the extant house and Raven Beck. The following observations were undertaken:

- At the eastern end of the mill race, NY 60123 42985 a small beck (Kiln Beck) has breached through just to the east of a stone revetment. Two metres west of the breach were two stone sluices 1.00m in height and 0.80m in width that were no longer in use (figure 24)
- Opposite the west wing of the house, NY 60097 42965 a flight of seven steps assembled as a fan measuring 3.00m in width and 1.50m in height within a breach in the mill wall (figure 25)

- Two metres east of the north-eastern corner of the ruined mill, NY 60074 42970 was a stone plinth or platform (figure 26)
- A three metre stretch of loose wall, NY 60071 42959 standing 0.35m in height and lying parallel to the Mill, 2.80m apart. The leet was filled with debris up to the top of the wall where the circular steps existed (figure 27).
- Beyond the Mill, the leet continued to NY 60063 42944 as a single course of stones forming the north side of the channel (figures 28 and 29). The leet was infilled and overgrown.



*Figure 24. Sluices at the eastern end of the mill*    *Figure 25. Steps leading up to the mill*



*Figure 26. Stone plinth*

*Figure 27. Leet in front of the ruined mill*



*Figure 28. The overgrown leet looking westwards*    *Figure 29. Single stone course of the leet*

## **5.5 Survey results: Garage**

A modern stone-built garage had been added to the east wing of Raven Bridge Mill measuring 6.40m x 5.20m and standing to a height of 4.20m that includes 1.50m for the roof of the building.



*Figure 30. Outbuilding used as a garage*

## **5.6 Discussion**

The pigsty and garage were of little architectural merit or interest and probably date to the mid to later 19<sup>th</sup> Century or even the 20<sup>th</sup> Century in the case of the garage. Both structures do not appear to be on the First edition Ordnance Survey map (1867).

The ruined mill and the attendant mill race probably possess greater antiquity although there are no architectural devices or archaeological context that conclusively proves this assertion.

Documentary sources intimate that the Mill originates from the mid 17<sup>th</sup> Century and is part of the Huddlesceugh estate. Significantly this mill stands on the southern side of Raven beck and takes the name Huddlesceugh, suggesting a strong association with that manor rather than Renwick Mill which lies on the northern bank of Raven Beck and probably takes its name from the nearby village.

Brunskill suggests that the reliability provided by steep hillsides and consistent water supplies obtained an advantage for watermills over windmills in Cumbria that also oversaw the later challenge of steam power (Brunskill 2002, 117).

The type of mill employed is dependent on the local topography. The subject mill appears to be a breastshot mill. Here water is admitted to the wheel about half way up and it flows out with the rotation of the wheel. This is usually the preferred option where only a head of water of some 1.90-2.60m is available but can provide approximately 50% efficiency.

The simple water mill as perfected in the early 19<sup>th</sup> Century was arranged on three levels: the lowest level contained the horizontal drive from the waterwheel and the gearing that converted it into a vertical drive to the intermediate level where the set of millstones were located. The upper level was used for storage often located in the roof space.

The waterwheel was often external (as in this case) and often roofed and required a narrow, easily controlled headrace, a bypass and a tailrace.



The mill tended to be a simple rectangular building with the proportions and size of a barn, standing to a height of two and a half or three storeys. It became common during the 19<sup>th</sup> Century to incorporate a drying or malting kiln at one end of the mill (as suggested in the 1844 bill of sale) whilst the miller lived nearby accompanied with a cart-shed and stables (Brunskill 2002, 119).

## **6 ARCHIVE**

The archive for this project will be deposited with the appropriate archaeological curator, Tullie House Museum, Carlisle. This archive has been assembled in accordance within the protocols of Management of Archaeological Projects (MAP2).

## **7 ACKNOWLEDGMENTS**

I am grateful to Mr Kenneth Wilson for his assistance with the fieldwork and answering my questions regarding the history of Ravenbridge Mill. I would also like to thank Jo MacIntosh for her help and guidance with the Historic Environment Record in Kendal, Jeremy Parsons for his guidance on the survey, the staff of Carlisle Library with my research into the local history of the area and the staff of Cumbria Record Office and Carlisle with the map regression and documentary material.

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