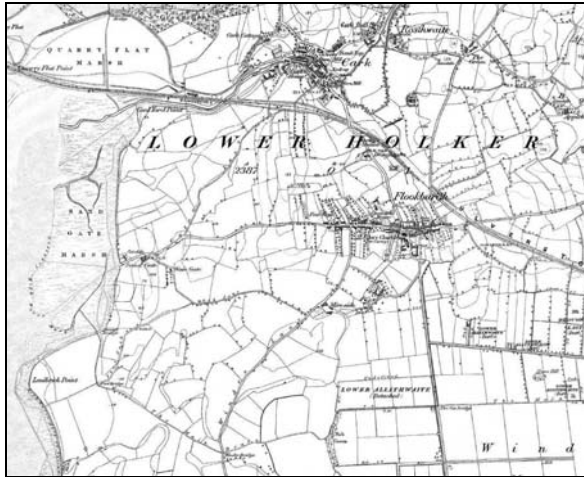


Cark Tank WwTW to Ravenstown WwTW Transfer Pipeline, Flookburgh, Cumbria



Rapid Desk-Based Research and Walkover Survey



Oxford Archaeology North

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United Utilities

Issue No: 2008-9/577

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Prepared by: Chris Healey Christina Robinson
Position: Project Officer Project Supervisor
Date: July 2008

Checked by: Alison Plummer
Position: Senior Project Manager
Date: July 2008

Signed.....

Approved by: Alan Lupton
Position: Operations Manager
Date: July 2008

Signed.....

Oxford Archaeology North

Mill 3
Moor Lane Mill
Lancaster
LA1 1GF
t: (0044) 01524 848666
f: (0044) 01524 848606

w: www.oxfordarch.co.uk
e: info@oxfordarch.co.uk

© Oxford Archaeological Unit Ltd (2008)

Janus House
Osney Mead
Oxford
OX2 0EA
t: (0044) 01865 263800
f: (0044) 01865 793496

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SUMMARY

United Utilities has proposed the construction of a new pipeline from Cark Tank to Ravenstown, Flookburgh, Cumbria (SD 3570 7636 to 3615 7497; Fig 1). The Assistant County Archaeologist at Cumbria County Council Historic Environment Service (CCCHES) recommended that rapid desk-based research, walkover survey and permanent presence watching brief should be undertaken, as the scheme affects areas of archaeological potential dating from the prehistoric and historic periods.

The rapid desk-based research and walkover survey were undertaken by OA North in March 2007. The watching brief was to be subject to a separate report, however, due to circumstances beyond the control of OA North, the topsoil stripping took place without an archaeological presence.

In total, 13 sites were identified through inspection of the Cumbria County Council Historic Environment Record (CCCHER) and other primary sources. The sites consisted of findspots (Sites **03**, **04**, **06**, **10**, **11** and **12**), industrial sites (Sites **02** and **08**), transport features (Sites **01** and **09**), recreational sites (Sites **05** and **07**), and a Roman road (Site **13**). Of these, four were prehistoric in origin, two were probably Roman, two were certainly post-medieval and a further four were of unknown date. A further four sites were identified during the walkover survey, comprising a post-medieval field boundary (Site **15**) and undated earthwork features (Sites **14**, **16** and **17**).

The character of the study area appears to have been predominantly agricultural during the historic period. The railway works of the mid-nineteenth century, and the creation of the new town at Ravenstown in the latter years of the First World War, represent the most significant developments within the study area.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank United Utilities for commissioning the project. Thanks are also due to the Assistant County Archaeologist at the Cumbria County Council Historic Environment Service (CCCHES) and to the staff at the Cumbria County Council Record Office.

Chris Healey undertook the rapid desk-based research and Mark Tidmarsh produced the drawings. Christina Robinson undertook the walkover survey and wrote the report. Alison Plummer managed the project, and also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 United Utilities proposed the construction of a new pipeline (SD 3615 7497 to 3904 7525, Fig 1), from Cark Tank, to the west of Flookburgh, to an existing Wastewater Treatment Works (WwTW) to the immediate south of Ravenstown. In response to a brief (*Appendix 1*) issued by the Assistant County Archaeologist at the Cumbria County Council Historic Environment Service (CCCHES), Oxford Archaeology North (OA North) were commissioned to undertake the recommended work.
- 1.1.2 This report sets out the results of the rapid desk-based research and walkover survey in the form of a short document outlining the findings.

1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

- 1.2.1 The study area is located on the western side of the Cartmel peninsula, to the immediate south of the existing railway linking Lancaster and Ulverston (Fig 1). The area is located between the South Cumbria Low Fells to the north and the Morecambe Bay Limestones; the Cartmel peninsula extends into Morecambe Bay. The peninsula has been formed by the interaction of successive intertidal erosion and deposition over the underlying limestone of Lower Carboniferous date (Countryside Commission 1998, 69-72). The low-lying area largely comprises reclaimed tidal salt marsh. The land is predominantly used for agriculture, with stock rearing and rough grazing on improved grassland. Field boundaries include drystone walls and hedgerows, and whilst woodland cover is sparse, it occurs in concentrations across the study area (*ibid*).

2. METHODOLOGY

2.1 PROJECT BRIEF

- 2.1.1 With the exception of the watching brief, the brief (*Appendix 1*) issued by the Assistant County Archaeologist at the Cumbria County Council Historic Environment Service (CCCHES) was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

2.2 RAPID DESK-BASED RESEARCH

- 2.2.1 The rapid desk-based research comprised a search of both published and unpublished records held by the Historic Environment Record (HER) in Kendal, the County Records Office (CRO) in Kendal, and the archives and library held at OA North. For this purpose a study area comprising 0.5km either side of the proposed pipeline route was examined. All known archaeological sites identified have been included in the Historical and Archaeological Background (*Section 3.2* below) in order to assess the impact of the proposed development. The location of these sites is shown in Figure 2.
- 2.2.2 ***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 a 0.5km radius centred on the proposed pipeline route. Secondary sources for the area were limited, but ‘grey literature’ and published sources were studied where available.
- 2.2.3 ***County Record Office (CRO):*** the Record Office in Kendal was consulted with a view to supplementing cartographic and other recorded information within the study area.
- 2.2.4 ***Oxford Archaeology North:*** 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 desk-based research a low-level survey was undertaken to relate the existing landscape to research findings. This encompassed a one-hundred metre corridor along either side of the pipeline, walked in a systematic fashion. Archaeological features identified within the landscape were recorded using the relevant OA North *pro forma*, and the features accurately located using differential GPS survey, which can achieve an accuracy of $\pm 0.25\text{m}$ with respect to the OS national grid.

2.4 ARCHIVE

- 2.4.1 A full professional archive has been compiled in accordance with the project brief (*Appendix 1*), and in accordance with current IFA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be provided in the English Heritage Centre for Archaeology format and will be submitted to the Cumbria County Record Office (Kendal) on completion of the project. The Arts and Humanities Data Service (AHDS) online database *Online Access index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.

3. BACKGROUND

3.1 INTRODUCTION

- 3.1.1 The following section presents a summary of the historical and archaeological background of the general area related to the British archaeological periods shown in table 1. 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 – c1750
Industrial Period	cAD1750 – 1901
Modern	Post-1901

Table 1: Summary of British archaeological periods and date ranges

3.2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

- 3.2.1 **Palaeolithic and Mesolithic Periods (c 40000 - 4000 BC):** the earliest known occupation in the region is found in the natural shelter of the cliffs along the coast. Kirkhead Cave, to the east of the study area, has produced evidence of occupation during the Later Upper Palaeolithic period. Palaeolithic blades have also been recovered from Lindale Low to the north-east of Kirkhead (Salisbury 1992), which represent the most northerly recorded Palaeolithic sites in the country (Hodgkinson *et al* 2000). There is evidence of coastal exploitation in the Mesolithic period, together with the creation of small-scale clearings and the use of fire to provide grassland to attract game (*ibid*). There are no known sites dating to these periods within the study area.
- 3.2.2 **Neolithic Period (c 4000 - 2500 BC):** the transition to the Neolithic is difficult to identify, as only limited ceramic and lithic assemblages exist, and these are accompanied by few monuments. This is thought to be due to a genuine lack of activity in the area, though later agricultural activity has removed a lot of evidence. The Neolithic is characterised mainly by polished stone axes, with several found at the southern end of the Cartmel peninsula, including one example at Nab Green, Flookburgh, to the east of the study area (Site 12). However, this may date to the Bronze Age (*Section 3.2.3 below*).

- 3.2.3 ***The Bronze Age (2500 - 700 BC):*** the first palynological evidence for forest clearance occurs during the late Neolithic and early Bronze Age, with the most significant forest clearance beginning in the Morecambe Bay area between 2300 and 1890 BC. This corresponds with the first appearance of Bronze Age Beaker burials; an Early Bronze Age cremation cemetery comprising twelve to fifteen burials accompanied by up to ten vessels in total, including four collared urns, was uncovered approximately 2km to the east of Flookburgh in 2001 (Wild 2003). Antiquarian references to a find of an earthenware vessel decorated with zig-zag designs filled with burnt bone and ash (Stockdale 1872, 250-1) suggest that this may have been a favoured area for such burial. A Bronze Age perforated stone axe hammer is also recorded as having been found at Cartmel (Site **03**). Two, or possibly three, palstaves made of bronze (Site **10**) were brought up in a field near Flookburgh during ploughing in 1886, although these were subsequently sold in Liverpool (HER). Findspots of a prehistoric nature have also been attributed to this period (Sites **11** and **12**), although the references comprise vague allusions from antiquarians: ‘*many hammers and battleaxes of different sizes, and of different kinds of stone, as well as celts of brass, copper and stone have from time to time been found in most parts of the Cartmel district, particularly at Nun’s Hill, Nab Green, Raisholm Tower, and in the meadows below Flookburgh*’ (Stockdale 1872, 250). The current whereabouts of these objects is not currently known, although one of the bronze palstaves may have made its way into the British Museum. The retrieval of such items from essentially wet deposits, such as peat and marshlands, has been attributed to some form of ritual deposition involving significant objects (Hodgson and Brennand 2006, 44-7).
- 3.2.4 ***The Iron Age (700 BC - AD 43):*** Iron Age sites and remains are notoriously difficult to identify in the North West. Little evidence has been recovered for human activity in the area. This is mirrored by the lack of settlement evidence, with most upland settlement also being abandoned about this time (Hodgkinson *et al* 2000). No known sites or features dating to this period are present within the study area.
- 3.2.5 ***Roman Period (AD 43 - 410):*** there is almost no physical evidence of Roman activity within the region, with no confirmed roads or settlements. Antiquarian references to a Roman road south of Flookburgh, now occupied by Back Lane (Stockdale 1872, 505), remain archaeologically unattested. A group of three copper Roman coins (recorded alongside a ninth century coin; Site **04**) have been attributed to the Cartmel area, although this is by no means certain. A lock exhibited to antiquarians in 1876 by a Robert Ferguson (Site **06**) was believed by observers to be Roman, although its present whereabouts and authenticity as a Roman artefact cannot be confirmed.
- 3.2.6 ***Early Medieval Period (AD 410 - 1066):*** Cartmel is first mentioned in AD 677, when it was granted to St Cuthbert by King Ecgfith of Northumberland (Farrer and Brownbill 1914, 254). Ecgfirth refers to the Britons of the area as part of that grant (Farrer and Brownbill 1908, 234). The name Flookburgh may have origins from the Old English for a type of fish ‘*floc*’ (Mills 1976), or from the Old Norse name ‘*Floki*’ (Wyld 1911), whilst the ‘*burh*’ element may be a corruption of the Old Norse ‘*borg*’ as much as its Old English equivalent

'burgh'. Cark stems from the Old Welsh 'carrec', or rock, and the place-name evidence certainly suggests overlapping occupations and cultures. One of the coins, which might have been found within the study area (Site 04; see *Section 3.2.5 above*), is of ninth century date.

- 3.2.7 **Medieval Period (AD 1066 - 1540):** in the early eleventh century most of present-day Cumbria was a disputed area between the expanding English and Scottish Kingdoms. Malcolm III of Scotland invaded Cumbria in 1070, and was still in possession of much of the area at the time of the Domesday survey of 1086. The area only came under Norman influence when William Rufus went north in 1092 to fortify land against the Scots, establishing both a castle and colony at Carlisle. There are suggestions that the Normans were encouraged to settle throughout Cumbria, and place-name evidence indicates either the adoption of Norman names or the establishment of new settlements (OA North 2006, 6). At the time of the Conquest, the lands of Cartmel, Walton and Newton were part of Earl Tostig's lordship of Hougoun (Millom) (*ibid*), the lands remained crown property after 1066 but were granted to William Marshall, the Earl of Pembroke in 1186 by the then King Henry II. The Earl then granted the lands to Cartmel Priory in 1190.
- 3.2.8 The late thirteenth to early fifteenth centuries appears to have been a period of economic depression in the area, caused by three major factors, both natural and manmade (*ibid*). The Wars of Independence with Scotland, which from 1296 onwards caused devastation to much of the North, was experienced as far south as Cartmel during the devastating raids of 1316 and 1322. The outbreak of plagues and murrains among the human and animal population coincided with deteriorating climate, particularly damaging to the marginal areas that had been colonised for agriculture in the twelfth and thirteenth centuries. The combined effects of these factors appear to have become more severe than might ordinarily have been the case, and economic recovery is not in evidence until the mid-fifteenth century.
- 3.2.9 Flookburgh is known to have been in existence by 1246, when it was recorded in the Assize Rolls (OA North 2006). A grant from Edward I in 1278 allowed Flookburgh to hold a market, which suggests that it was a central settlement amongst a landscape scattered with dispersed farms (*ibid*). In 1412 Thomas de Lancaster was granted a charter to hold a weekly market and two annual fairs at Flookburgh. References to burgages are first recorded in 1508-9, which indicates that Flookburgh had attained borough status. Flookburgh is referred to variously as 'Flokeburg' in 1246-7; 'Flokesburgh' in 1394, 'Flokeberew' in 1395 and 'Flukeburwe' in 1412 (Wyld 1911).
- 3.2.10 The economy of the area was based on fishing, particularly cockling on the bay sands, and agriculture. Historically, this included wheat, barley, and oat cultivation with complementary activities including stock husbandry. The large well-preserved array of fishweirs and fishtrap constructions in the sands at Cowp Scar represents a tradition which appears to date from the fourteenth century (OA North 2006). Given the size and substantial construction of these features, it is probable that they represent the undertakings of a well-organised community such as those found at Cartmel (Brennand *pers comm*). No known sites or features dating to this period are present within the study area.

- 3.2.11 **Post-medieval Period (AD 1540 - 1900):** the sixteenth and seventeenth centuries saw the rebuilding of many structures in the region in stone as a result of economic prosperity, changing tastes and, in the case of Flookburgh, a fire which occurred through the village at about 1686 (Stockdale 1872). The settlement is referred to as ‘*Flokesbarro*’ on the County Map of Saxton (see *Section 3.3.1 below*). The study area predominantly comprised field systems, the low-lying nature of which required extensive drainage systems. The Grize Pool Bridge (Site **01**), dated to 1781 by its datestone, and the Strand Bridge (Site **09**), dated to 1797 by the same device, both straddle ditches which served as drainage channels. The latter crossing, and perhaps also the ditch, may have been part of the activity which followed the 1796 Enclosure Act. The Act precipitated a massive programme of works which reclaimed 8000 acres of farmland, accompanied by road and bridge building, and an embankment to protect Wyke, Bank Moor and Winder Moor (OA North 2006). Subsequent reclamation by embankment in 1817 appears to have been followed by a minor marine transgression in 1828, to which an area of the ‘*West Plain*’ was lost (*ibid*).
- 3.2.12 The character of the study area was not exclusively agricultural, as a paper mill at Cark is recorded in 1620, followed by a cotton mill in 1782, which seems to have been later converted to corn milling (*ibid*). Boat building on a small-scale, in terms of vessel size, appears to have been an ancillary industry at Cark (*ibid*), and further industrial activity appears in the form of a coke kiln complex at Sand Gate (Site **08**). Although the precise date of the construction of the two structures is unknown they are most probably post-medieval in date. The kiln buildings are marked on the Ordnance Survey of 1851, although they do not appear on later editions. A relict coal yard is also recorded on the edge of the salt marshes (Site **02**), although the earthworks comprising the site, which were recorded on an allotment plan of unknown date, were not recorded on the 1851 Ordnance Survey.
- 3.2.13 The arrival of the Ulverston and Lancaster Railway in 1856-7, and the construction of the Cark station buildings (at SD 3560 7640), finished in 1857 represented substantial investment in the area by William Cavendish, Duke of Devonshire, the owner of much of southern Cumbria’s mineral assets. The buildings at Cark station included private rooms for the Duke and his guests.
- 3.2.14 Two cock-fighting pits are recorded by James Stockdale (*Annales Caermoelesenses* 1872, 524): one at Cark (Site **05**) and another at Flookburgh (Site **07**). Although of unknown date, the prohibition of cock-fighting in 1835 (as part of the Cruelty to Animals Act 1835) probably provides a *terminus ante quem* for the abandonment of these features.

3.3 MAP REGRESSION ANALYSIS

- 3.3.1 **Saxton’s Map of the County Palatine of Lancashire 1577:** Flookburgh (‘*Flokesbarro*’), Cartmel (‘*Cartmell*’) priory, Holker Hall (‘*Howker*’) and Wraysholme Tower are shown on this map, although the peninsula is at too great a scale to display any finer detail (Plate 1). A settlement at Winder seems to correspond to Cannon Winder Hall to the south-west of the study area,

which is thought to date from the sixteenth century (Hudleston 1987, 159). An unnamed settlement is shown at the position of the Cartlone passage, which may represent part of the later settlement at Carter (*Section 3.3.3 below*).

- 3.3.2 ***Mercator's Map of North West England and Wales 1595:*** this large-scale map shows the peninsula as entirely bare (Plate 2) except for Cartmel Priory and the Cartlone passage.
- 3.3.3 ***Bowen's Map of the County of Lancashire divided into its Hundreds 1752:*** Cark and Flookburgh ('*Flookburg*') villages are shown, as is a settlement on the east coast called '*Carters*', which probably refers to the dwelling there of the Carter or Guide across the sands (Farrer and Brownbill 1914, 257). Allithwaite is shown on the map occupying a position to the east of Flookburgh, on a road aligned east/west through both settlements, and extending across the sands in either direction, to Lancaster in the east and to Ulverston in the west (Plate 3). Settlements at 'C Winder' and at 'R Winder' are shown on the west and south sides of the peninsula respectively.
- 3.3.4 ***Yates' Map of Lancashire 1786:*** this is the first useful cartographic representation of the study area showing settlements at Cark and Flookburgh ('*Flookborough*'), and outlying settlements at Cannon Winder and Ravens Winder (Plates 4 and 5). An unnamed settlement is shown to the north of Ravens Winder, and also a group of buildings in the Kents Bank area. A water-wheel symbol, which presumably represents the Cark cotton mill (*Section 3.2.12*), occupies a position to the east of Cark, and is annotated as a cotton works. Winder Moor is shown as an extensive area surrounding Holme. The road west out from Cark village crosses what is shown on later maps as the Grize Pool, and this road presumably went over the Grize Pool Bridge (Site **01**). The road west out from Flookburgh appears to head towards Sand Gate, although this is not named.
- 3.3.5 ***Ordnance Survey Map, Lancashire 1st edition 1851, 6" to 1 mile:*** the field systems in the study area are shown for the first time on this illustration (Plate 6), as are the roads and bridges which seem to have been constructed following the 1796 Enclosure Act (*Section 3.2.11*). Back Lane is named for the first time (*Section 3.2.5*). The Grize Pool Bridge (Site **01**) and the Strand Bridge (Site **09**) are shown and annotated, as are the Cokekiln buildings at Sand Gate (Site **08**). The position of the relic Coal Yard Point (Site **02**) is also shown to the southern side of the railway; although not built until 1856-7 the Ulverston and Lancaster Railway (*Section 3.2.13*) had been added by the time that this map had been published.
- 3.3.6 ***Ordnance Survey Map, 1895, First Edition, 1:2500:*** Coal Yard Point (Site **02**) is no longer shown adjacent to the railway track to the west of Cark (Plate 7). The Cokekiln site (Site **08**) is illustrated with greater definition and appears to be a single terrace of three buildings or perhaps fenced yards (Plate 8). The station at Cark appears to have been furnished with a building on its southern side with a yard to the rear, although this is not annotated. Unidentified buildings appear at Wain Gate to the east of Sand Gate, and the wooded area comprising Nab Green appears to have been felled since the 1851 survey. The

extant Main Drain aligned approximately east/west is shown as such on this illustration at the southern end of the study area.

4. WALKOVER SURVEY

4.1 INTRODUCTION

- 4.1.1 The walkover survey aimed to determine both the survival of any above ground remains of sites recorded during the desk-based research, and also to identify previously unrecorded sites along the proposed pipeline route. All fields containing, and adjacent to, the pipeline were walked systematically, and ground conditions were good for identifying sites. The vast majority of the fields encountered during the walkover were under pasture with short- to medium height grass coverage, and the remainder were ploughed.

4.2 RESULTS

- 4.2.1 In total, four additional sites were identified (Sites **14-17**), during the walkover survey. None of the sites identified in the rapid desk-based research were located within the walkover survey area. Site **14** is a complex of earthworks comprising a former field boundary, shown on the modern Ordnance Survey, in association with a raised trackway. Sites **15** and **16** are of unknown origin and function, although it is possible that Site **15** represents extraction activity of some kind. Site **17** is a former field boundary not shown on the early Ordnance Survey maps.
- 4.2.2 **Site 14:** this site comprises a combination of earthworks, banks and a ditch. The ditch is the remains of a former field boundary, which has been recently removed, measuring approximately 2m wide and 120m long. The field boundary is shown on the current Ordnance Survey, but can be also seen on the 1st Edition Ordnance Survey as part of the boundary of a larger earlier field, which potentially dates from the medieval period (Plate 6). One of the banks leading from the north-eastern entrance of the current field towards the former field boundary probably comprises a relatively modern trackway into the field. The other two banks in this area respect the former field boundary ditch and are most probably associated with it. Both bank features are aligned north/south and measure approximately 30m long by 0.5m wide.
- 4.2.3 **Site 15:** this earthwork comprises a circular earthen mound measuring 25m in diameter to the south of Ravenstown (Fig 2). The feature is of unknown origin, function and date (Plate 9).
- 4.2.4 **Site 16:** comprised an amorphous earthwork of unknown date, origin or function. The feature covers the majority of one field to the south of Back Lane and extends westward into an adjacent field. It may represent the exploitation of a former stone outcrop.
- 4.2.5 **Site 17:** this former field boundary is stone-built and overgrown, and the majority of the stone component appears to have been removed. The feature measures 10m long by 0.5m wide (Plate 10) and is aligned north/south.

5. GAZETTEER

Site number	01
Site name	Grize Pool Bridge
NGR	SD 335328 476816
Site type	Bridge
Period	Post-medieval
SMR No	24290
Statutory Designation	Listed (Grade II)
Sources	HER
Description	Bridge over drainage ditch. The date stone to the south side is inscribed 1781. It is of dressed stone construction with curved parapets and end piers and flat bands. The north side has low segmental arch and there is a culvert ditch to south side. The bridge is associated with drainage and enclosure of land in the parish of the late C18th.
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	02
Site name	Coal Yard Point, Lower Holker
NGR	SD 335460 476400
Site type	Coal shed
Period	Unknown
SMR No	16099
Sources	HER
Description	Site of a feature called 'Coal Yard Point' on the edge of marshland, suggesting this was once the site of a coal yard. According to L Gilpin there was a coal yard at SD3545,7637- the point at which the diverted river leaves the higher ground and feeds out onto the marsh. This was an embanked square enclosure with entries at each side. It is shown on a plan at Barrow Record Office Ref BD/HJ Bundle 89 'Plan of an Allotment situated at Cark. Property belonging to James Stockdale Esq'
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	03
Site name	Cartmel Axe Find
NGR	SD 336000 476000
Site type	Find spot
Period	Prehistoric (Bronze Age)
SMR No	2421
Sources	HER
Description	Perforated stone axe hammer found at Cartmel. Present whereabouts are unknown.
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	04
Site name	Cartmel coin finds
NGR	SD 336000 476000
Site type	Find spot
Period	Roman and Medieval
SMR No	2418
Sources	HER

Description	Three Roman coins and one ninth century may have been found in the Cartmel area prior to 1872 when they were seen by James Stockdale. The Roman coins are copper coins of Tetricus I (270-273 AD), Victorinus (268-27- AD) and Valentinian (364-375 AD). The other is one of Wigmund, Archbishop of York (837-54 AD). Last in the pocession of Mrs CM Jackson, Cartmel.
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	05
Site name	Lower Holker, Cark cockpit
NGR	SD 336000,476000
Site type	Cockpit
Period	Unknown
SMR No	13702
Sources	HER
Description	Stockdale mentions that a cockpit existed at Carke, "behind Mrs. Macareths house."
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	06
Site name	Cartmel Lock Find
NGR	SD 336000,476000
Site type	Find spot
Period	Roman
SMR No	2419
Sources	HER
Description	"At a meeting of the Society in May 1876, Ferguson exhibited a Roman lock found in the neighbourhood of Cartmel." Present whereabouts are unknown.
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	07
Site name	Lower Holker, Cark-in-Cartmel Cockpit
NGR	SD 336000 476000
Site type	Cockpit
Period	Unknown
SMR No	13073
Sources	HER
Description	Stockdale mentions a cockpit as existing or having existed at Flookburgh, "behind the highest inn, near the bowling green."
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	08
Site name	Sand Gate Coke Kiln, Lower Holker
NGR	SD 335350 475720
Site type	Coke Oven
Period	Unknown
SMR No	16098
Sources	HER
Description	Site of a coke kiln, no longer marked by OS
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	09
Site name	Strand Bridge
NGR	SD 335268 475390
Site type	Bridge
Period	Post-medieval
SMR No	24291
Statutory Designation	Listed (Grade II)
Sources	HER
Description	Bridge over drainage ditch. Date stone inscribed 1797, with later addition. Dressed stone construction. Curved parapets with end piers and flat bands. North side has later segmental arched addition partly covering date stone. South side has low segmental arch. Associated with drainage and enclosure of land in the parish in the late C18th.
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	10
Site name	Flookburgh Palstave find
NGR	SD 336000 475000
Site type	Find spot
Period	Prehistoric (Bronze Age)
SMR No	2427
Sources	HER
Description	Two or three palstaves ploughed up in a field near flookburgh before 1886. They were sold in Liverpool. Present whereabouts unknown, but it is thought that an unpublished MBA flanged axe at British Museum Acc No 56.7-1 5020 may be one of these.
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	11
Site name	Axe, Celt finds Flookburgh Area, Lower Holker
NGR	SD 336000 475000
Site type	Find spot
Period	Prehistoric
SMR No	15123
Sources	HER
Description	According to OS index, "many hammers and battlesaxes of different sizes, and different kinds of stone, as well as celts of brass, copper and stone...have been found in...Cartmel district, particularly in the meadows below Flookburgh. See also SMR 4147,4149.
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	12
Site name	Nab Green, Flookburgh Axe Find
NGR	SD 336300 475000
Site type	Find spot
Period	Prehistoric
SMR No	4375
Sources	HER
Description	"Many hammers and battle axes of different sizes and of several different kinds of stone, as well as celts of brass, copper and stone, have been found in the Cartmel district, particularly at...Nab Green." See also SMR 4147
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	13
Site name	Back Lane, Flookburgh site of road
NGR	SD 336194 475474 - 336031 475561
Site type	Road
Period	Roman
Sources	HER
Description	Alleged line of Roman Road
Assessment	Parts of the site lie within the proposed development area and will be affected.
<hr/>	
Site number	14
Site name	Near Ravenstown
NGR	Central point SD 336216 475070
Site type	Earthworks, former boundary and raised track
Period	Post-medieval
Sources	Walkover
Description	A combination of earthen banks and a ditch. The ditch represents the remains of a relict boundary, which appears to have been recently removed. The feature measures approximately 2 metres wide and 120 metres long. The field boundary is present on current Ordnance Survey cartography, but can be seen on the 1st Edition Ordnance Survey as part of the boundary of a larger earlier field, which is possibly medieval in date. One of the banks leading from the entrance of the field in the north-east corner to the relict field boundary is likely to be a recently raised trackway into the field. The other two banks in this area are within the removed boundary and respect it. Both features are aligned north/south and measure roughly 30 metres long and 0.5 metres wide.
Assessment	Parts of the site lie within the proposed development area and will be affected.
<hr/>	
Site number	15
Site name	Ravenstown, Jutland Avenue
NGR	SD 336091 475126
Site type	Earthwork
Period	Unknown
Sources	Walkover
Description	A circular earthen mound measuring 25m diameter. The feature is of unknown origin, function and date.
Assessment	The site lies within the path of the proposed development area and will be affected
<hr/>	
Site number	16
Site name	Lower Holker, Back Lane
NGR	SD 335817 475465
Site type	Earthwork
Period	Unknown
Sources	Walkover
Description	An amorphous earthwork of unknown, date, origin or function.
Assessment	Part of the site lies within the proposed development area and will be affected.
<hr/>	
Site number	17
Site name	Lower Holker, Back Lane
NGR	SD 335794 475638
Site type	Field boundary
Period	Unknown
Sources	Walkover
Description	Stone-built relict field boundary
Assessment	Part of the site lies within the proposed development area and will be affected.

6. DISCUSSION

6.1 SYNTHESIS

- 6.1.1 The rapid desk-based research identified 13 sites within 0.5km of the proposed pipeline corridor. Of these, 12 were already recorded in the SMR, and one was identified through map regression analysis. A further four sites were identified during the walkover survey. There are no recorded Scheduled Monuments within the study area, although two Grade II Listed Buildings lie within 0.5km of the study area (Sites **01** and **09**).
- 6.1.2 Four of the recorded sites within the study area relate to post-medieval buildings and features associated with industry (Coal Yard Point, Site **02**, and the Cokekiln, Site **08**, at Sand Gate), and the ancillary works constructed to facilitate the improvement and management of reclaimed agricultural land (Grize Pool Bridge, Site **01**, and Strand Bridge, Site **09**). The two cockpit sites, located in Cark (Site **05**) and Flookburgh (Site **07**), represent evidence for post-medieval leisure pursuits.
- 6.1.3 The four prehistoric findspots (Sites **03**, and **10-12**) identify the tidal salt marshes as a favoured region for ritual deposition of some kind (Hodgson and Brennand 2006, 44-7). The findspots of Roman and early medieval coins (Site **04**), and also the Roman lock (Site **06**) are somewhat problematic given their unsecure origin (*Section 3.2.5*).
- 6.1.4 Of the four features identified by the walkover survey, one (Site **14**), comprising a former field boundary and associated features, potentially relates to former medieval field layouts. The remaining features are all of unknown date, and two (Sites **15** and **16**) of these are of indeterminate function. Site **17** comprises a former field boundary which appears to pre-date the 1st Edition Ordnance Survey Map (Plate 6).

7. IMPACT AND RECOMMENDATIONS

7.1 IMPACT

- 7.1.1 The proposed pipeline development will have a direct effect on Site **15**. Sites **16** and **17** are close to the proposed development and may be affected. It is possible that Site **13** may also be impacted upon if the projected line of the Roman road continues through the proposed pipeline route.

7.2 RECOMMENDATIONS

- 7.2.1 In total, four sites are likely to be affected by the proposed route. The degrees to which they will be affected have been taken into account when considering the recommendations for further work. This is outlined in Table 1, below:

Site No	Type	Period	Impact	Recommendations
13	Roman road	Roman	Severe	Watching brief
15	Earthen mound	Unknown	Severe	Evaluation trench and watching brief
16	Amorphous earthwork	Unknown	Partial	Watching brief
17	Former field boundary	Unknown	Partial	Watching brief

Table 1: Sites likely to be affected by the development and recommended future work

- 7.2.2 Due to the large number of prehistoric spot finds in the study area there is a greater likelihood of similar finds appearing during the development, and related prehistoric sites that have not been identified previously may be identified. A permanent presence watching brief is therefore recommended along the entire route.

8. BIBLIOGRAPHY

8.1 PRIMARY SOURCES

Emmanuel Bowen, *An Accurate Map of the County of Lancashire Divided into its Hundreds* 1752

Gerard Mercator, *Map of North West England and Wales*, 1595

Ordnance Survey 6" to 1 mile, First Edition, Lancashire sheet 89, surveyed 1844-8, publ 1851

Ordnance Survey 6" to 1 mile, Second Edition, Lancashire sheet LXXXIX, surveyed 1890-1, publ 1895

Saxton's *Map of the County Palatine of Lancashire*, 1577

Yates' *Map of Lancashire*, 1786

8.2 SECONDARY SOURCES

Countryside Commission, 1998, *Countryside Character, Volume 2: North West*, Cheltenham

English Heritage, 1991, *Management of Archaeological Projects*, 2nd edn, London

Farrer, W, and Brownbill, J, 1914, *Victoria County History of Lancashire*, **8**, London

Hodgkinson, D, Huckerby, E, Middleton, RM, and Wells, C, 2000, *The Lowland Wetlands of Cumbria, Lancaster Imprints* **8**, Lancaster

Hodgson, J, and Brennand, M, 2006, Prehistoric Resource Research, in *The Archaeology of North West England*, CBA North West Vol **8**, 23-58

Hudleston, CR, 1987, Canon Winder Hall and its owners, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 2nd ser, **87**, 159-70

Mills, D, 1976, *The Place-names of Lancashire*, London

OA North 2006, *Church Walk, Flookburgh, Cumbria: Archaeological Evaluation*, unpubl rep

Salisbury, CR, 1992, Late Pleistocene Human Occupation of the Morecambe Bay Area, *Contrebis* **17**, 15-23

Stockdale, J, 1872, *Annales Caermoeenses*, Ulverston

Wild, C, 2003, A Bronze Age Cremation Cemetery at Allithwaite, Cumbria, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 3rd ser **3**, 23-51

Wyld, HC, 1911, *The Place-names of Lancashire, Their Origin and History*, London

9. ILLUSTRATIONS

9.1 LIST OF FIGURES

Figure 1: Site Location

Figure 2: Plan of Gazetteer Sites

9.2 LIST OF PLATES

Plate 1: Extract from Saxton's Map of 1577

Plate 2: Extract from Mercators Map of 1586

Plate 3: Extract from Bowens Map of 1752

Plate 4: Extract of Yates' Map of Lancashire, 1786, northern half of study area

Plate 5: Extract of Yates' Map of Lancashire, 1786, southern half of study area

Plate 6: Extract from Ordnance Survey, 1851

Plate 7: Extract from Ordnance Survey, 1895, northern half of study area

Plate 8: Extract from Ordnance Survey, 1895, southern half of study area

Plate 9: Site **15**, an earthen mound of unknown date, origin or function, facing west

Plate 10: Site **17**, a relict field boundary of unknown date, facing north-west

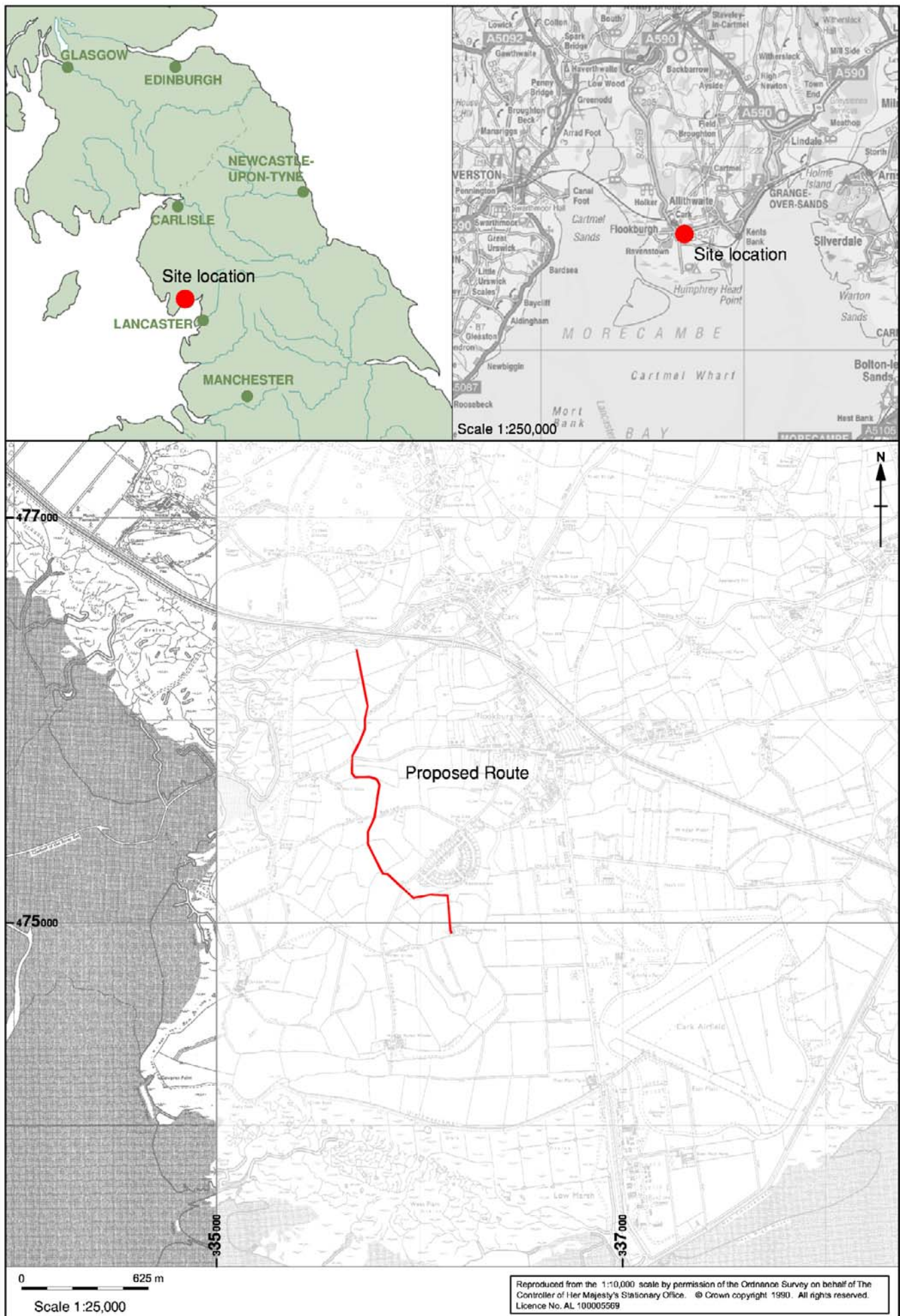
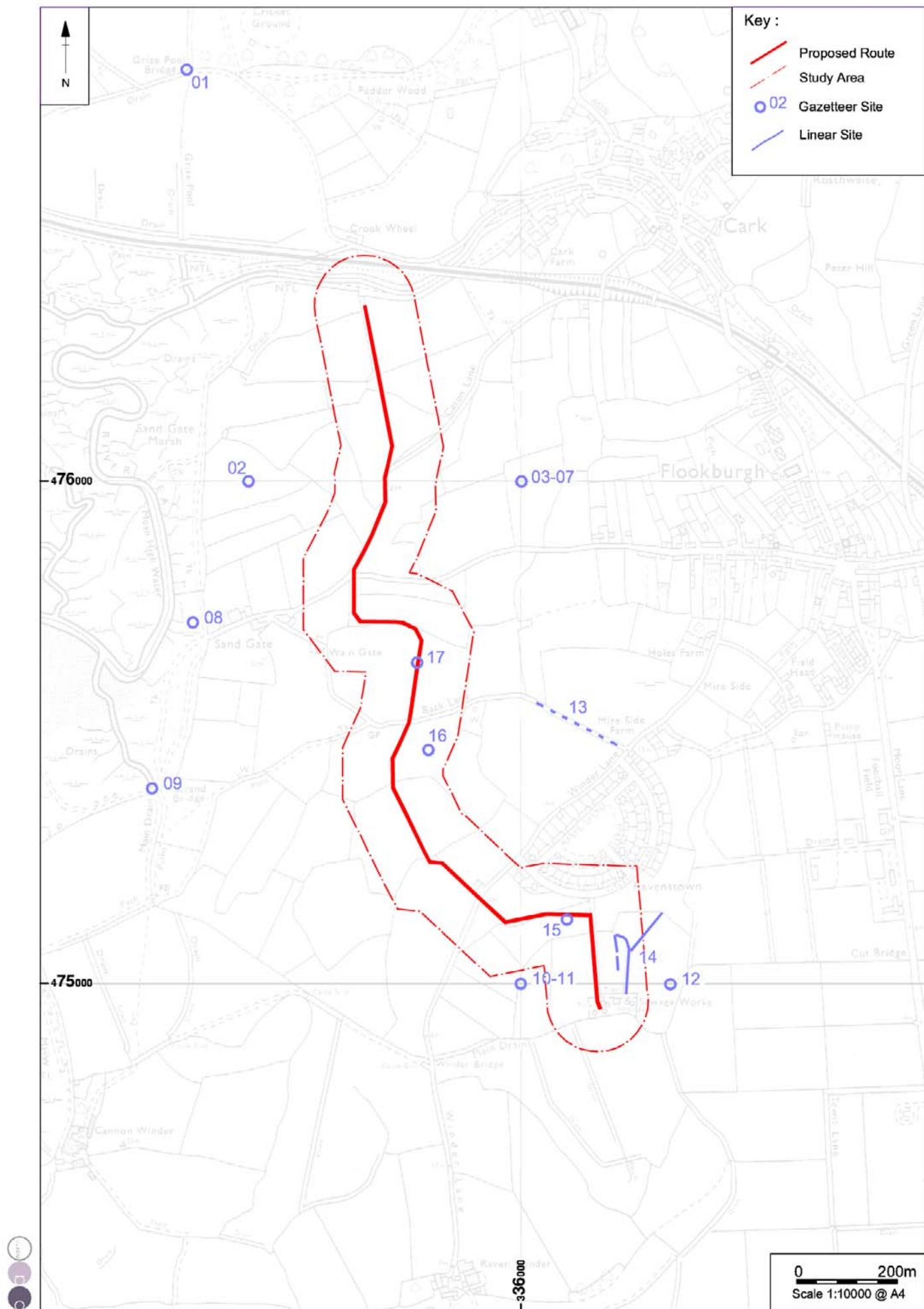


Figure 1: Site Location





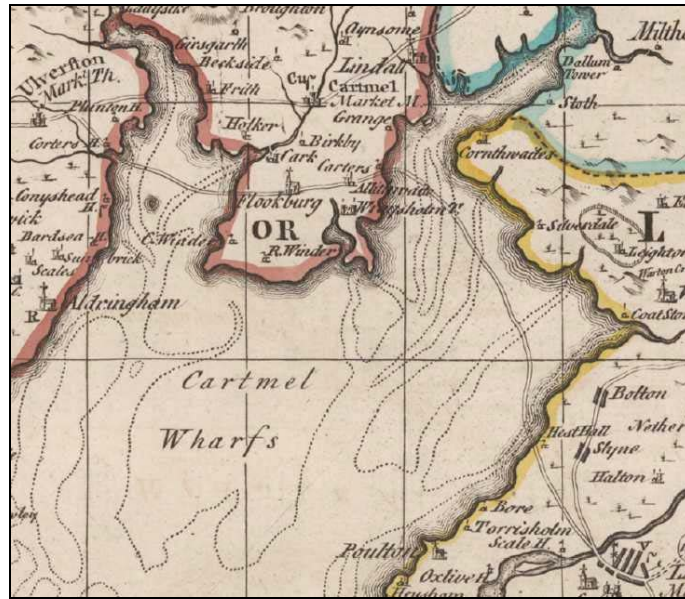


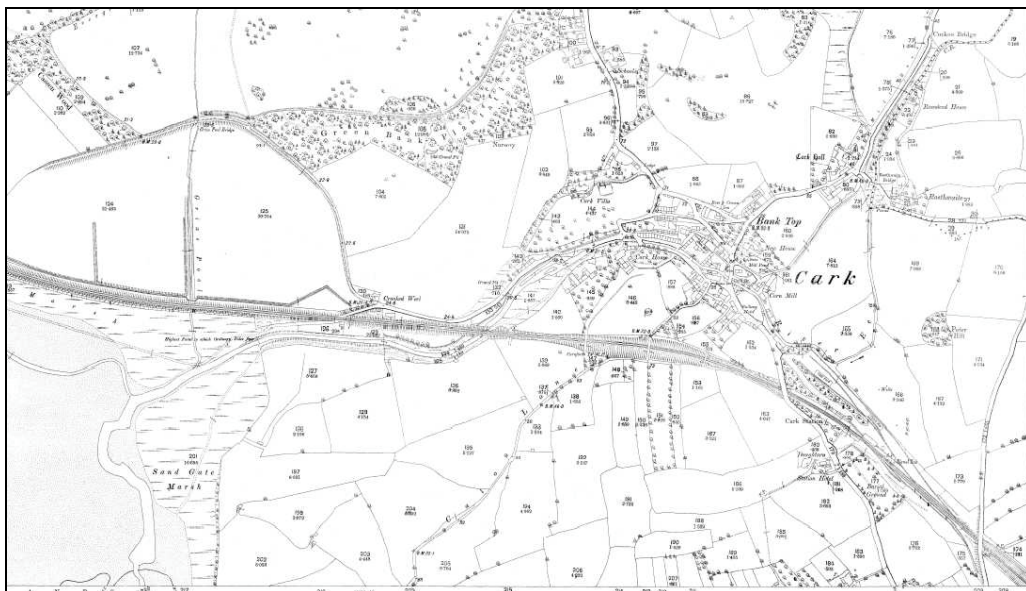
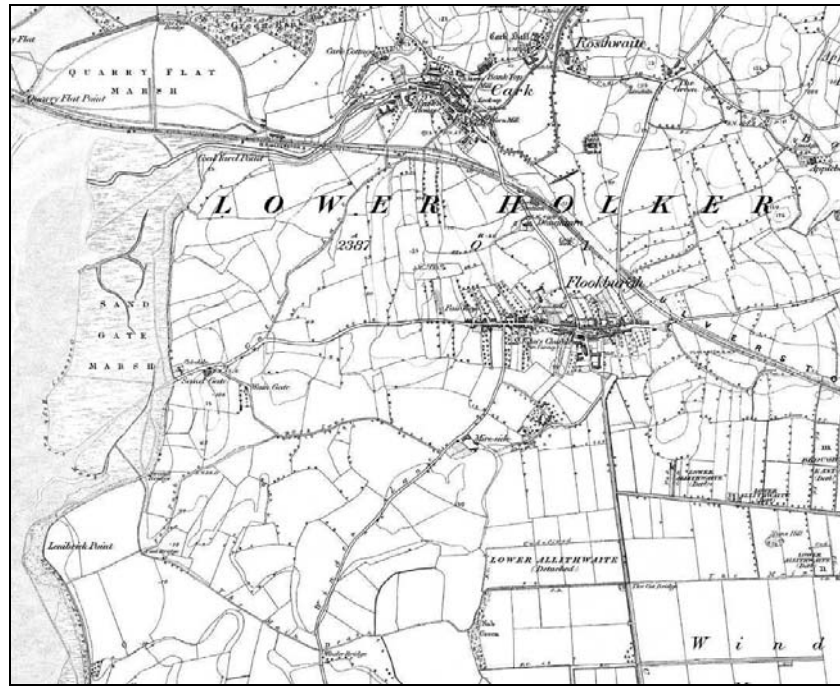
Plate 3: Extract from Bowens Map of 1752



Plate 4: Extract of Yates' Map of Lancashire, 1786, northern half of study area



Plate 5: Extract of Yates' Map of Lancashire, 1786, southern half of study area



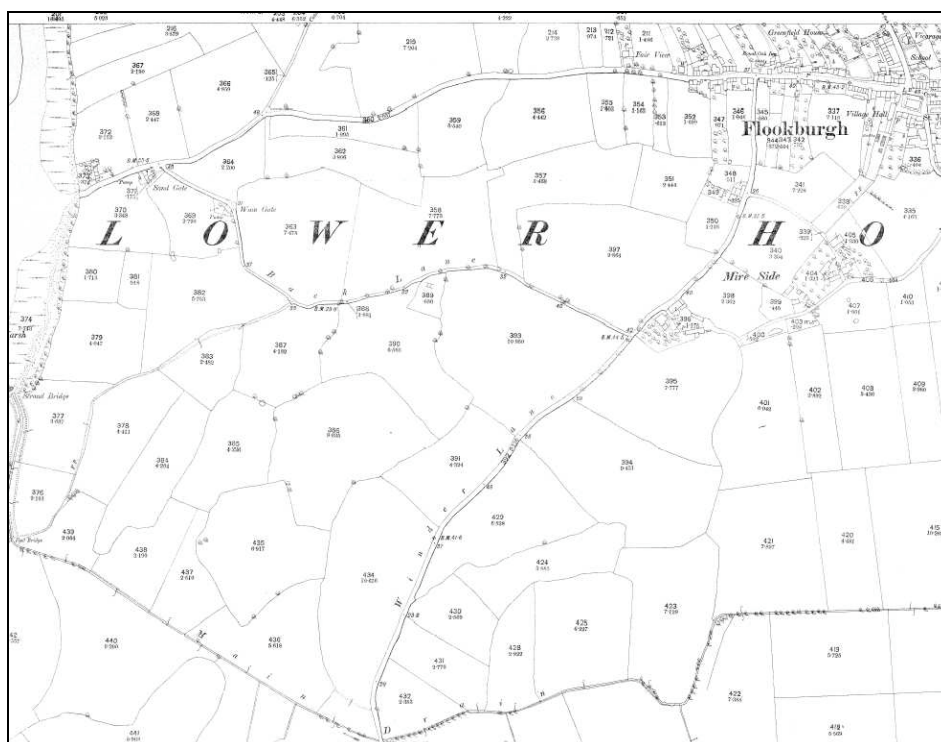


Plate 8: Extract from Ordnance Survey, 1894, southern half of study area



Plate 9: Site **15**, an earthen mound of unknown date, origin or function, facing west



Plate 10: Site **17**, a relict field boundary of unknown date, facing north-west

APPENDIX 1: PROJECT BRIEF

**BRIEF FOR A DESK-BASED ASSESSMENT, WALKOVER SURVEY & WATCHING BRIEF
ON THE PIPELINE ROUTE BETWEEN
CARK TANK AND RAVENSTOWN, FLOOKBURGH, CUMBRIA**

Issued by the

County Historic Environment Service

Environment Unit, Economy, Culture and Environment



Date of Brief: 09 January 2007

This Design Brief is only valid for 1 year after the above date. After this period the County Historic Environment Service should be contacted. Any specification resulting from this Brief will only be considered for the same period.

SITE DESCRIPTION AND SUMMARY

- Site:** Pipeline route between Cark Tank and Ravenstown, Flookburgh
- Grid Reference:** SD 3570 7636 to SD 3615 7497
- Approximate length of pipeline:** approximately 2km

Detailed specifications and tenders are invited from appropriately resourced, qualified and experienced archaeological contractors to undertake the archaeological project outlined by this Brief and to produce a report on that work. The work should be under the direct management of either an Associate or Member of the Institute of Field Archaeologists, or equivalent, and any response to this Brief should follow IFA Standard and Guidance. The project should not commence until approval of a specification has been issued by the County Historic Environment Service.

PLANNING BACKGROUND

- 2.1 Cumbria County Council's County Historic Environment Service (CCCHES) has been consulted by United Utilities regarding a proposed pipeline route between Cark Tank and Ravenstown, Flookburgh.
- 2.2 The proposed scheme affects an area considered to have a high archaeological potential and consequently a programme of archaeological works comprising a rapid desk-based assessment, walkover survey and watching brief is required.
- 2.3 This advice is given in accordance with the advice of the Code of Practice on Conservation, Access and Recreation 2000.

ARCHAEOLOGICAL BACKGROUND

- 3.1 The pipeline passes through an area of archaeological potential. A considerable number of prehistoric flint and bronze implements have been recovered in the vicinity of Cark and Ravenstown and the proposed also crosses the line of a possible Roman road (HER no. 4979).

SCOPE OF THE PROJECT

4.1 Objectives

- 4.1.1 To identify and record any surviving above and below ground archaeological remains within the working easement, soil strip and pipe trench cut.

4.2 Work Required

4.2.1 Rapid Desk-Based Assessment

- ❖ Before any on site work commences the County Historic Environment Record should be consulted and a rapid desk-based survey of the existing resource undertaken. This should include an assessment of those primary and secondary sources and any relevant aerial photographs referenced in the County Historic Environment Record.

4.2.2 Walkover Survey

- ❖ A walkover survey of the pipeline route, encompassing the proposed working easement as a minimum, before any ground works commence.
- ❖ Any surface features of potential archaeological interest should be recorded together with areas of potentially significant disturbance, and hazards and constraints to undertaking further archaeological work on site (including the siting of live services, Tree Preservation Orders and public footpaths).
- ❖ The extent (for sites over 10m in size) and location of the archaeological sites should be recorded at an accuracy of +/- 1m.

4.2.3 Watching Brief

- ❖ All topsoil stripping for the working easement and trench cutting must be carried out under archaeological supervision.
- ❖ Any putative archaeological features must then be cleaned by hand and if possible a stratigraphic record made.
- ❖ Finds and environmental samples should be retrieved as appropriate. A reasonable period of uninterrupted access should be allowed to the archaeologist for all necessary archaeological recording.

SPECIFICATION

- 5.1 Before the project commences a project proposal must be submitted to and approved by the County Historic Environment Service.
- 5.2 Proposals to meet this Brief should take the form of a detailed specification prepared in accordance with the recommendations of *The Management of Archaeological Projects*, 2nd ed. 1991, and must include:
- ❖ A description of the methods of observation and recording system to be used
 - ❖ A description of the finds and environmental sampling strategies to be used
 - ❖ A description of the post excavation and reporting work that will be undertaken
 - ❖ A description of the report that will be produced
 - ❖ Details of key project staff, including the names of the project manager, supervisor and any other specialist sub-contractors to be employed
 - ❖ Details of project staffing, expressed in terms of person days
 - ❖ A projected timetable for all work including the production of the report
- 5.3 Any significant variations to the specification must be agreed by the County Historic Environment Service in advance.

REPORTING AND PUBLICATION

- 6.1 The archaeological work should result in a report, this should include as a minimum:
- ❖ A site location plan, related to the national grid
 - ❖ A front cover/frontispiece which includes the planning application number and the national grid reference of the site
 - ❖ A concise, non-technical summary of the results
 - ❖ A description of the methodology employed, work undertaken and the results obtained, including maps and other illustrations, as appropriate
 - ❖ Plans and sections at an appropriate scale showing the location and position of deposits and finds located
 - ❖ A brief photographic record of the site must be included, showing any features of archaeological interest. Where the results of the project revealed no significant archaeological remains a single photograph showing an indicative section of trench will suffice.
 - ❖ A list of, and dates for, any finds recovered and a description and interpretation of the deposits identified
 - ❖ The dates on which the project was undertaken
- 6.2 Three copies of the report should be deposited with the County Historic Environment Record within two months of completion of fieldwork. This will be on the understanding that the report will be made available as a public document through the County Historic Environment Record.
- 6.3 The involvement of the County Historic Environment Service should be acknowledged in any report or publication generated by this project.
- 6.4 Should further archaeological work result from the desk-based assessment, the results may need to be made available for inclusion in a summary report to a suitable regional or national archaeological publication.
- 6.5 Cumbria HER is taking part in the pilot study for the *Online Access to Index of Archaeological Investigations* (OASIS) project. The online OASIS form at <http://ads.ahds.ac.uk/project/oasis> must therefore also be completed as part of the project. Information on projects undertaken in Cumbria will be made available through the above website, unless otherwise agreed.

THE ARCHIVE

- 7.1 An archive must be prepared in accordance with the recommendations of *The Management of Archaeological Projects*, 2nd ed. 1991, and arrangements made for its deposit with an appropriate repository. A copy shall also be offered to the National Monuments Record.
- 7.2 The landowner should be encouraged to transfer the ownership of finds to a local or relevant specialist museum. The museum's requirements for the transfer and storage of finds should be discussed before the project commences.
- 7.2 The County Historic Environment Service must be notified of the arrangements made.

FURTHER REQUIREMENTS

- 8.1 It is the archaeological contractor's responsibility to establish safe working practices in terms of current health and safety legislation, to ensure site access and to obtain notification of hazards (eg. services, contaminated ground, etc.). **The County Historic Environment Service bears no responsibility for the inclusion or exclusion of such information within this Brief or subsequent specification.**
- 8.2 The Code of Conduct of the Institute of Field Archaeologists must be followed.
- 8.3 One weeks notice must be given to the County Historic Environment Service prior to the commencement of the project.

FURTHER INFORMATION

For further information regarding this Brief, contact

Jeremy Parsons
Assistant Archaeologist
Cumbria County Council
County Offices
Kendal
Cumbria LA9 4RQ
Tel: 01539 773431
Email: Jeremy.Parsons@cumbriacc.gov.uk

For further information regarding the County Historic Environment Record, contact

Jo Mackintosh
Historic Environment Records Officer
Cumbria County Council
County Offices
Kendal
Cumbria LA9 4RQ
Tel: 01539 773432
Email: jo.mackintosh@cumbriacc.gov.uk