Shap Wastewater Treatment Works, Cumbria



Rapid Desk-Based Research and Walkover Survey

Oxford Archaeology North



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SUMMARY

Following proposals by United Utilities for the extension of a wastewater treatment works in Shap, Cumbria (NGR NY 55806 15803), the Cumbria County Council Historic Environment Officer recommended that rapid archaeological desk-based research and a walkover survey of the proposed development area be undertaken in advance of an archaeological evaluation. Oxford Archaeology North (OA North) was subsequently commissioned by United Utilities to undertake this work.

The following report contains the results of the desk-based research and walkover survey carried out in September 2008. Due to the proximity of the proposed works to the Shap Stone Avenue, and the high potential for prehistoric archaeology in this area, an evaluation was recommended in advance of the proposed pipeline works, the results of which will be presented in a separate report.

In total, six sites of archaeological interest were identified within the study area during the desk-based research, of which five had been previously recorded in the Cumbria HER (Sites **01-05**). Site **06** was identified by inspection of historic maps.

The six identified sites comprised a Bronze Age barrow (Site 01), which is a Scheduled Monument, located at the southern extent of the study area; the remains of medieval strip fields (Site 05) at the north-eastern extent of the study area; a post-medieval pump (Site 03), associated with a farm; a listed barn (Site 02) at the south-east extent of the study area; and the site of a probable post-medieval sluice (Site 06) at the south extent of the proposed development area. In addition a area of cultivation terraces of unknown date (Site 04) was identified towards the western extent of the study area. Of these sites, only one (Site 06) was located in the vicinity of the proposed development.

The subsequent walkover survey identified a further three post-medieval sites. These comprised Site 07, a stone bridge over Shap Beck, Site 08 a collapsed water smoot and Site 09, a series of field drainage ditches. Only Site 09 will be directly affected by the development works.

Despite the small number of known sites within the study area, the archaeological potential of the area is high due to the presence of a number of Neolithic and Bronze Age monuments in the wider area, including Shap Stone Avenue, the course of which crosses the south-western portion of the study area, with the Skellaw Hill Barrow (Site **01**) on the same alignment. None of the sites identified during the course of this programme of research which will be impacted upon by the proposed development warrant any further work.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank United Utilities for commissioning the project. Thanks are also due to Jo Mackintosh at Cumbria County Council Historic Environment Record (CCCHER) and the staff at Cumbria County Record Office in Kendal.

Kathryn Blythe undertook the rapid desk-based research and Will Gardner undertook the walkover survey. Mark Tidmarsh produced the drawings, Alison Plummer managed the project, and also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 United Utilities proposed the extension of existing wastewater treatment works at Shap in Cumbria (Fig 1). Following recommendations made by the Cumbria County Council Historic Environment Officer, United Utilities commissioned Oxford Archaeology North (OA North) to undertake a rapid archaeological desk-based research and a walkover survey of the proposed development area. This work was to be followed by an archaeological evaluation of the proposed development area, the results of which will be presented in a separate report.

1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

- 1.2.1 The wastewater treatment works (Fig 1) are located to the north-west of Shap, approximately 15km to the south of Penrith (NGR NY 55806 15803). The river Lowther is located approximately 1km to the west. The works are located on relatively flat land between 250-260m AOD (Ordnance Survey 2002).
- 1.2.2 The underlying solid geological deposits comprise Tournaisian and Visean rock of the Carboniferous Limestone Series (BGS 2007). Overlying this are typical brown earths of the Waltham Series (Ordnance Survey 1983).

2. METHODOLOGY

2.1 INTRODUCTION

2.1.1 The rapid desk-based research was carried out in accordance with the relevant IFA and English Heritage guidelines (Institute of Field Archaeologists 1999, *Standard and guidance for archaeological Desk-based Assessments*; English Heritage 2006, *Management of Research Projects in the Historic Environment* (MoRPHE).

2.2 RAPID DESK-BASED ASSESSMENT

- 2.2.1 A study area that extended 0.25km around the proposed development area was examined. All known archaeological sites identified have been integrated into the Historical and Archaeological Background (*Sections 3.2 and 3.3*) in order to assess the impact of the proposed development. The location of these sites is shown in Figure 2.
- 2.2.2 Several sources of information were consulted as part of the research, which have provided a good understanding of the developmental history of the study area. Archive sources that were consulted include:
 - *Cumbria County Council Historic Environment Record (CCCHER)*: the Historic Environment Record held in Kendal was consulted to establish the presence of sites of cultural heritage interest already known within the study area;
 - *Cumbria County Record Office, Kendal*: cartographic and secondary sources relating to the study area were consulted at the Record Office;
 - **OA North Library**: OA North has an extensive archive of secondary sources relevant to the study area, as well as numerous unpublished client reports on work carried out both as OA North and in its former guise of Lancaster University Archaeological Unit (LUAU). These were consulted where necessary.

2.3 WALKOVER SURVEY

2.3.1 Following the rapid desk-based research, a level I-type survey (*Section 4*) was undertaken to relate the existing landscape to research findings. Archaeological features identified within the landscape were recorded using the relevant OA North *pro forma*, and the features located using differential GPS survey, which can achieve an accuracy of +- 5m with respect to the OS national grid.

2.4 ARCHIVE

2.4.1 Copies of this report will be deposited with the Cumbria Record Office in Kendal and the Cumbria County Council Historic Environment Service, also in Kendal.

3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.1 INTRODUCTION

3.1.1 The following section presents a summary of the historical and archaeological background of the general area. This is presented by historical period, and has been compiled in order to place the study area into a wider archaeological context.

Period	Date Range
Palaeolithic	30,000 – 10,000 BC
Mesolithic	10,000 – 3,500 BC
Neolithic	3,500 – 2,200 BC
Bronze Age	2,200 – 700 BC
Iron Age	700 BC – AD 43
Romano-British	AD 43 – AD 410
Early Medieval	AD 410 – AD 1066
Late Medieval	AD 1066 – AD 1540
Post-medieval	AD 1540 – <i>c</i> 1750
Industrial Period	cAD1750 – 1901
Modern	Post-1901

Table 1: Summary of British archaeological periods and date ranges

3.2 THE PREHISTORIC PERIOD

- 3.2.1 *Mesolithic-Bronze Age* (c 10,000–700 cal BC): during the Mesolithic period the inhabitants of the British Isles employed a subsistence strategy traditionally viewed as the exploitation of natural resources by activities based on hunting, gathering, and fishing. Approximately commensurate with the adoption of farming, from c 4000 BC, the Neolithic period saw an increase in more permanent settlement, and the beginnings of widespread construction of monumental architecture.
- The marginal uplands and valleys of the Shap area have been occupied and 3.2.2 exploited since at least the Neolithic period and potentially even earlier. The main Neolithic remains in the immediate vicinity of the study area are the surviving standing stones of the Shap Avenue, dated to the Late Neolithic period by analogy with more securely dated monuments (Clare 1978). The site is a Scheduled Monument (SM 22496) and includes 14 individual stones in the Shap area, but there were certainly many more which have not survived, and survey results have suggested that the alignment may have extended over 3km (Burl 1993, 47; Hodgson and Brennand 2006, 39). Antiquarian accounts (Nicholson and Burn 1777; Hall 1824) clearly show that the stones were being broken up for use in buildings or to clear land for enclosure and agriculture in the late eighteenth and early nineteenth centuries. A survey of stones with similar geological sources and size, undertaken in 1972, indicates that others may survive but not in situ (Burl 1993). Thomas Routh, working in 1743 as William Stukeley's surveyor (responsible for planning and surveying Avebury and Stonehenge), commented that the Shap Avenue possibly turned just north

of the Goggleby Stone, and that the avenue had an appearance of being a double row (Lukis 1894, 314). The antiquarian sources suggest that there may have been three avenues (double rows of stones) centred on the Shap area, one aligned north-west/south-east by Skellaw Hill barrow (Site **01**), one north-west of Knipe Scar, and the third aligned north/south, south of Shap and aimed at Kemp Howe stone circle. It is also possible that the avenue north of Kemp Howe may instead have been two single rows (Burl 1993, 101).

- 3.2.3 The Bronze Age in Britain developed gradually from the preceding Neolithic during the mid third millennium BC, although beyond the appearance of metal artefacts the distinction is somewhat overstressed (Hodgson and Brennand 2006, 29-30). Little in the way of firm settlement evidence during this period has been encountered in Cumbria, although numerous cairnfields suggest the widespread practice of agricultural field-clearance (Hodgson and Brennand 2006, 34–5) and intimate the presence of associated areas of domestic activity.
- 3.2.4 There are a number of monuments in the wider area from the Neolithic/Bronze Age including stone circles, cairns and barrows, which testify to the extensive use of this area. Scheduled stone circles include those located at Shap, c 2.7km to the south-south-east of the study area (SM 22498); at Oddendale, c 4.5km to the south-east (SM 22450); and near Castlehowe Scar, c 3km to the east (SM 22451). Scheduled cairns in the area include those located at Burn Banks c 4.5km to the west of the study area (SM 22516); on Knipescar Common, c4km to the north-west (SM 22510); east of Long Scar Pike, c 6km to the south-east (SM 22454); and at White Raise, c 3.3km to the south-west (SM 22491 and SM 22492). Scheduled barrows include a bowl barrow and round barrow at Scarside Plantation, c 4km to the north-west of the study area (SM 22513 and SM 22512); a bowl barrow on Wickerslack Moor, c 4km to the east (SM 22479); and bowl barrows on Iron Hill, c 4km to the east-south-east (SM 22458 and SM 22463).
- 3.2.5 Site **01** is Skellaw Hill bowl barrow (SM 22490), located towards the southern end of the summit ridge of Skellaw Hill in the south-western part of the study area. The monument comprises a circular mound of earth and stones, 17m in diameter and up to 1.5m high. Antiquarian investigations of the mound located human bones and two pieces of chert. Its location on the line of the stone avenue suggests that it may be contemporary with this monument and it has been postulated that the stone avenue was constructed in two sections, to the north-west and south-east of the barrow (Hodgson and Brennand 2006, 39).
- 3.2.6 **The Iron Age (c 700 cal BC AD 43):** a comparative lack of material culture in the North West relating to the Iron Age has historically made sites of this period difficult to identify in the archaeological record, particularly with reference to small-scale rural sites. Both the uplands and lowlands of Cumbria have produced evidence of enclosures that may date to the Iron Age, although a lack of identifiable material culture has made it difficult to assign these sites firmly to the Iron Age (Hodgson and Brennand 2006, 52).
- 3.2.7 Although the Iron Age is not well represented in the vicinity of the study area, multivallate hillforts, with possible Iron Age origins, are known from the surrounding region at Castlesteads to the south of Kendal (Bingham 1995);

Castle Crags, on the west side of Haweswater (LUAU 1997a); the Wasdale Foot settlement, to the south of the study area on the Shap (*ibid*); and a scheduled univallate hillfort is located at Scarside Plantation, c 4km to the north-west of the study area (SM 22511).

3.3 THE HISTORIC PERIOD

- 3.3.1 The Romano-British Period (c AD 43 AD 410): Roman forts are located at Low Borrowbridge, 15.4km to the south-east of the study area and Brougham c 13km to the north. Both forts are on the Roman road from Manchester to Carlisle which runs south/north through the east side of the Lake District, generally on the line of the modern day A6, but in the vicinity of Shap the Roman road is located approximately 5km further east. A scheduled Romano-British enclosure and associated field system is located on this road, c 6km to the south-east of the study area (SM 22476). High Street, located between Ambleside and Brougham, runs approximately 10km to the west of Shap, on the west side of Haweswater (Ordnance Survey 1991). A scheduled Romano-British farmstead is located at the north end of Haweswater, c 4.5km to the west of the study area (SM 22598). A scheduled Romano-British enclosure and associated field system is also located at Wickerslack, c 4km east-southeast of the study area (SM 22478).
- 3.3.2 *Early Medieval (AD 410 1066):* as is the case throughout Cumbria, evidence for early medieval activity from excavations and surviving remains is extremely limited. Following the cessation of organised Roman military occupation in Britain, most of Cumbria became part of one of the rapidly fluctuating early medieval kingdoms: firstly Rheged in the sixth and seventh centuries and then the expanding and conflicting kingdoms of Northumbria and Strathclyde (Higham 1986; Bingham 1995). Evidence for rural settlement is beginning to emerge at sites, such as Fremington, 3km south-east of Penrith (Oliver *et al* 1996, 127-169), Bryant's Gill in Kentmere (Dickinson 1985) and nearby at Shap, where evidence for timber buildings was found and loom-weights were recovered (Heawood and Howard-Davis 2002).
- 3.3.3 *Medieval (AD 1066 1540):* Norman centres appear to have been established in the area around Kendal shortly after the Conquest in 1066. However, it was not until 1092 that the Normans were able to take full control of Cumbria (Bingham 1995), and the resultant political divisions appear to have been based on already existing entities (Winchester 1987).
- 3.3.4 Shap was the site of the Abbey of St Mary Magdalene, a house of Premonstratensian or 'White' Canons, and the only Norman abbey in Westmorland (SM 22495; located over 1km to the south-west of the study area). It was originally founded in c 1191 at Preston Patrick in Kendal, some 20 miles south of Shap, by Thomas de Workington, and was moved to *Hepp* (Shap) in c 1201 (Butler and Given-Wilson 1979, 344). In addition to their ecclesiastical duties, the canons of Shap Abbey were also major landowners in the area and, as such, their administrative and financial interests would have affected much of the region. Although, at its most populated, the abbey housed only 20 canons (there may have been extra lay-members), it is evident that it

controlled much of the surrounding area extending from Shap westwards towards the north-east bank of the old Haweswater Lake and then southwards to include Swindale, and Sleddale. Of greatest impact on the farming landscape were the localities of the abbey granges, often characterised by large-scale farming and huge barns for harvest stores (in this area often for wool or hay). The well-developed dyke system around the land immediately in the vicinity of the abbey (LUAU 1997b Section 4.2.24) is likely to have been associated with the canons (*ibid, Section 6.6.18*). The existence of the abbey at Shap, with its ecclesiastical, administrative, and agricultural importance for the neighbourhood, would have contributed towards the development and use of roads and packhorse routes in the area. The canons of Shap Abbey would have travelled to and from their administrative and diocesan centre of Carlisle and they would have needed to transport goods to and from the market centres of Penrith and Kendal (*ibid*).

- 3.3.5 Shap village, shows considerable elements of planning in its layout, being a very linear village located on both sides of the Old Shap Road (now the A6). Strip-like crofts would have extended to the rear of the properties fronting the road and a back lane would have run to the rear of these crofts for access. A number of settlements with these characteristics can be seen across Cumbria and North Lancashire, including Hale and Yealand Redmayne, and they are thought to have originated in the twelfth century as the result of the consolidation of Anglo-Norman power (Newman 2006, 118).
- 3.3.6 Site **05** is the earthwork remains of a strip field system noted to the north of Shap. This type of field system was one in which plots of land were communally managed and rotated in terms of produce grown, grazing use or lying fallow. The characteristic features of this former landscape are the remains of long narrow, reversed 'S'-shaped strips of ridge and furrow which represent individual working plots within the field. The ridge and furrow undulations having resulted from the use of animals, mostly oxen, to plough the land and the 'S'-shape reflecting the necessarily long turning circle for these animals. When the open fields were eventually enclosed, the field boundaries followed the lines of the internal cultivation strips, and so the resultant strip fields often fossilise the sinuous shape of the oxen-ploughed ridge and furrow.
- 3.3.7 **Post-medieval (AD 1540 c1750) and Industrial-Period (1750-1901):** a number of quarry sites and associated limekilns are located to the south of Shap. There is much evidence from surviving remains, landscape features, maps and documentary sources to demonstrate the extent of the lime industry in the area. Limestone was quarried either for use as stone or tile (Marshall and Davies-Shiel 1977, 159) or, once burnt, had numerous uses including lime wash, and lime mortar. The lime was also used in agriculture, since spreading it on the fields can help neutralise soil acidity and aid the absorption of nutrients from manure (Mawson 1980, 137); this use was probably in practice by at least the sixteenth century.
- 3.3.8 A significant development of the seventeenth to nineteenth century period in the Shap area was that of wheeled traffic, in conjunction with the turnpiking of the Old Shap Road in 1753. Until this point most traffic between Kendal and

Penrith had travelled by packhorse up the Kentmere valley, over the Nan Bield Pass and into the Haweswater valley (LUAU 1997b; Hindle 1998). The turnpike road continued from Kendal to Penrith, skirting east of the valleys of Longsleddale and Swindale, encouraging the development of the market town of Shap. Later, in the nineteenth century, the route enabled the development of large-scale quarrying for Shap granite, slate and limestone (Hindle 1998).

3.3.9 Site **02** is the Grade II listed bank barn on Pow Lane in Shap, dating to the mid-nineteenth century. Site **03** is Nook Farm Pump, shown on the 1863 first edition ordnance survey mapping and originally marked as a well. Site **04** comprises cultivation terraces, strips and dykes recorded from aerial photographs of the area. The precise date of these features is unknown.

3.4 PREVIOUS ARCHAEOLOGICAL WORK

3.4.1 **Rosgill Moor to Shap Water Main Renewal (NGR 355726 514689):** a deskbased assessment and watching brief were carried out on the line of the Rosgill Moor to Shap pipeline in 1999, the eastern end of which is located within the study area. The findings of the desk-based assessment demonstrated the proposed works had the potential to disturb prehistoric and medieval archaeological remains. However, the only archaeological remains revealed during the watching brief related to the precinct wall of the medieval Shap Abbey exposed in Trench 31, a small section of which was recorded. Trench 39 was located within the study area, but no features of archaeological interest were noted in this trench (LUAU 2000).

3.5 MAP REGRESSION ANALYSIS

- 3.5.1 *Kitchen's map of Cumberland*, 1777 (*Fig 3*): this map is large-scale and, as such, contains no detail of the study area. The main road north, which passes through Shap, is shown on this mapping. In the vicinity of the study area Shap, Keld, and Shap Abbey are marked, but no further detail of the study area is shown.
- 3.5.2 *Tithe and enclosure maps:* there were no tithe maps or enclosure maps available at Kendal Record Office, which covered the study area.
- 3.5.3 Ordnance Survey First Edition map of 1863 (Fig 4): this mapping shows Shap as a linear settlement on both sides of the north/south road (now the A6). A back lane is shown to the west of the village, but the eastern side is less well defined due, in part, to the railway line to Carlisle, which runs to the east of the village and crosses the A6 just north of Shap. The layout of fields within the study area appears much as it does on the current mapping. A footpath runs north-west/south-east across the southern part of the study area and is still present on the current map. A sluice (Site 06) is marked on what is now the southern boundary of the wastewater treatment works. Skellaw Hill Barrow (Site 01) is marked on this map as a tumulus, and the stones that comprise Shap Avenue in this area are marked. Bank Barn on Pow Lane (Site 02) can be

seen on this map and a well is marked in the approximate position of Nook Farm pump (Site **03**).

- 3.5.4 Ordnance Survey Second Edition map of 1897 (Fig 5): this mapping is very similar to the first edition mapping. The sluice (Site 06) is still marked and the stream on which it is located is labelled Shap Beck. The pump at Nook Farm (Site 03) is labelled as such.
- 3.5.5 Ordnance Survey map of 1915 (Fig 6): this mapping is similar to the 1897 mapping. The sluice (Site 06) is still marked, however the pump at Nook Farm (Site 03) is not shown.
- 3.5.6 Ordnance Survey map of 1960 (Fig 7): as this map is larger scale than the earlier maps, it has less detail. The line of Shap Beck is marked on this mapping, but the sluice (Site 06) is not depicted. The remainder of the study area; as depicted on this mapping, remains similar to the 1915 map.

4. WALKOVER SURVEY

4.1 INTRODUCTION

- 4.1.1 The site was visited in order to relate the existing topography and land use to research findings, to assess evidence not available through documentary sources, and to highlight the presence of any areas of surface detail or archaeological interest. The visit also provided an understanding of the impact of the proposed redevelopment and the presence of any immediately visible constraints to the undertaking of intrusive investigation works.
- 4.1.2 All of the fields adjacent to the proposed pipeline route were walked systematically and the ground conditions were generally good for identifying sites by walkover survey. All of the fields inspected were under pasture and had a covering of short grass. Generally, the field boundaries were dry-stone walls, although one hedgerow with post and wire fence was noted. The fields were numbered from 1 to 5 to aid identification. Those to the north were very much improved and had appropriate drainage for farming.

4.2 **RESULTS**

- 4.2.1 The walkover survey identified a further three sites. These were mostly postmedieval agrarian features, such as field drainage (Sites **08** and **09**; Plates 3, 4 and 5), and a footbridge over Shap Beck (Site **07**; Plate 2). The walkover survey also identified the possible remnants of the sluice (Site **06**; Plate 1) as identified by the desk-based research. A detailed description of these sites is presented in the gazetteer (*Section 5*).
- 4.2.2 Site **07** is one of a number of pedestrian and livestock bridges distributed intermittently along the course of Shap Beck, comprising coursed limestone rubble construction and having a damaged segmental voussoir arch. The field drainage (Site **09**: Plates 4 and 5), which comprised a ditch around the perimeter of the Fields 2 and 3, may be related to the collapsed water smoot identified within the wall in the south-western corner of Field 3 (Site **08**: Plate 3).

5. GAZETTEER OF SITES

Site Name Site number NGR HER no Site Type Period Statutory	Skellaw Hill Bowl Barrow 01 355650 515470 1567 Bowl barrow Late Neolithic/Bronze Age
Designation	Scheduled Monument 22490
Source Description	HER Skellaw Hill bowl barrow, located towards the southern end of the summit ridge of Skellaw Hill and including a circular mound of earth and stones 17m in diameter and up to 1.5m high. Limited antiquarian investigation of the mound located human bones. Two pieces of chert were also found. Despite past ploughing and limited antiquarian investigation Skellaw Hill bowl barrow survives wellFurther evidence of interments and grave goods may exist within the mound and upon the old landsurface. The barrow is probably connected with the Shap alignment of standing stones (SMR 1568). The site lise outside of the proposed development area and will not be affected by the
Assessment	works.
Site Name	Bank Barn, Pow Lane, Shap
Site number	02
NGR	356120 515587
HER no	74180
Site Type Pariod	Barn Industrial Period
Statutory	liidustitat Petiod
Designation	Grade II Listed Building 23800
Source	HFR
Description	Bank barn, adjoining the north end of The Rockery, dating to the mid-nineteenth
2000-100	century.
Assessment	The site lies outside of the proposed development area and will not be affected by the works.
Site Name	Nook Farm Pump, Shap
Site number	03
NGR	356110 515745
HER no	14740
Site Type	Pump
Period	Post-medieval
Designation	
Source	- HER
Description	Nook Farm Pump, previously a well. Shown on the OS first edition 6" Sheet XIV and
2000-100	OS second edition 25" Sheet XIV.10.
Assessment	The site lies outside of the proposed development area and will not be affected by the works.
Site Name Site number	Shap Cultivation Terraces 04
NGR	355500 515850
HER no	16984

Site Type	Earthwork
Period	Unknown
Statutory	-
Designation	HER
Source	An aerial photograph shows cultivation terraces, strips and dykes in this area.
Description	The site lies outside of the proposed development area and will not be affected by the
Assessment	works.
Site Name	Shap Field System
Site number	05
NGR	356100 516000
HER no	1593
Site Type	Earthwork
Period	Medieval
Statutory	-
Designation	HER
Source	Field System - strip fields.
Description	The site lies outside of the proposed development area and will not be affected by the
Assessment	works.
Site Name Site number NGR HER no Site Type Period Statutory Designation Source Description	 Sluice on Shap Beck 06 355801 515766 Sluice Post-medieval Map regression A sluice marked on Shap Beck on the first edition OS map of 1863. A wastewater treatment works is now located in this area and the sluice is not marked on current mapping. The possible remnants of this site were identified and photographed during the walkover survey. This comprised a curved section of faced limestone blocks 3m long by 0.75m high situated within the southern bank of the beck. Five courses were observed, although the full extent was not exposed, and there is no discernible bond. The site lies within the proposed development area and may be affected by the works.
Site Name Site number NGR HER no Site Type Period Statutory Designation Source Description	Bridge over Shap Beck 07 355852 515735 - Bridge ?Post-medieval - Walkover A limestone bridge 1.2m high and 3m wide comprising coursed rubble springing points and a damaged segmental voussoir arch over Shap Beck. Such structures are located at regular intervals along the beck and serve as passage across the beck for pedestrians and livestock. The site lies within the proposed development area and may be affected by the works.

Site Name	Water Smoot
Site number	08
NGR	355768 515838
HER no	-
Site Type	Smoot
Period	?Post-medieval
Statutory	
Designation	-
Source	Walkover
Description	A collapsed and blocked water smoot relating to the current field system was located within the field boundary wall in the south-western corner of Field 3. It measures 0.5m high and 1.5m wide.
Assessment	The site lies within the proposed development area and may be affected by the works.
Site Name	Field System / Drains
Site number	09
NGR	
HER no	-
Site Type	Drainage ditch
Period	?Post-medieval
Statutory	
Designation	-
Source	Walkover
Description	A shallow drainage ditch around the perimeter of the Fields 2 and 3, approximately
	0.3m deep.

6. IMPACT AND RECOMMENDATIONS

- 6.1.1 Rapid assessment of the available evidence from the Cumbria HER, historic maps held at the Record Office in Kendal, and the OA North library has shown that the proposed development area is located within an area of high prehistoric potential. Skellaw Hill Barrow (Site **01**) is located within the study area, and is on the same alignment as the Shap Stone Avenue, which crosses the southern portion of the study area from north-west to south-east.
- 6.1.2 Due to the high potential for prehistoric archaeology from this area an evaluation in advance of the proposed development works has been recommended by Cumbria County Council's Historic Environment Officer.
- 6.1.3 The stone bridge (Site **07**) crossing Shap Beck, may be impacted upon by the proposed new outfall to be sited less than 5 m to the south-west. The construction of the new inlet sewer parallel to the south-western field boundary of Field 2, in addition to the construction of the proposed road and associated buildings within Field 3, will impact upon the drainage ditch within these plots (Site **09**: Plates 4 and 5).
- 6.1.4 None of the sites identified during the walkover survey warrant any further work other than that which has been previously recommended by the Historic Environment Officer. When locating evaluation trenches it should be noted that the southern extent of Field 4 was heavily waterlogged and Field 1 contained a line of overhead power cables. A mains sewer was also identified just south-east of the current development, which is presumably associated with the existing wastewater treatment works.

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8. ILLUSTRATIONS

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Figure 1: Site Location



Figure 2: Plan of Gazetteer Sites

Nentry Sta Low Knijie Ν Chan. 0 Tounty OLittle myton Grang Strickland vadale utt Rosgill Steddale Na ddale Grangeo Radate? Aproximate location of site Shap Alte shan Hardende Chap 411 Thomashan Oddendale StoneHelaque tale Shigi Thorn Cross Wet Sleddale laci 72/0 Wasdale heado Bousfield Birkberk Park irkbeck nto Tause 12412 Sallas

Figure 3: Extract from Kitchen's map of Cumberland, 1777



Figure 4: Extract from Ordnance Survey First Edition 6 inch to 1 mile, 1863

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Figure 5: Extract from Ordnance Survey First Edition 25 inch to 1 mile, 1897



Figure 6: Extract from Ordnance Survey Edition of 1915, 25 inch to 1 mile



Figure 7: Extract from Ordnance Survey Edition of 1960, 1:25000

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Plate 1: Possible remains of Sluice (Site **06**), facing south.



Plate 2: Bridge over Shap Beck (Site 07), facing east.



Plate 3: Water smoot in south-western field boundary of Field 3 (Site 08), facing east.



Plate 4: Drainage ditch in Field 3 (Site 09), facing west.



Plate 5: Drainage ditch in Field 3 (Site 09), facing east