

**A66 Northern Trans-Pennine Project  
TR010062**

**3.4 Environmental Statement  
Appendix 8.4 AP and LiDAR  
Assessment**

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A66 Northern Trans-Pennine Project  
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**3.4 ENVIRONMENTAL STATEMENT  
APPENDIX 8.4 AP AND LIDAR ASSESSMENT**

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## **8.4 AP and LiDAR Assessment**



A66

# LiDAR and Aerial Photograph Interpretation

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Portway House  
Old Sarum Park  
Salisbury  
SP4 6EB

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London  
EC4A 1AB

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WA project code 240030  
Project management by Chris Breeden  
Document compiled by Isobel Curwen, Thomas Piggott, Bethany Watson, Alexander Grey, Johanna Greaves, Richard Millwain, Kimberley Colman and Jack Fox-Laverick



Additional contributions from Johanna Greaves  
Graphics by Kimberley Coleman/Richard Milwain

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DATA LICENCES

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## Summary

Wessex Archaeology was commissioned by Amey OWR Ltd on behalf of Highways England, to undertake a LiDAR and Aerial Photographic interpretation across a 4,235 hectare area (split into 10 Schemes of work combined into four packages) (The Site), covering areas along the A66 which crosses Cumbria, County Durham and North Yorkshire between Penrith and Scotch Corner (NGR NY 51248 29000 to NGR NZ 21411 05296) (**Figure 1**).

The proposed development comprises a proposed upgrade to the A66 between J40 of the M6 at Penrith and Scotch Corner. These works form part of the PCF Stage 3 design within the A66 Northern Transpennine Upgrade.

The aims of the assessment were to process all available Environment Agency LiDAR data and aerial photographs for the area, and to transcribe all features of archaeological as polygons to National Mapping Programme (NMP) standards. At the time of the transcription, not all Schemes, particularly those in the western area, had total LiDAR coverage and the areas covered by aerial photographs were also limited. The results were also compared with data received from the relevant Historic Environment Records. Detailed mapping of archaeological features was not undertaken at this time.

The assessment resulted in the transcription of 654 separate archaeological features and sites of potential historical interest. The dominant features were those relating to the Roman landscape along with evidence of later medieval and post-medieval agricultural practices.

## Acknowledgements

Wessex Archaeology would like to thank Amey OWR Limited, on behalf of Highways England, for commissioning the LiDAR and aerial photograph interpretation.

The project was managed on behalf of Wessex Archaeology by Chris Breeden and Clare King.



# A66 Northern Transpennine Upgrade

## LiDAR Assessment and Aerial Photograph Interpretation

### 1 INTRODUCTION

#### 1.1 Project background

1.1.1 Wessex Archaeology was commissioned by Amey/Arup on behalf of Highways England, to undertake a LiDAR and Aerial Photographic interpretation across a 4,235 hectare area (split into 10 Schemes of work combined into four packages) (The Site), covering areas along the A66 which crosses Cumbria, County Durham and North Yorkshire between Penrith and Scotch Corner (NGR: NY 51248 29000 to NGR NZ 21411 05296) (**Figure 1**).

1.1.2 The Site covers the following areas (with a 500m buffer around each section of the A66):

##### *Cumbria;*

- **M6 J40 Penrith to Kemplay Bank roundabout (Package B)**
- **Penrith to Temple Sowerby (Package B)**
- **Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe (Package A)**
- **Appleby to Brough (Warcop) (Package A)**

##### *County Durham;*

- **Bowes Bypass (A66/A67) (Package D)**
- **Cross Lanes to Great Bridge (Rokeby) (Package D)**

##### *County Durham / North Yorkshire;*

- **Stephen Bank to Carkin Moor (Package C)**

##### *North Yorkshire;*

- **A1(M) J53 Scotch Corner Junction (Package C)**

1.1.3 The proposed development comprises a proposed upgrade to the A66 between J40 of the M6 at Penrith and Scotch Corner. These works form part of the PCF Stage 3 design within the A66 Northern Transpennine Upgrade.

#### 1.2 Scope of the report

1.2.1 The purpose of this report is to provide a detailed description of the methods employed for, and the results of, the LiDAR and aerial photograph assessment of the Schemes, and report the results. This report has produced initial polygons to identify areas of archaeological interest to support decision making within the overall project. Detailed mapping of archaeological features has not been undertaken at this stage.

#### 1.3 Location, topography and geology

1.3.1 The Site is located within Penrith, Cumbria heading east towards the south of County Durham and east of North Yorkshire to Scotch Corner.



- 1.3.2 The Site is crossed by several watercourses. From west to east, these are the River Eamont at Yanworth and Eamont Bridge, the River Eden from Kirkby Thore to Crakenthorpe and the River Greta at Bowes.
- 1.3.3 Existing ground levels range from 135m in Penrith in the west to 290m at Bowes. The most elevated area is Bowes Bypass (A66/A67) which lies between the North Pennines AONB and the Yorkshire Dales National Park.
- 1.3.4 The underlying geology between M6 Junction 40 to Appleby is dominated by Penrith Sandstone Formation – Sandstone with areas of superficial alluvial deposits and till (British Geological Survey online viewer).
- 1.3.5 The underlying geology between Appleby to Brough (Warcop) is dominated by Penrith Sandstone Formation – Sandstone with superficial river terrace deposits.
- 1.3.6 Moving eastwards, the underlying geology changes and Bowes Bypass (A66/A67) is dominated by the Stainmore Formation, a series of mudstones, siltstones and sandstones. Superficial till deposits are also recorded. The land between Cross Lanes to Rokeby and Stephen Bank to Carkin Moor are dominated by Alston Formation – Sandstone with superficial till deposits (British Geological Survey online viewer).
- 1.3.7 The underlying geology of the A(1)M Junction 53 Scotch Corner is dominated by Four Fathom Limestone Member Limestone with superficial till deposits.

#### **1.4 Project aims**

The main aims of the project are to:

- Process all available LiDAR data for the Site,
- Analyse all available aerial photographs for the Site,
- Analyse all available Satellite Imagery for the Site;
- Transcribe all features of archaeological interest visible within the LiDAR data and aerial/satellite photography to National Mapping Programme (NMP) standards,
- Create a gazetteer of all transcribed features,
- Report and present the findings of the assessment.

#### **1.5 Data Sources**

Data sources consulted as part of the project,

- Environment Agency Lidar data at the highest available resolution,
- The CUCAP aerial photograph library,
- Historic England Swindon Archives (aerial photograph library),
- Satellite Imagery such as Google Earth & Bing,
- Historic Environment Records,



- National Mapping Programme (if available),
- Ortho-rectified images from an appropriate recent year(s) when condition have been known to be favourable for aerial photography.

## **2 DATA PROCESSING**

### **2.1 LiDAR**

- 2.1.1 Environment Agency (EA) LiDAR data was available for the majority of the Site, with the exception of some areas between M6 Junction 40 to Cross Lanes Rokeby.
- 2.1.2 EA LiDAR data for the survey area was downloaded from the Defra Data Services Platform. The data were acquired in ASCII raster format with a 1m horizontal resolution and a vertical accuracy of  $\pm 5\text{cm}$ . The DTM data is pre-filtered, with vegetation and buildings removed, resulting in a 'bare earth' model of the terrain. The 1m horizontal resolution data was supplemented with 2m horizontal resolution data for a small number of parcels between M6 Junction 40 and Appleby to Brough (Warcop) totalling 226 hectares, of which 110 hectares lie to the north of Sandford between Appleby and Brough.
- 2.1.3 The data was merged prior to analysis using ArcGIS 10.6 Advanced in order to create a single DTM for the site, from which a number of subsequent datasets were derived.
- 2.1.4 ArcGIS 10.6 Advanced was used to both display and analyse the survey datasets, and to record features of archaeological and historical interest. In addition to the 'out-of-the-box' tools available, the Spatial Analyst extension was used to provide additional tools that allow possible archaeological features within the datasets to be enhanced, aiding interpretation.
- 2.1.5 Initially, both LiDAR datasets were downloaded in ASCII format as DTM and DSM and processed to create a series of hillshade images.
- 2.1.6 In addition to the default hillshading, the LiDAR data was also processed using multi-Directional hillshade. Using this method of hillshading varies the direction of light from six different sources which creates more realistic visualisation, particularly in high slope and expressionless areas as seen in Multi-Directional Hillshade (Nagi, R. 2014).

### **2.2 Aerial Photography**

- 2.2.1 Three sources were used to obtain aerial photographs of the site: The Historic England Archive, The Cambridge University Collection of Aerial Photography (CUCAP), and Britain from Above.
- 2.2.2 The Historic England Archive hold a collection of around 5 million vertical and oblique aerial photographs dating from some of the earliest reconnaissance missions in 20th century.
- 2.2.3 The Cambridge University Collection of Aerial Photography (CUCAP) is a collection of both oblique and vertical photographs, taken as a result of airborne survey campaigns since 1945.



- 2.2.4 Britain from Above holds a large collection of images from the Aerofilms Collection with photographs dating from 1919 to 2006. This collection was created by Aerofilms Ltd, an airborne survey company set up in 1919.
- 2.2.5 The locations of the aerial photographs were converted into CSV and shapefiles and integrated into the working GIS to assess the coverage of both vertical and oblique aerial photos. The photos themselves were not added into the working GIS.
- 2.2.6 Both the CUCAP and the Britain from Above websites were consulted in order to obtain photograph references for the Site. A series of spreadsheets were created for each Scheme which contained the reference numbers, type of photo, date, location and co-ordinates for relevant photographs. The reference numbers were then used to search the online catalogues on the CUCAP and Britain from Above websites in order to view the photographs, where available.
- 2.2.7 The aerial photographs were compared with the LiDAR data and Satellite Images in order to be able to identify or verify features in the landscape.

### **2.3 Satellite Imagery**

- 2.3.1 Online Satellite Images were also used to aid identification and interpretation of features. All timelines of ortho-rectified mosaics of vertical aerial photographs at [www.earth.google.com](http://www.earth.google.com) (Google Earth) were consulted and were used extensively between November 2020 and early January 2021. The dates referred to in this report are those reported within Google Earth. Although it is accepted that these dates are sometimes inaccurate, this does not affect the validity of the interpretation and mapping within this report.

### **2.4 Historic Environment Records, National Mapping Programme and National Heritage List for England**

- 2.4.1 Relevant Historic Environment Record data (HER), National Mapping Programme data (NMR) and National Heritage List for England (NHLE) was provided by the client as shapefiles which were then added into the dataset for each Scheme in ArcGIS.
- 2.4.2 Schemes between M6 Junction 40 to Appleby to Brough (Warcop) were covered by Cumbria HER, Bowes Bypass (A66/A67) and Cross Lanes to Rokeby were covered by Durham HER and Stephen Bank to Carking Moor and A(1)M Junction 53 Scotch Corner were covered by North Yorkshire HER. NMP data was only available for Appleby to Brough (Warcop).

### **2.5 Historic Mapping**

- 2.5.1 Historic maps were viewed via the National Library of Scotland website and were used only to reference and to verify or provide further information on potential features. No mapping was added into the working GIS.



### 3 LIMITATIONS

#### 3.1 Coverage

##### *LiDAR data*

- 3.1.1 The 1m LiDAR data was downloaded from the DEFRA website within a 500m buffer extending from the centre of the A66 route line for each scheme. Unfortunately, not all Schemes had complete LiDAR coverage with patchy coverage between M6 Junction 40 to Bowes Bypass (A66/A67). LiDAR coverage is illustrated in **Figures 2- 23**.

##### *Aerial photographs*

- 3.1.2 Aerial photographs (APs) were obtained from online sources via the Britain from Above website and the CUCAP online catalogue. A large number of the relevant aerial photographs on the CUCAP website had not been digitally archived and were therefore not available to view online.
- 3.1.3 Due to the current pandemic, and recent, national lockdown measures the photographic library at the Historic England Archive in Swindon has been operating at reduced capacity for visitors. In addition, a cap of one hundred APs was set per ticketed appointment. By way of mitigating these limitations, a research strategy has been developed in order to prioritise those areas which may be most impacted by the proposed development. Prioritisation of analysis was based upon the significance of individual elements of the historic environment resource identified by the respective HERs and this study, and areas without Lidar coverage. Special attention was paid to any APs which corresponded with the proposed route of the A66. The availability of aerial photography is catalogued in **Appendix 2**.

#### 3.2 Analysis

##### *LiDAR data*

- 3.2.1 Aside from gaps in the coverage of the datasets outlined above, a number of other factors can be expected to have affected the detection rates and interpretation of archaeological features during the assessment.
- 3.2.2 One of the principal limitations of the assessment is that features were identified and interpreted in the absence of ground level observations. This can result in interpretation errors where localised variations in ground profile which are of very recent or natural origin resemble archaeological features. This issue was alleviated by comparing the LiDAR images against conventional aerial photographic imagery (i.e. within the visible region of the electromagnetic spectrum).
- 3.2.3 There are also certain methodological limitations which are inherent to the remote sensing techniques employed during the assessment. Although shaded relief images can aid visualisation of LiDAR data, no single direction of illumination can simultaneously reveal all relief features. For example, when a hillshade is lit from a single direction, any features aligned with the source of light can be hidden, since they do not cast any shadow. This technical imitation was overcome by using a series of hillshades illuminated from multiple directions.





- 3.2.4 The filtering process which is applied to LiDAR data when generating a DTM may not be able to entirely remove the masking effect of low-level vegetation and can also result in some loss of detail. The latter effect was seen intermittently across the 1m LiDAR imagery, where the filtering occasionally produced a simplified geometric surface. This may have obscured some features of interest, although only within extremely localised areas.
- 3.2.5 The horizontal cell resolution of LiDAR data can also influence the detection rates of archaeological features. This can occur where the spacing of point measurements is sufficiently wide to conceal or reduce the visibility of small archaeological features. A higher resolution dataset would have improved this, but the assessment was limited by the highest resolution available which was at 1m.
- 3.2.6 Aerial photograph assessments are often based on sequences of historical imagery, which provide a series of 'snapshots' of the landscape under different conditions. In contrast, LiDAR and Multi-directional data are typically gathered at a single, or series of closely spaced points in time. This can explain why features identified from aerial photographs cannot always be detected on LiDAR images of the same area.
- 3.2.7 Ploughing or development may have destroyed any surface expression of archaeological features that are recognisable on historical aerial photographs. This was evidently the case at a number of locations within the Site, where examination of the LiDAR data was unable to replicate the results of conventional aerial photographic surveys.
- 3.2.8 Several of the Schemes coincide with arable fields which have been subject to intensive modern agricultural techniques. As a result, the prominence of archaeological features may have been greatly reduced by ploughing across large parts of the Study Area. This may have resulted in a differential in the detection rate of archaeological features between fields which have been intensively ploughed, and areas which have not, such as within parks (unless extensively landscaped) or land which has predominantly been under pasture.

#### *Aerial photographs*

- 3.2.9 Interpretation of aerial photographs relies on visual identification of heritage assets on aerial photos as typically, the effects they have on growing crops and other vegetation, marks in soils, or as extant features or earthworks which are more visible at times of clear low light which casts shadows. In addition, reliance on online sources has meant that there was no opportunity to view aerial photography stereoscopically, which would allow for better opportunities to both identify upstanding features and better understand the landscape in which archaeological features lie.
- 3.2.10 It is important to note that aerial photographs usually only show part of the horizontal and vertical extent of buried and upstanding features. Their capacity to reveal features as crop marks, vegetation marks, soil marks or as the shadows cast by banks, ditches and walls, depends upon a number of environmental and agricultural factors prevalent at the time of the photographic survey. It is perfectly possible for many years' photography over one site to show nothing at all, and then for one instance of survey to reveal complex buried crop marked features. The direction of light at the time of photography, with reference to shadows cast and crop or soil marked features highlighted, can also affect the visibility of features on



aerial photographs. Unlike digitally processed LiDAR and other data, the azimuth of the sun cannot be changed on a conventional aerial photo.

- 3.2.11 Past and present land use also presents limitations to the visibility of features. A cropped arable regime of cereals often allows the formation of crop marks, whereas grassland, unless seen in times of extreme moisture stress, can mask the appearance of buried features.
- 3.2.12 Aerial photographs cannot be used to detect features in heavily wooded areas in the same manner as LiDAR surveys. LiDAR may penetrate gaps in the tree canopy to provide a digital model of the ground surface beneath.
- 3.2.13 Aerial photographic evidence is thus limited by seasonal, agricultural, land use, meteorological, lighting and environmental factors which affect the extent to which either buried or upstanding archaeological features and structures can be detected.
- 3.2.14 It is thus advantageous to examine a range of photos taken under a variety of environmental conditions to build up a comprehensive interpretation of the archaeological landscape. The visibility of archaeological features may differ from year to year and be obscured by differential depths of soil or differing types of vegetation, and individual photographs most often record only a small percentage of the actual extent of buried or upstanding features.
- 3.2.15 The aerial photos taken in the 1940s often recorded extant medieval fields and parkland features and provided a starting point for the assessment of erosion and attrition of features due to modern ploughing. This ability to 'see back in time' and the use of aerial photos as historic documents is helpful when constructing landscape histories or tracing the progress of erosion.
- 3.2.16 Buried features are also 'masked' in areas of unsuitable land use for site visibility or the formation of crop marks, such as woodland, scrub, unimproved pasture or alluviated areas. Medieval ploughing - the typical ridges and furrows caused by the turning of a heavy ox-drawn plough - also often masks underlying deposits on aerial imagery. Due to extensive areas of ridge and furrow across the Site it is highly likely that many earlier features were not visible.
- 3.2.17 It is also important to note that the perception of the environment and expectation of what is to be found often may limit the interpreter's openness to all features which may be noticed and identified. This perception factor is mitigated by repeated examination of imagery taken in different years and under different conditions, and by teamwork between two or more interpreters checking the data.

#### *HER and Scheduled Monuments*

- 3.2.18 In many cases during the assessment, it was observed that the HER point or the polygon covering the Scheduled Monument areas did not match up accurately with what could be clearly identified in the LiDAR for the same feature. In some cases, the HER point was some way away from where the monument could be observed in the LiDAR data or on aerial



images. In some cases, the Scheduled Monument either covered a smaller area for the same monument identified in the LiDAR, or vice versa.

- 3.2.19 In cases where this occurred it has been referred to and it is hoped that this assessment can provide further evidence to inform the location and size of HER points and Scheduled Monument polygons. This has only been done where the location of the monument can be clearly identified in either the LiDAR survey, or in aerial images.
- 3.2.20 It should be noted that in some cases the Scheduled Monument polygons have been made deliberately larger than the monument to create a buffer to account for any below ground or discrete features which may not be visible in the LiDAR data or aerial images.

### 3.3 Data Interpretation

- 3.3.1 The Cumbria, Durham and North Yorkshire Historic Environment Record (HER) provided an overview of known archaeology within each Scheme and are referenced within the gazetteer in **Appendix 1**. The datasets described above were used to digitise features of archaeological and historical interest using ArcMap 10.6; the features were mapped in accordance with guidance developed by the *Historic England Aerial Investigation & Mapping (formerly National Mapping Programme) Standards Technical Review* (Historic England, 2019)<sup>1</sup>; *National Mapping Programme Draft Monument Recording Guidelines* (English Heritage, 2010a)<sup>2</sup>; *National Mapping Programme Draft Transcription Guidelines* (English Heritage, 2010b)<sup>3</sup> and *NMP Database Recording Guidelines* (English Heritage, 2010c)<sup>4</sup>. The features were recorded in a geodatabase that uses standard NMP forms and corresponding symbology.
- 3.3.2 Each area of archaeological features was contained within a 'monument polygon'. Each monument polygon represents the full extent of the recorded feature (English Heritage, 2010b)<sup>4</sup>. A monument polygon can contain one feature (e.g. round barrow) or several associated features (e.g. a series of intermittent banks forming a trackway).
- 3.3.3 Monument polygons were assigned consecutive numbers (**Table 1**). A complete list of monument polygons, alongside descriptions of the transcribed features within, can be found in **Appendix 1**. The NGR is calculated as the centroid of the monument polygon.

Scheme Name	Monument Number
M6 Junction 40	1_2_1 to 1_2_44
M6 Junction 40 to Kemplay Bank Roundabout	1_2_1 to 1_2_44
Penrith to Temple Sowerby	3_1 to 3_124
Temple Sowerby to Appleby	4_5_1 to 4_5_224

<sup>1</sup> Historic England, 2019. *Historic England Aerial Investigation & Mapping (formerly National Mapping Programme) Standards Technical Review*.

<sup>2</sup> English Heritage 2010a. *National Mapping Programme Draft Monument Recording Guidelines*. Swindon: English Heritage.

<sup>3</sup> English Heritage 2010b. *National Mapping Programme Draft Transcription Guidelines*. English Heritage: Swindon: English Heritage.

<sup>4</sup> English Heritage 2010c. *NMP Database Recording Guidelines*. Swindon: English Heritage.

Appleby to Brough (Warcop)	6_1 to 6_82
Bowes Bypass (A66/A67)	7_1 to 7_66
Cross Lanes to Rokeby	8_1 to 8_78
Stephen Bank to Carking Moor	9_1 to 9_84
A(1)M Junction 53 Scotch Corner	11_1 to 11_17

**Table 1:** Table of Monument Numbers assigned to Schemes in the Gazetteer.

Features intersecting the Site were recorded to their full extent, where the coverage of the LiDAR data allowed.

Due to the limited access to the CUCAP and Historic England archives during the course of compiling this report, further features would be expected to be identified and interpreted within all Study Areas from the records that the inaccessible archives hold. It is also expected that these archives would contribute further detail to the features that have been identified.

### **3.4 Assessment of Archaeological Interest**

- 3.4.1 In order that the project aims be realised, including the transcription of features, the subsequent creation of a gazetteer, and the presentation of the findings, it was necessary to consider the archaeological interest and significance of each monument identified during this process.
- 3.4.2 Using a multi-disciplinary approach, significance was determined based upon the available data and in accordance with the definition of Significance as outlined in National Planning Policy (NPPF Annex 2). The most successful and confident assignments of significance upon the historic environment were covered by the full suite of prospection data. Where the full complement of data could not be applied subject to availability and quality, it would be beneficial to undertake non-intrusive land survey in order to best define the archaeological significance across the schemes.

## **4 ARCHAEOLOGICAL RESULTS**

### **4.1 Introduction**

- 4.1.1 The assessment resulted in the transcription of 654 monuments, spread out across all ten Schemes.
- 4.1.2 The main feature of this landscape is the course of the Roman road from Penrith to Scotch Corner, the route of which is now obscured in part by the route of the A66 carriageway as described in Scotch Corner – Bowes – Maiden Castle, The Roads of Roman Britain, Roman Roads Research Association (Haken, 2018)<sup>5</sup>. This course is clearly identifiable as a defining feature of the landscape, demarking an important travelling route. This road links all Schemes covered in this report and has a large role in influencing the surrounding landscape through which it travels. Numerous associated features have also been

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<sup>5</sup> Haken, M., 2018, Scotch Corner – Bowes – Maiden Castle, The Roads of Roman Britain, Roman Roads Research Association, (14th January 2021)



identified, which demonstrate the importance of this landscape to the archaeological and historical understanding of this area.

- 4.1.3 The results have been divided into the Schemes set out by the client and then discussed in terms of their archaeological and historical interest and within this by chronology in a structure that best suits the archaeology within that Scheme. Where remains are Nationally significant (for example Scheduled) they have been mapped regardless of whether they are visible on the methodologies applied by this report. Any further associated remains visible in these methodologies have been included within the polygons, even if they are not within the boundaries of the Scheduled Monument.

## **4.2 M6 J40 Penrith to Kemplay Bank roundabout (Figures 2 and 3)**

### **Roman forts, camps and settlement**

- 4.2.1 A potential Romano-British enclosure has been identified during analysis of aerial photographs near to the Kemplay Bank roundabout (1\_2\_49) (OS/69032, Frame Number 9). This feature was identified in the area to the west of the roundabout, an area which the A66 carriageway now crosses. This enclosure is sub-rectangular and appears to contain potential structures within the enclosure. It should be noted that the northern and eastern boundaries of the enclosure do align with former field boundaries which may be obscuring/masking the true extent. This has been mapped as High Interest due to its significant archaeological potential.

### **Prehistoric monuments**

- 4.2.2 Two Scheduled later Prehistoric Monuments, Mayburgh Henge (1\_2\_12; NHLE: 1007902; Cumbria HER: 2867) and King Arthur's Round Table Henge (1\_2\_14; NHLE: 1007903; Cumbria HER: 2868), lie on the southern edge of the Scheme area. The earthworks of both monuments are clearly visible and appear as isolated examples of Prehistoric activity in the area between M6 Junction 40 to Kemplay Bank Roundabout, with the exception of a possible mound that is visible in LiDAR data 90m to the east of Mayburgh Henge, within a parcel of ridge and furrow (1\_2\_10). It is unclear whether this latter feature has a Prehistoric or natural origin, and so its interest is unknown.
- 4.2.3 In addition, a further Scheduled Prehistoric monument in the form of a standing stone is recorded to the east of Skirsgill (1\_2\_36; NHLE:1007626; Cumbria HER: 1166). This monument is extant and is therefore of high significance.

### **Walled garden**

- 4.2.4 Analysis of aerial photography has identified the walled garden associated with St John's Mission room (1\_2\_47) (RXB 3401/ 10A, Frame Number NY 5228 / 41). This is located to the south of Eamont Bridge and is marked on 19<sup>th</sup> century mapping. This has been mapped as Low Interest

### **Agricultural remains**

- 4.2.5 There are traces of agricultural remains across the southern half of the Scheme areas, with most examples confined to small parcels along the corridor of the River Eamont. The clearest example is a small parcel of ridge and furrow (1\_2\_10) between Mayburgh Henge

and residential buildings along Mayburgh Close, extending westwards to the entrance of the Henge enclosure. Former field boundaries lie immediately to the north (1\_2\_31), extending the remains in this area to the bank of the River Eamont.

- 4.2.6 Traces of ridge and furrow are also present on the south bank of the River Eamont (1\_2\_6) and to the west of Carletonhall Park (1\_2\_30). In both examples the earthwork remains are narrow and straight, suggesting a later date to those adjacent to Mayburgh Henge. Narrow ridge and furrow are also present to the south-west of Junction 40 of the M6 (1\_2\_2), alongside two banks (1\_2\_3 and 1\_2\_4) that may represent the remains of associated field boundaries.
- 4.2.7 Narrow ridge and furrow remains are also present to the south of houses on Winters Park (1\_2\_45). Additionally, there is evidence of ridge and furrow cultivation in the north-east of the Scheme area, between Pategill and Carleton (1\_2\_51 and 1\_2\_52) (OS/66147 Frames 43 and 60) as well as open field systems, enclosed by curvilinear field boundaries (1\_2\_50) (OS/69032 Frame 10), although most of this has now been covered by modern development. A strip lynchet was also identified in aerial photography in the area to the east of Pategill (1\_2\_48) (NMR 12249/ 14, Photo Reference NY 5229 / 4). This is likely to have been linked to the agricultural landscape in this area although only small sections of this are still extant. This has been mapped as Low Interest.
- 4.2.8 At the eastern end of the Scheme areas, a peninsula formed by the Rivers Eamont and Lowther contains an assortment of banks and ditches that may have their origins in the management of the floodplain. All remains (1\_2\_17 to 1\_2\_23, with 1\_2\_20) recorded on historic Ordnance Survey mapping are likely to be of post-medieval date and appear to be associated with the Westmorland Holme River Dykes system (Cumbria HER: 15420). Visible remains include a drainage system within (1\_2\_21) and a series of channels, of which (1\_2\_17) is the best-defined.

### **Extraction activities**

- 4.2.9 Aerial photographs and historic mapping have identified a quarry that would have run through the eastern part of the A66 during the 19th and 20th centuries (1\_2\_45). The bedrock geological background of Scar Limestone and Alston Formation Mudstone, Siltstone and Sandstone would have been a desirable raw material to extract for use as building materials.

### **Other features**

- 4.2.10 Earthworks within Carletonhall Park hint at traces of a designed landscape (1\_2\_43). A north-west, south-east aligned bank and ditch crosses the park, extending as far as a former channel of the River Eamont and possibly representing the remains of an earlier route between the river and higher land immediately to the north.
- 4.2.11 A curvilinear earthwork (1\_2\_33) to the south-west of Clifford Road corresponds with the shape of a former boundary visible on historic mapping, which mapping suggests lay at the edge of a former open field. These have been mapped as Low Interest.
- 4.2.12 The narrowest point between the Rivers Eamont and Lowther is the site of a small fishpond (1\_2\_16; Cumbria HER: 15422), while 200m to the west, on the north bank of the River

Eamont, lie the remains of the Low Mill Corn and Snuff Mill (**1\_2\_28**; Cumbria HER: 12015). These have also been mapped as Low Interest.

### **4.3 Penrith to Temple Sowerby (Figures 3 to 5)**

- 4.3.1 Penrith to Temple Sowerby commences outside the civil parish of Penrith market town in the county of Cumbria, following the Northern England major road A66 towards the east, terminating 258m east of Ash Hill Cottages towards the village of Temple Sowerby, Cumbria. This totals an area of c.714ha.
- 4.3.2 The dominant features identified within the landscape comprise agricultural and pastoral activity dating from the medieval through to the 21st century. Other features identified from the LiDAR hillshaded topographic survey; Aerial Photography (AP) and Google Earth Satellite Imagery, include possible Prehistoric activity and confirmed Romano-British activity.

#### **Roman forts, camps and associated settlement**

- 4.3.3 Results from interpretation of the data shows that there is a concentration of Romano-British activity towards the west of Penrith to Temple Sowerby. The most dominant feature within this area that can be viewed through all data sources (CUCAP: CLB12, AEB30, BE92, BE39, BE94; HER: 2890, 5090), is the Brougham Roman Fort (**3\_115**), 331m south of the A66 and c.58m south of Brougham Castle (**3\_120**). The Fort's earthworks have been partially destroyed by the castle to the north but defensive ditches remain intact, covering an area of 136m<sup>2</sup>. To the south and south-east of the Fort lies the remains of buried vicus (**3\_104, 3\_114**). Due to the preservation of the monuments described, they are protected and Scheduled (NHLE: 1007186; Cumbria HER: 2888; 2890 and 5090) and are mapped as High Interest.
- 4.3.4 The A66 runs parallel to two other Romano-British Scheduled Monuments (**3\_96, 3\_99**). Neither AP, Satellite Imagery or LiDAR topographic hillshade were able to identify feature (**3\_99**); a Roman road and Vicus 10m north of the A66 and 300m south of Frenchfield Sports centre. Evaluation in this area by Carlisle Archaeology Ltd. (2001) were able to identify part of the Roman road that orientates north-west to south-east and is truncated by the A66, along with Romano-British paving and activity within the surrounding area (**3\_123**). Towards the east of the study area the LiDAR was able to detect the Scheduled Monument (NHLE: 1020924 Cumbria HER: 2881), A possible Roman road (**3\_1**) orientated west to east. These are all mapped as High Interest.
- 4.3.5 Other than Brougham Roman Fort, the LiDAR data struggled to identify the already known Roman features on the west section of Penrith to Temple Sowerby. The 1940s aerial photography, (CUCAP: AXX97, AXX100, AXX95, AXX96, AXX98), identifies a square enclosure interpreted as a temporary Roman camp (**3\_96**) (NHLE: 1007203; Cumbria HER: 9881) with crop marks measuring 100m<sup>2</sup>, located 87m north of the A66 (NGR: 354214, 529161). These polygons are also mapped as High Interest.

#### **Castle**

- 4.3.6 Brougham castle (**3\_120**) and surrounding castle remains are located to the far west of Penrith to Temple Sowerby. The castle has been entered in the HER and as a Scheduled Monument (NHLE: 1007186; Cumbria HER: 2887). The castle is extant and the remnants of earlier activity on the castle grounds is evident through earthworks. A moat can be seen within this area, as well as activity of docks (**3\_124**) (Cumbria HER: 15419), harbour and



dam installation (**3\_101**), not recorded in the HER. Aerial photographs of the castle include EAW014522, EAW009279 (1948) and the EAW009290 (1947). This polygon is mapped as High Interest.

- 4.3.7 The areas assigned (**3\_123**) (NGR: 353982, 529294) have been investigated partially by Wardell Armstrong LLP and recorded by the HER as a Roman Site (Cumbria HER:42096; 42097). The area was excavated and evaluated, and Roman surfaces and finds were recorded. The area totals to 1ha. There is no evidence for further cropmarks or remains in the LiDAR or Satellite Imagery. This polygon is mapped as of Moderate Interest.

### Enclosures and ring ditches

- 4.3.8 Several enclosures have been identified between Penrith to Temple Sowerby. Both (**3\_80**) and (**3\_79**) are located northwest of Scheme Penrith to Temple Sowerby, c.238m north of the A66. Both enclosures are square, with a possible entrance track visible in the aerial photography on (**3\_79**) to the north. Both enclosures measure 60m<sup>2</sup>. Evidence for the enclosures are partially visible as minor depressions within the LiDAR, more distinctive in the 1940 aerial photography (CUACP BE91, JKX17, BFW58, BFW59) (Cumbria: HER 9881). The period of the enclosures is uncertain, however because of their proximity to the Roman fort, they are possibly Roman. These polygons have been mapped as of High Interest.
- 4.3.9 A third enclosure lies to the south-west of Penrith to Temple Sowerby and is located just on the border of the Scheme's boundary (**3\_75**). The enclosure entrance seems to be located within the boundary. The enclosure measures 68m<sup>2</sup> with what appears to be a track entrance orientated northeast to southwest measuring 100m in length and 4m wide. The monument can be seen in the 2014 Google Earth aerial photography and as slight depressions within the LiDAR. The enclosure has not been recorded in the HER and the date is uncertain, although it could also possibly be Roman. This has been mapped as Medium Interest.
- 4.3.10 To the northwest of Penrith to Temple Sowerby c.142m south-east of the sewage works another rectangular enclosure (**3\_121**) is visible as a cropmark in the 2014 Google Earth Satellite Imagery, measuring 51m in length and 30m wide. This feature is close to feature (**3\_122**) a possible cropmark of medieval field ladder settlement and may be connected to it. Neither of these features have been recognised in the HER. These have been mapped as Medium Interest.

### Settlement

- 4.3.11 Evidence for settlements in the form of Grubenhouses have been documented in the Cumbria HER (16791) and can be seen in the form of crop marks within the 2003 Google Earth Satellite Imagery (**3\_90**). This cannot be seen in the LiDAR data. Inhumations and Cists have been recorded in the HER (2865) within close proximity to these features.
- 4.3.12 The HER has also recorded an area as a possible activity site of uncertain origin (**3\_76**) (Cumbria HER: 3830). This area has numerous cropmarks that can be identified in all epochs of Satellite Imagery and 1961 aerial photography (CUCAP: AEB31) (NGR: 355433, 528863). The LiDAR hillshade shows minor depressions within the topography measuring a total 3464m<sup>2</sup>. The area is also adjacent to HER findspots that include Inhumations, Cists, Grubenhouses and Field systems (Cumbria HER: 2865; 2144; 1149; 16791). From this it is possible that the cropmarks in this area are connected to settlement activity of unknown date.





- 4.3.13 The HER (4457) has recorded a medieval site that is documented in the OS six inch 1888-1913 historic maps. This area, measuring 4571m<sup>2</sup>, is thought to be part of the Site of Hartshorn Tree, Brougham but the exact location of the tree is unknown and cannot be identified through aerial photography or LiDAR hillshade (**3\_58**).
- 4.3.14 All above settlement features have been mapped as Medium Interest.
- 4.3.15 A square depression in the LiDAR hillshade, and square cropmark visible in the 2014 Satellite Imagery is located 435m east of Fremington Lodge (NGR: 354723, 528452) (**3\_85**). This feature is possibly ditch remnants from a previous structure, measuring 1094m<sup>2</sup> however cannot be certain without more investigation. This has been mapped as Low Interest.
- 4.3.16 A circular crop mark seen in the 2014 Satellite Imagery is located 276m south of Barn Owl Cottage (NGR: 354710, 528628), measuring 40m in diameter (**3\_89**). The feature is also located 152m south of other archaeological remains including a known Cist, and Grubenhous (HER: 16791). It is possible this cropmark is connected to the activity to the north. This has been mapped as Medium Interest.
- 4.3.17 Historic mapping has highlighted an area as a Blacksmith workshop (**3\_93**). It is possible this area has already been destroyed from construction of the A66 or housing development. The area assigned (**3\_103**) has been recorded by the HER (12014) as a previous site that had bloomery, Iron and corn and sawmill activity, measuring to a total of 0.12ha. Both have been attributed Medium Interest.

### **Deer Park**

- 4.3.18 Cumbria HER (6803) has recorded a large area measuring c.752ha as a potential medieval and post-medieval Deer Park. The Park starts on the south of the A66 from Lightwater Cottage (NGR: 355012, 528938) and Junction B6412 (NGR: 359763, 528510) and curves alongside a natural peak of an escarpment west of the Study Area at Hallstead's Wood and encompasses the rest of the Study Area to east. The LiDAR hillshade topographic survey, Aerial Photography and Satellite Imagery was unable to identify any features associated with the Deer Park and therefore the Park was not mapped within this study.

### **Agricultural remains**

- 4.3.19 Field boundaries can be seen from both the LiDAR and 2009 Satellite Imagery as earthworks and cropmarks. Monuments (**3\_11**) and (**3\_71**) are located towards the east of Penrith to Temple Sowerby and measure to a maximum of 215m in length and c.7m wide and may be earlier in date.
- 4.3.20 Field boundary (**3\_15**), located c.55m east of Lower Woodside is of early 20th century origin and can be seen through Satellite Imagery.
- 4.3.21 Field boundary (**3\_81**), located 344m west of Fremington Lodge has been identified from the LiDAR Hillshade as an earthwork and can be seen in the 2016 Satellite Imagery. The OS 25 inch 1892-1914 historic maps identifies this linear feature as a field boundary that has now been removed. This feature measures 70m long and c.5m wide.



- 4.3.22 Field boundary (**3\_84**) from the OS six inch 1888-1913 Historic Maps can be seen in the LiDAR hillshade as an earthwork, located 264m east of Fremington Lodge. This feature measures 26m long and 13m wide. Its origin is uncertain.
- 4.3.23 Large parts of Penrith to Temple Sowerby have surviving earthworks and evidence of medieval and post-medieval ridge and furrow, mainly to the west of the scheme. The medieval ridge and furrow are recognisable by the broadness of the earthworks from the LiDAR and is attributed Medium Interest. It totals c.10.44ha across features (**3\_10, 3\_18, 3\_77, 3\_83, 3\_94, 3\_95**). The post-medieval areas of ridge and furrow are recognisable through the narrow earthworks visible in the LiDAR and total to c.21.73ha (**3\_7, 3\_69, 3\_70, 3\_73, 3\_74, 3\_78, 3\_92, 3\_97, 3\_98**) and are mapped as Low Interest.
- 4.3.24 Crop marks identified in the 2018 Satellite Imagery and not in the LiDAR topographic are linear and symmetrical in shape covering 0.4ha (**3\_30, 3\_33, 3\_40, 3\_57**). These features are most likely to be tracks or former cultivation marks.
- 4.3.25 Other field systems that can be identified from the LiDAR topographic survey can be seen in (**3\_86**) whereby many linear ditches and earthworks adjacent to Hallstead's stream could be the remains of a drainage system. This feature covers an area of 0.13ha. The origin is uncertain, however given other remains in adjacent fields to the north and field systems it is possibly medieval.
- 4.3.26 Linear earthwork (**3\_87**) identified as an earthwork located 206m west of Hallstead's stream, orientated north-west to south-east and measures 199m long and c.10m wide. The origin of the feature is uncertain, it is possible these are depressions created by modern agricultural activity.
- 4.3.27 Feature (**3\_105**) is seen through the LiDAR data as a rectangular depression which aligns with a cropmark in the 2014 Satellite Imagery. The feature measures 105m long and c.35m wide orientated north to south. This feature could be the remains of post-medieval field system that was part of the Allotment Scheme.
- 4.3.28 All features, with the exception of the medieval ridge and furrow, is mapped as Low Interest.
- 4.3.29 **Funerary monuments and circular features**
- 4.3.30 Features (**3\_108**) is identified as a faint circular mound in the LiDAR data, possibly being a ploughed-out barrow of uncertain period due to the area to the west being known to have Prehistoric activity between M6 Junction 40 to Kemplay Bank Roundabout. Due to its ephemeral nature, it is attributed Medium Interest. Feature (**3\_109**) is located 193m east of Whinfell Park Cottages and presents itself in the 2018 Google Earth imagery as clear circular cropmark consistent with a Bronze Age barrow. This has been mapped as High Interest.
- 4.3.31 Analysis of aerial photography of the area and the adjacent fields revealed a series of previously unrecorded archaeological features (**3\_132**) (**RAF/58/1959 Frame 4**), which were of similar nature to features (**3\_107**), (**3\_108**) and (**3\_109**) and extended the potential Bronze Age landscape. The aerial photographs show that there are a series of intersecting,



circular cropmarks which, based upon their morphology and association with other similar features, may be attributed to further Bronze Age activity. Background geology does make this interpretation more difficult, and as a result more detailed investigation would be required to determine their origin.

- 4.3.32 Circular crop marks are visible in the Satellite Imagery from 2014. Circular feature (**3\_3**) is isolated from other circular crop marks and any known Prehistoric activity within the area. It is possible this circular feature could be a pit. Other visible circular cropmarks that are possible pit features are (**3\_19**) and (**3\_44**) are located 0.14km northeast and 0.14km southwest of Lower Woodside covering a total of c.6ha. These features are mapped as Low Interest.
- 4.3.33 Two small mounds (**3\_126** and **3\_127**), located 55m apart, lie to the west of Whinfell House. LiDAR coverage is limited to 2m horizontal resolution data and so detail is lacking, but the size and close relationship of the two features suggests that they may represent the remains of round barrows. They have been mapped as Medium Interest.
- 4.3.34 The area within Penrith to Temple Sowerby includes large tracts of pastoral land and could contain remote sensing evidence that is the remains of cattle feeders or small extractive pits, such as the quarry located c.0.27km to the north.

#### **Extraction Activities**

- 4.3.35 The remains of a well can be seen as a crop mark in the 2018 Satellite Imagery alongside the OS Six Inch 1888-1913 map (**3\_28**). Its origins are uncertain but due to the potential antiquity for this type of feature it is mapped as Medium Interest.
- 4.3.36 The LiDAR has identified two quarries, (**3\_27**) and (**3\_118**) located 0.8ha and 0.4ha east of Hill Moss Cottages. In total, the depressions within the LiDAR measure c.0.62ha. These are mapped as Low Interest.
- 4.3.37 Where there are gaps in the Lidar coverage, aerial photographs (**RAF/58/1959 Frame 4**) captured circular cropmarks in a line (**3\_132**), orientated north-west to south-east, east of Whinfell Park Cottages. It is likely these cropmarks are remnants of mining activity, following a seam of material. Due to the close proximity of prehistoric finds within the area (Cumbria HER: 45160) it is possible these circular features are prehistoric of date and have therefore been mapped as Medium Interest.

#### **Second World War Airfield**

- 4.3.38 Documentary evidence records the former RAF Hornby Hall Satellite Landing Ground (No 9 SLG) located to the north of the main route. During the Second World War it served as an emergency airfield. The turf runway was never formalised and therefore it is expected that it did not survive following its closure in 1946, a fact corroborated through Lidar analysis.
- 4.3.39 Examination of aerial photographs from the late 1940s shows the form of the installation in the landscape. A perimeter track, flanked by concrete hardstands partially encircles an

expanse of grassland, revealing the location of the former airstrip (**3\_131**) (**RAF/541/61 Frame 4158**). The APs confirm that two years after the airfield's closure, the landing strip had entirely disappeared, leaving the perimeter track, a number of temporary sheds, assembled in a grid-formation, and a single hangar as the only indication of its military function.

- 4.3.40 The installation remains in situ today despite the loss of the temporary sheds and the appropriation of the encircling track as the main access to a farm complex to the north. The asset survives predominantly as elements of built heritage subsumed into a cultivated, rural landscape. The exact location of the landing airstrip is remains unconfirmed however the arrangement of the encircling track and the topography of the site would suggest it extended upon an east to west alignment.

### Other Features

- 4.3.41 Feature (**3\_76**) can be seen in both the LiDAR data as an earthwork and in 1961 aerial photography (CUCAP: AEB31), and all epochs within Satellite Imagery as a cropmark (Cumbria HER: 3830). This feature could be possibly Prehistoric because of its proximity to HER findspots (Cumbria HER: 45152; 45151) including flint debitage and has therefore been mapped as High Interest. The feature measures 252m in length and 3.84m wide orientated northeast to southwest.
- 4.3.42 A large soil mark (**3\_119**) present in the 2019 google earth aerial photography is located towards the mid-south section of the scheme. This feature measures 36475m<sup>2</sup> and is surrounded by seven unknown circular soil marks (**3\_59**, **3\_60**, **3\_61**, **3\_62**, **3\_63**, **3\_64**, **3\_65**) measuring 82m in length and 15m wide, and linear soil mark (**3\_110**) measuring 13m long and c.9m wide. It is possible the features are archaeological and may relate to Bronze Age activity, given there are two possible mounds (**3\_108** and **3\_109**) 1000m to the west of these features and therefore is mapped as Medium Interest.
- 4.3.43 Where there are gaps in the Lidar coverage, aerial photographs have shown a cluster of 11 circular crop marks particularly in the landscape surrounding and to the east of Whinfell Park (**3\_129**) (**3\_130**) (**RAF/58/1959 Frame 5**). The circular cropmarks do not exist in any modern Satellite Imagery and may possibly have been damaged by modern ploughing. These features are within close proximity to possible prehistoric features (**3\_59-3\_65**) and are therefore mapped as Medium Interest.
- 4.3.44 A similar feature (**3\_128**) (**RAF/541/61 Frame 4158**) has been identified in aerial photography located less than 100 m to the north-west of the large soil mark and as a result has also been mapped as Medium Interest as it may also relate to Bronze Age activity.
- 4.3.45 Linear feature (**3\_91**) can be seen as a crop mark in the 2014 Satellite Imagery, located 59m southeast of Barn Owl Cottage. This feature measures 116m long and c.5m wide, orientated north-west to south-east. Its origin is uncertain. However, because of its proximity to HER find spots and already known Cists, inhumations and Grubenhauses (Cumbria HER: 2865; 2144; 1149; 16791) it is possible this feature is associated to Prehistoric or early medieval settlement activity and therefore is mapped as Medium Interest.



- 4.3.46 A post-medieval marching camp to the west of Penrith to Temple Sowerby cannot be identified from the LiDAR hillshade but has been identified through multiple find spots in the HER (15140) that contain rifle butts and through the OS Six inch 1888-1913 historic maps (**3\_122**). This area measures 0.2ha and is mapped as Medium Interest.
- 4.3.47 The following monument features are mapped as Low Interest because their origin and association to the Schemes identified archaeological potential is unknown within this investigation.
- 4.3.48 A slight depression in the LiDAR hillshade and cropmark in the 2014 Satellite Imagery highlights a curved linear feature (**3\_113**), located 110m north of Barn Owl Cottage (NGR: 354807, 529101). This feature measures 156m long and c.11m wide, orientated northeast curving south. The features origin is uncertain, however is truncated by possible field systems (**3\_105**).
- 4.3.49 An earthwork present on the LiDAR and visible crop mark (**3\_2**) in the 2018 Satellite Imagery can be located towards the east of Penrith to Temple Sowerby, 0.24km east of Winderwath Farm. Its origin is uncertain but is possibly connected to the Roman Settlement activity just south of the identified feature or to the field drains which are adjacent (**3\_4**). The feature is orientated southeast to northwest, measuring c.466m in length and c.15m wide.
- 4.3.50 Linear feature (**3\_12**), present as an earthwork on the LiDAR located c.2.29km south-east of Whinfell House, orientated north to south and measures c.232m long and c.7.82m wide. The feature is of unknown origin, but is possibly connected to former field boundaries, but would need further clarification.
- 4.3.51 Earthwork (**3\_14**) is present in the LiDAR is oblong in shape, located 0.10Km south-east of Whinfell house, measuring 714m<sup>2</sup>. Another prominent oblong earthwork (**3\_8**) is present in the LiDAR c.0.29Km north of Winderwath farm, measuring 275m<sup>2</sup>. The origin is uncertain and is most likely associated with modern activity in agriculture.
- 4.3.52 Linear feature (**3\_6**) is present in the LiDAR as a ditch. The feature is located c.0.29km north-east of Winderwath Farm, orientating northeast to southwest. The feature measures 125m in length and is 2.78m wide. This feature is on the edge of what was part of the Winderwath estate to the north and could possibly be related to medieval activity within the park and estates boundaries.
- 4.3.53 Linear feature (**3\_9**) can only be seen in the 2014 Satellite Imagery, located c.0.21km north of Winderwath Farm and measuring 97m in length and c.2m wide. Its origin is unknown.
- 4.3.54 Linear feature (**3\_56**) and (**3\_106**) can only be seen in the 2016 Satellite Imagery, located c.0.2km south-east of Lower Woodside and measure a maximum of c.206m in length and c.2m wide. The origins of these features are unknown.
- 4.3.55 Linear feature (**3\_82**) can be seen as an earthwork in the LiDAR hillshade and possibly relates to a former road recorded on the OS one inch 1885-1900 historic map. This feature

measures 395m long and c.12m wide, orientated north to south, located 106m east of Fremington Lodge.

### **Natural Features**

- 4.3.56 There are five possible natural features within Penrith to Temple Sowerby are mapped as Low Interest. These features are represented as soil marks (**3\_13**, **3\_17**, **3\_66**, **3\_111**, **3\_133**) (RAF/541/61 Frame 4161). The bedrock is sandstone and is overlain with superficial deposits of diamicton (glacial till deposits) and as such it is possible that these five features within are paleochannels caused by periglacial outwashing at the end of the Devensian, due to the retreating ice sheets. A further natural feature (**3\_29**), consist of two mounds with a flat base. Whilst natural features, their elevated nature at the edge of the alluvial corridor, indicates a high potential for the presence of archaeological remains and is therefore mapped as Medium Interest. These natural features are clearly visible in the LiDAR topographic data.
- 4.3.57 The LiDAR topographic survey presented a depression (**3\_107**) within the bedrock, measuring 163m in diameter. It is unlikely this could be a solution hole given the bedrock is sandstone. It is possible this feature could be remnants of quarrying or possibly a pond barrow given its proximity to two possible barrows, due to the uncertainty of the monument, this is mapped as Low Interest.
- 4.3.58 A large area south of the A66 is covered in depressions as identified in the LiDAR data. In particular, one depression looks like a rectangular raised platform, measuring over 100m in width (**3\_117**). It is possible the platform is of Roman or post-medieval origin and is therefore mapped as Low Interest.

## **4.4 Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe Roman Forts, camps and associated settlement**

- 4.4.1 The remains of the fort at Kirkby Thore (NHLE: 1012183) appear to be greatly reduced when viewed in the LiDAR data, with the extents of the earthworks best appreciated through 1940s aerial photography (CUCAP: DO77). This shows the line of the northern rampart, along with possible internal divisions (**4\_5\_56**; Cumbria HER: 2800).
- 4.4.2 The extents of the associated vicus are also unclear, although a series of banks that appear to delineate it can be seen both to the west (**4\_5\_47**, **4\_5\_48**, **4\_5\_49**; Cumbria HER: 2800; NHLE: 1012183) and east (**4\_5\_59**) of Main Street. Analysis of aerial photographs provides greater clarity of what appeared in Lidar to be a series of small, sub-rectangular banks immediately east of the Scheduled area. The oblique image (NY 6425 / 7) reveals that these anomalies are the remains of a second and previously unrecorded (**4\_5\_74**; Cumbria HER: 5132). Roman camp and therefore is mapped as High Interest.
- 4.4.3 Moving 2km to the south-east, the Scheduled Roman camp at Redlands Bank (NHLE: 1007189; Cumbria HER: 1654) is visible in LiDAR data as an intermittent trapezoidal bank feature measuring approximately 300m by 350m (**4\_5\_107**), corresponding closely with the Scheduled extents. The remains appear fragmentary in places, making it difficult to identify which sections represent entrances. An internal feature, visible as a cropmark, runs parallel

with the north-west facing bank of the camp (as visible in CUCAP: BFW69). It can be traced for a short distance to the west of the A66 and appears to represent a ditch.

- 4.4.4 A small settlement, visible as cropmarks (**4\_5\_70**) and Scheduled as a Roman farmstead (NHLE: 1007124), lies 600m to the north-west of the Redlands Bank camp. An enclosing ditch is visible as an elliptical feature in 1940s aerial photography (CUCAP: DO78).
- 4.4.5 A further 3km south-east of the Redlands Bank camp is the Scheduled Roman fortlet at Castrigg (NHLE: 1007174). The remains appear to cover a smaller area than the Scheduled extents (**4\_5\_187**; Cumbria HER: 1641). The remains are clearest on 1940s aerial photography, where the ramparts and ditches – both clear in LiDAR data – can be seen in detail alongside a double ring ditch feature that has been interpreted in the scheduling as a signal station (CUCAP: DO79).
- 4.4.6 All of the above Romano-British remains are Scheduled and consequently mapped as High Interest.

### **Roads and transport infrastructure**

- 4.4.7 The forts and camps mentioned above all lie adjacent to the Penrith to Maiden Castle Roman Road. The section between Powis House and the B6542, now a green way, is clearly visible in aerial photography (**4\_5\_117**), although it lies in an area that – with the exception of a small parcel of 2m horizontal resolution data – is without LiDAR data; as such, identifying the extents of the agger along this section is problematic. This polygon is mapped as High Interest.
- 4.4.8 A 250m long section of possible Roman road, forming part of the original Penrith to Maiden Castle Roman Road, is visible to the east of Temple Sowerby, although in an area only covered by 2m horizontal resolution LiDAR data (**4\_5\_4**; Cumbria HER: 2800). The earthwork remains – possibly representing the agger – are visible as a straight line to the north of a kink in the present road running eastwards out of Temple Sowerby. This polygon is mapped as High Interest.
- 4.4.9 The section of the Roman road between the former Kirkby Thore railway station (**4\_5\_63**) and Powis House was used as part of the Eden Valley railway line (**4\_5\_106**), and it is not possible to tell the two apart in the LiDAR data. The western section of the former railway, running from Skygarth Viaduct to Kirkby Thore Station, follows a different alignment to the Roman road (**4\_5\_1**). These monument polygons are mapped as Medium Interest.
- 4.4.10 Analysis of aerial photography reveals a series of negative, linear cropmarks in the field to the north of the former Kirkby Thore railway station (**4\_5\_226**) (NY 6424 / 3). Neither the origin nor date of these features are certain however, it is possible that they are trackways and earthworks associated with the former railway and may have once made-up part of a former goods yard. A number of very straight linear features intersect at right angles to the possible railway features and are likely to be modern drainage as they lead into the nearby Trout Beck. This monument polygon is mapped as Low Interest.



- 4.4.11 A possible trackway can be seen extending northwards from the River Eden (at Fitz Well) towards (and possibly beyond) the Penrith to Maiden Castle Roman Road (**4\_5\_13**) and is mapped as of Medium Interest. A temporary Roman camp recorded in the Cumbria HER (9980) but not visible during this assessment lies immediately to the east and may be associated.
- 4.4.12 There is no evidence of the north-south aligned Roman road between Kirkby Thore and Whitley Castle (the Maiden Way).

### **Shrunken village**

- 4.4.13 Traces of shrunken remains are also visible at the northern end of Crackenthorpe (**4\_5\_168**), corresponding with previously identified remains (Cumbria HER: 6771). Less clear are the possible remains of former buildings to the east of Crackenthorpe Hall, where a small number of indistinct earthworks fall on an alignment that matches the layout of the house and ancillary buildings and the driveway (**4\_5\_161**). These polygons are mapped as Medium Interest.
- 4.4.14 Possible shrunken remains mapped as of Low Interest are also visible to the east of Main Street at Kirkby Thore, where a small area of indistinct earthworks, broadly visible as platform-like features, lies to the north-east of the Scheduled vicus (**4\_5\_76**).

### **Enclosures**

- 4.4.15 In addition to the enclosure associated with the Scheduled Roman farmstead described above, four possible enclosures survive across Temple Sowerby to Appleby. In all instances their date and function is unclear, although all lie a short distance from Crackenthorpe and within 50m to 220m of the Penrith to Maiden Castle Roman Road. One of these sites (**4\_5\_197**) is particularly faint and may not be of archaeological interest and therefore is mapped as Low Interest.
- 4.4.16 One possible enclosure is visible at the southern end of a slight spur that protrudes south-eastwards to the north of Meadows Ing Farm (**4\_5\_125**). The enclosed area is formed by an 80m long curved bank that crosses the spur. It may be related to an enclosure recorded in the Cumbria HER (6006) and is therefore mapped as Medium Interest.
- 4.4.17 The faint remains of a possible rectangular enclosure approximately 80m in length are visible 70m to the north of the Castrigg Roman fortlet (**4\_5\_185**). The feature is recorded in Cumbria HER (4211) and is therefore mapped as Medium Interest. The remains are far from clear and the site lies beyond the area covered by LiDAR data.
- 4.4.18 A further possible enclosure is visible as a cropmark 400m to the south-east of the Castrigg Roman fortlet (**4\_5\_197**); the cropmark defining this further possible enclosure is somewhat unclear and consequently the monument polygon is mapped as Low Interest. There are hints of a bank in LiDAR data, although as with (**4\_5\_185**) the remains are unclear.
- 4.4.19 The final example (**4\_5\_203**) lies 150m to the north of Fair Hill, Appleby and is visible as a square enclosure with 35m long sides. The feature is covered by trees and may have an arboriculture origin. An enclosure is recorded in the Cumbria HER 80m to the east (5933) and the two may correspond (a similar discrepancy in distance and bearing is found with the HER record for St Giles Chapel, Crackenthorpe; see below). This monument polygon is mapped as Low Interest.



## Agricultural remains

- 4.4.20 The remains of medieval and post-medieval agricultural activity are visible throughout Temple Sowerby to Appleby, with earthworks representing the remains of broad ridge and furrow visible across a wide area (c.80 hectares) around Crackenthorpe in particular (e.g. **4\_5\_127**, **4\_5\_135**, **4\_5\_138**, **4\_5\_153** and **4\_5\_154**). This expands the area of remains recorded in the Cumbria HER (5823 and 16989 to the north of the village and 1649 to the south of the village). The remains around Crackenthorpe are broad and typically medieval in character, with the selions displaying a reverse-'s' shape. Remains can also be seen to extend westwards and southwards from the village onto the alluvial deposits of the River Eden (**4\_5\_133** and **4\_5\_146** to **4\_5\_148**).
- 4.4.21 A small number of lynchets are also visible to the south of Crackenthorpe Hall as series of well-defined parallel banks (**4\_5\_156**), while previously recorded lynchets (Cumbria HER: 5824) can be seen on the left bank of the River Eden (**4\_5\_145**).
- 4.4.22 Ridge and furrow remains are also visible within and adjacent to the Scheduled area of the Roman vicus at Kirkby Thore (**4\_5\_50** to **4\_5\_54**). The earthworks appear to have destroyed, or mask, any remains associated with the vicus. Vestigial remains of ridge and furrow at Kirkby Thore can be seen to continue north-west of the village (**4\_5\_30** to **4\_5\_34**).
- 4.4.23 Smaller or less substantial remains are also visible to the south-east of Temple Sowerby (e.g. **4\_5\_10**) and adjacent to the A66 at Appleby (**4\_5\_206** and **4\_5\_223**), while well-defined but isolated examples can also be seen to the north of Powis Farm (Cumbria HER: 6008) (**4\_5\_103** and **4\_5\_105**).
- 4.4.24 Beyond the extensive evidence for surviving ridge and furrow, a small drainage system – visible as a series of ditches in a herringbone pattern and likely to be of 19<sup>th</sup> century or modern date – is visible in a small valley to the south of Halefield Farm (**4\_5\_29**).
- 4.4.25 Former field boundaries are present across Temple Sowerby to Appleby, with most examples appearing to relate to the opening up of fields in the 20<sup>th</sup> century. Some of these earthworks appear to have been influenced by, or are a product of, earlier medieval agricultural activity within open fields. The group of smaller field boundaries adjacent to the vicus at Kirkby Thore (**4\_5\_74**) and described above appears to form some of the earliest evidence for former boundaries and therefore mapped as Medium Interest.
- 4.4.26 Examples of blocks of fields opened up since the early 20<sup>th</sup> century can be found adjacent to the south-east of Temple Sowerby (**4\_5\_6** and **4\_5\_8**), to the north of Kirkby Thore (**4\_5\_83**), where they remain visible as banks in LiDAR data.
- 4.4.27 Relict medieval field boundaries are visible amongst small blocks of ridge and furrow and lynchets to the south of Crackenthorpe Hall (**4\_5\_152**). The wider Crackenthorpe area also possesses several blocks of broad ridge and furrow remains and associated headlands that continue to influence the layout of fields to the present day (e.g. **4\_5\_127**).



- 4.4.28 The influence of former open fields on the present-day arrangement of fields is also apparent to the west of Kirkby Thore (e.g. **4\_5\_32**), where several field boundaries continue to hold reverse-‘s’ curves in their layouts.

#### **Other features**

- 4.4.29 Although the broad groups outlined above provide the majority of the evidence within Temple Sowerby to Appleby, additional features of archaeological interest are present. A number of remains within the wider environs of Crackenthorpe in particular are suggestive of more widespread land use in the past and consequently are mapped as High Interest and Medium Interest.
- 4.4.30 The site of St Giles Chapel (Cumbria HER 1667) is clearly visible as a rectangular depression (**4\_5\_158**) lying on a 55m by 25m rectangular platform (**4\_5\_157**) 450m to the east of Crackenthorpe Hall, approximately 85m west of the location recorded in the HER. The polygons are mapped as High Interest.
- 4.4.31 A previously mapped weir is visible as a slight bank in LiDAR data in the River Eden, 500m to the south of Crackenthorpe Hall (**4\_5\_150**). It channels water flowing downstream through a mill race that is recorded in the Cumbria HER (**4\_5\_149**; Cumbria HER 15733). This polygon is mapped as Medium Interest.
- 4.4.32 A large sub-circular feature, 120m in diameter, is visible in LiDAR data 130m to the north of Castrigg (**4\_5\_182**). It is formed of a circuit of banks which are cut by the Settle to Carlisle railway line and a small service road. Its function and antiquity is unclear, but it is possible that it is related to the construction of the railway and/or the adjacent railway bridge and consequently mapped as Medium Interest.
- 4.4.33 In an area where Lidar coverage is not currently available, aerial photographs have revealed a series of curvilinear and linear earthworks of uncertain origin (**4\_5\_179**) (NY 6622 / 12) located just under 800 m to the north-east of Crakenthorpe and in fields adjacent to the Roman Road (**4\_5\_117**). A firm interpretation of these cropmarks has not been possible although it is certain that they are of archaeological interest. Phasing of these features is also not possible as the relationship of the cut features to the surrounding field boundaries, trackways, and ridge and furrow is indistinct due to widespread interference from widespread background geology. Without further investigation this study maps this feature as Low Interest.
- 4.4.34 More widely represented groups of features include extractive pits of differing sizes mapped as Low Interest, ranging from large cut features representing former quarries – such as those found across a 20-hectare area 1km to the north-east of Kirkby Thore (**4\_5\_94** to **4\_5\_97**) – to small-scale pits within fields (e.g. **4\_5\_122** and **4\_5\_209**).
- 4.4.35 Numerous former channels are visible adjacent to the River Eden and a number of tributaries. One channel (**4\_5\_108**), a former channel of the Trout Beck – passes north-west to south-east through the centre of the Roman camp at Redlands Bank, and so is considered to hold higher potential due to the possible survival of associated activity within colluvial deposits or as waterlogged remains. Therefore, this monument polygon is mapped as Medium Interest.

- 4.4.36 A c.1300m long, north-west to south-east aligned bank – located on the interface between till and alluvial deposits to the east of the River Eden – may be of archaeological interest (**4\_5\_109**). The southern section in particular – a tree-lined 500m long portion between Westley Bank Cottages and the River Eden – displays a notable bank-like profile in LiDAR that hints at the shaping of a natural feature. The Redlands Bank Roman camp lies 300m east of the bank, while a Scheduled Roman farmstead (SM No: 1007124) lies 150m from its northern end. Two adjacent farms – Redlands Bank and Westley Bank – may refer to the bank in their names. This monument polygon is mapped as Medium Interest.

## 4.5 Appleby to Brough (Warcop)

### Roads and transport infrastructure

- 4.5.1 The dominant feature within Appleby to Brough (Warcop) and which bisects the Study Area is undoubtedly the '*Penrith to Maiden Castle Roman Road*' (Cumbria HER: 1809) travelling through the modern rural landscape of Cumbria and North Yorkshire, on a north-west to south-east alignment. The road largely follows the path of least resistance through the landscape, and likely signifies the formalisation of an already established Prehistoric route way or sections thereof.
- 4.5.2 Today, this ancient route is almost entirely obscured beneath the modern structure of the A66 carriageway. It is anticipated however, that buried structural and earthwork remains associated with the former road will survive in varying degrees of preservation and extent, both beneath and adjacent to the modern route. An example of this is visible upon aerial imagery at the western entrance to the A66 Bypass where a widening of the carriageway terrace and flanking raised banks appear to predate that of the 20<sup>th</sup> century development.
- 4.5.3 A short section of the Roman road (**6\_17**) to the north-east of the village of Warcop follows a different alignment to its modern counterpart. The A66 deviates northwards in a short, half-loop travelling a distance of approximately 800m between the junction of 'Entry No. 1' for Moorhouse Farm to the west and the junction of Hayber Lane to the east. Upstanding features of the Roman road can be traced continuing on a straight ambit, cross country, potentially joining with part of a Roman Road discovered alongside Warcop Roman Camp (**6\_14**). These earthworks are discernible upon both LiDAR data and aerial imagery as well as being visible to the naked eye and consequently mapped as High Interest.
- 4.5.4 To the far western extent of Appleby to Brough (Warcop) within an area impacted by concentrated quarrying, (**6\_1**) a series of intercutting trackways are visible running into the quarry and providing a connection to the wider landscape of unenclosed moorland beyond (Cumbria HER: 15874). Today, while these tracks form part of a network of paths associated with modern use, their relationship to the quarry and the links they provide with nearby Prehistoric monuments would suggest in part a longevity and certain continuity of use throughout human history and therefore is mapped as Medium Interest.
- 4.5.5 Trackways lead northwards from the quarry and lead to the Scheduled *Druidical Judgement Seat* (NHLE: 1007099; Cumbria HER: 1817), just outside the limit of the Study Area. The monument comprises a D-shaped enclosure positioned upon a natural headland overlooking the quarry (**6\_1**) and moorland, which are mapped as Low Interest.

Archaeological investigation of the site determined that the enclosure was once a defended farmstead occupied during the Iron Age period.

- 4.5.6 Lithic analysis demonstrated concentrated activity and use of the site from the Early Neolithic into the Late Bronze Age. This evidence was thought to relate to an early phase of activity on the headland associated with nearby Bronze Age funerary cairns as discussed in *The Druidical Judgement Seat: Archaeological Investigation of an Iron Age Enclosure on Brackenber Moor, Appleby-in-Westmorland, Cumbria* (Railton, 2012)<sup>6</sup>, such as those located within the Study Area to the south-east (**6\_42**); a possible hut circle (Cumbria HER: 4212) mapped as Medium Interest. This interpretation is corroborated by the connection provided by the trackways between all these monuments.
- 4.5.7 The former line of the North and Eastern Railway (**6\_46**) (Eden Valley Branch through Warcop and Sandford) (Cumbria HER: 19990), extends much of the western and central part of Appleby to Brough (Warcop), south of the A66. The railway remains extant to the north-west of Warcop, as part of a heritage railway. A large proportion of the original infrastructure including lines, cuttings, sidings, associated buildings and former bridges survive along its route. These, as well as the railway embankments are widely visible upon both Lidar and photographic aerial imagery. This monument polygon is mapped as Low Interest.
- 4.5.8 Located to the immediate north-west of Warcop and on the southern side of the railway embankment lies two parallel railway cuttings obscured by dense tree cover. These high banks are visible upon both Lidar and photographic aerial imagery and illustrated upon the First Edition OS mapping. The CCHER records the presence of a medieval moated settlement (Cumbria HER: 1808) in the same location however this feature was not observed by this study and therefore has not been included in this assessment.
- 4.5.9 Analysis of aerial Satellite Imagery (Google Earth) and LiDAR data imagery revealed a section of Musgrave Lane which is no longer in use and now appears in the form of a hollow way (**6\_75**). This monument polygon is mapped as Low Interest. No LiDAR data was available for this section of Appleby to Brough (Warcop) and the feature was identified through analysis of aerial Satellite Imagery (Google Earth).

### **Roman forts, camps and associated settlement**

- 4.5.10 The remains of the '*Scheduled Warcop Roman camp and length of Roman road, 285m south-west of Moor House*' (NHLE: 1019208) (**6\_14**) or '*Roman Temporary Camp, Warcop*' (Cumbria HER: 1813) are less distinct in the LiDAR data, compared to the National Mapping Program (NMP), which used aerial photography. Given the presence of recording of these features from the NMP, this area is recorded as High Interest. The lack of topographic expression in the LiDAR data indicates some destruction at the ground surface.

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<sup>6</sup> Railton, M, 2012. *The Druidical Judgement Seat: Archaeological Investigation of an Iron Age Enclosure on Brackenber Moor, Appleby-in-Westmorland, Cumbria*. Transactions C&WAAS CW3, xii, 2012, pp.21-36.



- 4.5.11 This study has observed in LiDAR imagery, a long bank, aligned east to west and broadly parallel with the current course of the A66. This is likely the buried remains of the former road as described by Historic England (NHLE: 1019208) to the south of the camp.
- 4.5.12 Analysis of aerial photographic imagery (Google Earth: 2020) revealed a faint circular cropmark similar to that recorded by the NMP. A more detailed study may be required of the Aerial Photography (AP) resource in order to better understand the extent and character of the surface expression.
- 4.5.13 A number of additional features have been observed within the landscape which may be associated and contemporary with the Roman road. Unfortunately, their interpretation and origin cannot be attributed with confidence without additional detailed analysis and ground truthing. These features will be presented and discussed in the following sections below; *'Enclosures and ring ditches'* and *'Other features'*.

### **Shrunken village and associated remains**

- 4.5.14 The B6259 is the main access route into Warcop from the west and once will have marked the central road through a small medieval linear settlement. The CCHER records that south of the B6259 lie the remains of Warcop Medieval village (Cumbria HER: 6714-5). This entry is based primarily upon documentary evidence and states that any previous, intrusive archaeological investigation has only recovered evidence for small-scale agricultural practice and dating material from the late post-medieval and early modern periods.
- 4.5.15 Analysis of the LiDAR data has revealed previously unrecorded earthworks in this area with a particular concentration of activity to the south of St Columba's Church (**6\_78**) which mostly likely represents the former historic core of the settlement. The earthworks closest to the church and farm buildings comprise deeply incised banks and ditches encircling raised features likely large building platforms, mapped as Low Interest. These features are discernible upon both LiDAR data and aerial imagery as well as being visible to the naked eye. Further to the south visible features comprise a concentrated patchwork of field boundaries and multi-directional, narrow ridge and furrow.
- 4.5.16 Located further east along the Scheme, lies the upstanding remains of Flintholme Settlement (Cumbria HER: 3472) and Flintholme Earthworks (44977). The list entry states that there are earthworks which suggest shrunken settlement around the present hamlet of Flitholme. These consist of a hollow way (present bridle way), probable house platforms and various dykes and field boundaries. Analysis of the LiDAR data and aerial Satellite Imagery has demonstrated that all of these features survive and extend further east than previously recorded (**6\_47**) (Cumbria HER: 3472), and therefore is mapped as Medium Interest.
- 4.5.17 This study has observed additional earthwork remains, likely contemporary with the medieval settlement of Flintholme extending eastwards, creating a tangible connection between Langrigg Farm and the fields beyond. These features include exaggerated field boundary banks which may have also functioned as hollow or drove ways (**6\_81**, **6\_82**). One field boundary bank section in particular, which travels on an east to west alignment from the Flintholme SMV, north of Langrigg Farm, possesses distinct characteristics of a hollow way. This ancient track intersects with the Langrigg to Great Musgrave Road which

itself presents with flanking high banks, typically associated with ancient route ways. These two monument polygons are mapped as Low Interest.

### Enclosures and ring ditches

- 4.5.18 As is characteristic of the Eden Valley, there are a number a large enclosures positioned along the Scheme, of uncertain function and date. The *Cumbria and the Lakes Historic Landscape Characterisation* (Hardie et al., 2014)<sup>7</sup>. states that where largescale ‘ancient’ enclosure occurs “*there is generally a medieval interpretation for it*”. This study however has found that there may be alternative or more complex interpretations to be made of these features.
- 4.5.19 All of these features, of which there are five identified, have similar characteristics. They may all be classed as univallate earthworks comprising a single ditch and bank enclosure which entirely or partially encircles a hilltop or ridge. Often these earthworks respect the natural features of the mount including the contours of the slope, incorporating waterways and steep escarpments into their design as a natural defence. This design is extremely lightweight in terms of defence and therefore would not have been effective as a deterrent for human traffic.
- 4.5.20 The first enclosure (**6\_15**) has been observed upon the ‘Castleber’ hilltop, located to the north-east of the ‘*Scheduled Warcop Roman camp and length of Roman road, 285m south-west of Moor House*’ (NHLE: 1019208) or ‘*Roman Temporary Camp, Warcop*’ (Cumbria HER: 1813) and overlooking the ‘*Penrith to Maiden Castle Roman Road*’ (Cumbria HER: 1809). This monument polygon is mapped as Medium Interest.
- 4.5.21 Castleber (Cumbria HER: 4327) is a natural hill ridge with excellent visibility from its summit. The HER records that once a medieval castle stood upon the summit of this hilltop however, states that no evidence for any form of fortification can be seen and states that the interior is ‘ploughed and featureless’. Analysis of the LiDAR data imagery contradicts this assessment and reveals a univallate ditch encircling much of the ridge and unnatural disturbance upon the summit plateau, consequently the monument polygon is mapped as Medium Interest.
- 4.5.22 The ditch to the north, north-west today has been incorporated into a more modern field boundary which features upon First Edition OS mapping; the north-eastern curve of the hill base is bordered by the Cringle Beck, the south-eastern curve of the hill is fortified by the largest of the upstanding banks and further reinforced by its conjunction with a steep drop down to the watercourse. The base of the south-western slope remains unenclosed although beyond an adjoining natural hillock lies a section of curving bank cut into the gradient of the hillside (**6\_79**) and is mapped as Low Interest.
- 4.5.23 The south-eastern bank and most well defended section of the feature overlooks the southern branch of Cringle Beck. On the opposing bank of the beck lies a further curving bank (**6\_16**), following the contour of the opposing hill. Upon historic mapping this is

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<sup>7</sup> Hardie, C., Newman, C., Hodgson, J., Hopkins, B., Johnson, M., Newman, R., 2014. *Cumbria and the Lakes Historic Landscape Characterisation (HLC)*. Lake District National Park Authority, Cumbria County Council & English Heritage.



described as a dyke and forms part of a parish boundary upon OS mapping (**6\_43**). These landscape features are often repurposed territorial boundaries which can be attributed to the medieval period and in some cases to late Prehistory. These two polygons are mapped as Medium Interest.

- 4.5.24 The LiDAR data imagery reveals upon the summit of the hilltop, two further enlarged linear ridges, aligned east to west, neither of which are easily discernible upon aerial imagery (Google Earth). At the centre and abutting one of the internal banks lies an area of disturbed ground. This may be attributed to quarrying activity however, this study deems this unlikely given their morphology, consequently the monument polygon is mapped as Low Interest.
- 4.5.25 This assessment determines that Castleber has most likely been the site of continuous and varied use from as early as the Romano-British period although earlier occupation cannot be ruled out. Its proximity to and vantage point over the road would make this a convenient spot for a temporary camp or signalling station.
- 4.5.26 This may have been subsequently repurposed during the medieval period and while unlikely to have contained a 'castle' may have been the site of some form of structure or small-scale occupation, especially given its siting overlooking a territorial boundary. The most likely use of this feature is a defended stock enclosure used for animal husbandry and meeting place.

A single defensive bank would be sufficient in all of these instances.

- 4.5.27 Immediately adjacent and overlooking of the A66 and less than 300 m to the south-west of Castleber lies the natural ridge of Wildboar Hill (**6\_9**). A series of earthworks are visible from the ground, in LiDAR data imagery and aerial Satellite Imagery, following the base and natural curvature of the hilltop, to the north-west and east and south-east. This monument polygon is mapped as Low Interest, as the bank which once encircled the base of the hilltop to the south south-west has been truncated by the railway line and can be seen emerging at the south-eastern corner.
- 4.5.28 The section of raised bank to the north-west has is marked upon the First Edition OS mapping as a 'disused footpath' which joined Eden Vale Farm to the south to the Roman Road. This bank has almost certainly been repurposed at a later date or this is an erroneous record given that this bank is visible not practicable as a walkway.
- 4.5.29 At the base of the Wildboar to the east lies a second sinuous bank (**6\_43**), which travel roughly north to south before curving sharply westwards at the south-eastern corner of Wildboar Hill. This bank and ditch is a continuation of the parish boundary which passes Castleber to the north and is marked upon the First Edition OS mapping, and therefore is mapped as Medium Interest.
- 4.5.30 To the south of Wildboar Hill lies a cut dyke feature (**6\_80**), visible on both LiDAR and aerial imagery. It travels on a north-west to east-south-east alignment past Dyke Nook Farm and appears to join the parish boundary (**6\_43**) to the east before tapering out to the north-west of Warcop.
- 4.5.31 Similar to that of Castleber, visible within the LiDAR data imagery and located upon the summit plateau of Wildboar is the faint indication of disturbance (**6\_59**), a circular

depression measuring approximately 40m across. There can be no confident interpretation of this feature without further detailed investigation, consequently this monument polygon is mapped as Low Interest. It may well be the result of short-term or single event quarrying however its association with other features and the similarity between this and Castleber casts doubt upon this explanation.

- 4.5.32 Overall, this assessment determines that once again this is a location which has been in continuous and varied use since antiquity. Located mere metres from the '*Scheduled Warcop Roman camp and length of Roman road, 285m south-west of Moor House*' (NHLE: 1019208) or '*Roman Temporary Camp, Warcop*' (Cumbria HER: 1813).
- 4.5.33 The Lidar data imagery reveals that the course of the '*Penrith to Maiden Castle Roman Road*' (Cumbria HER: 1809) abuts directly with the northern base of Wildboar Hill (**6\_17**). This would have been a convenient location for associated activity and an obvious vantage point for a temporary signalling station, therefore the monument polygon is mapped as High Interest. It is apparent that Castleber, the Roman Camp and Wildboar Hill form a trident upon an important location, at the meeting point of both territorial boundaries and roads. Once again, this location may also have been repurposed during the medieval period as a temporary stock enclosure for animal husbandry.
- 4.5.34 Upon the south-eastern border of the historic core of Warcop village upon Castle Hill lies the remains of '*Castle Hill, Warcop*' (Cumbria HER: 1807). The HER records that the stone ruins of a medieval castle lie beneath raised banks encircling an area of roughly 100 acres.
- 4.5.35 Analysis of the LIDAR and aerial imagery corroborates the HER entry (1807) and distinct earthworks are visible across much of the site (**6\_23**). A curving bank provides an outer defence following a parallel course with Crooks Beck and a large mound rises to the north. From ground level, raised banks and linear features score the south-western corner of the field. This monument polygon is mapped as High Interest. To the south, in the neighbouring field, evidence for medieval field systems; field boundaries, broad ridge and furrow are faintly discernible in aerial imagery (**6\_24**), mapped as Medium Interest.
- 4.5.36 Located to the east of the Scheme, lies Brough Hill, today the site of a military compound. The base of Brough Hill is encircled by an upstanding bank which is most pronounced to the north (**6\_30**). The HER records this enclosure as '*Brough Hill Enclosure*' (Cumbria HER: 13646). A possible outer bank may survive to the west of the hilltop therefore, the monument polygon is mapped as Medium Interest.

### Funerary monuments

- 4.5.37 A number of funerary monuments have been recorded within the Eden Valley including a group located adjacent to the A66 and the junction with the B6259 to Sandford (Cumbria HER: 1826-8), and a single ring cairn (Cumbria HER: 6149) lying to the north of the barrow group. Their date and origin are uncertain. Unfortunately, these monuments fall within an area without LiDAR coverage and therefore this study has been unable to substantiate these records. However, analysis of aerial photographs has revealed further evidence for a funerary monument close to the site of the single ring cairn (**6\_93**). A semi-circular feature, lying to the north of the location of the ring cairn was identified on aerial photograph (OS/68224, Frame Number 93). The feature appears to have been cut by a later field



boundary and was presumably originally fully circular. However, this feature is considerably larger than the size of a regular ring cairn and so it is not thought that is the ring cairn itself but a separate feature.

- 4.5.38 A further circular cropmark of unknown origin was identified in aerial photography just south of the route of the A66 and to the west of the B6259 (**9\_95**) (RAF/58/2190, Frame Number 6). The location of this cropmark close to a previously identified barrow group (Cumbria HER:1826-8) does suggest that this feature may be related although it is larger in size than would normally be expected for a funerary monument. It is also possible that this may be a modern feature.
- 4.5.39 Nevertheless, analysis of aerial Satellite Imagery (Google Earth) has revealed a pair of linear banks running parallel to one another and potentially forming a corridor between the barrow cluster and the ring cairn to the north (**6\_56**), mapped as Low Interest and a small ring ditch (**6\_55**) which may be an additional badly eroded barrow, mapped as High Interest.
- 4.5.40 Located on the outskirts of the village of Warcop and in the grounds of Mansion House on the B6259, lie the remains of the '*Warcop House Mound*' (Cumbria HER: 1808) described as '[...] indistinct earthworks' and a '[...] circular ditched mound'. This feature is easily discernible within the LiDAR data imagery as a circular mound with a wide ditch encircling the western and southern edge. The remaining circumference appears truncated by a later field boundary.
- 4.5.41 To the far west of the scheme, in the field east of New Hall farm and adjacent to Mire Sike, lie two large mound-like forms (Cumbria HER: 6364) positioned at the crest and base of a small ridge and both approximately 35m in diameter (**6\_7**, **6\_8**). Their function and character are uncertain and therefore are mapped as Low Interest. They may, however, be the remnants of degraded barrows. These mounds are most clearly defined in the LiDAR data imagery although are faintly visible in aerial Google Earth imagery too. A third possible circular feature was also noted on Google Earth (2009) however this was considered too indistinct to include in the record.

### Extraction Activities

- 4.5.42 A number of known and possible extraction pit features have been identified within Appleby to Brough (Warcop), with a particular concentration to the far north-west upon the southern boundary of Brackenber moor. Recorded within the HER lies Ketland Quarry (Cumbria HER: 15874), a disused quarry dated to the post-medieval period. This quarry is represented upon historic mapping as a small number of individual pits however, the LiDAR data imagery reveals a large area of disturbance comprising many small excavations interconnected by a network of small internal paths and trackways which lead out into the wider landscape (**6\_1**).
- 4.5.43 North of the main quarry site are two additional areas of quarrying, the first lies immediately adjacent and to the north-west (**6\_2**). This feature is not marked upon historic mapping although is clearly discernible within the LiDAR data and aerial Satellite Imagery (Google Earth). The latter shows that the exposed superficial deposits are sand.
- 4.5.44 To the north of the quarry and upon the boundary between the moorland and upland pasture lies a second and more sizeable double extraction feature (**6\_3**). This comprises a



concentrated area of significant disturbance comprising deep and irregular shaped pits. These appear marked upon historic mapping as '*sand pit and gravel pit*'. The HER records them as the '*Espland Pits, Warcop*' (Cumbria HER: 15875).

- 4.5.45 All three monument polygons are mapped as Low Interest. However, while it is understood that these quarry features have continued to be in use during the post-medieval period, there is evidence which supports the likelihood that these quarries originate from the Roman period. This is corroborated by the proximity of the quarry to the roadside enabling the easy procurement of materials for the construction of the road not to mention the proximity of the Roman camp located to the immediate west of the Study Area at Coupland Beck.
- 4.5.46 The largest single quarry feature can be found to the far east of the Scheme to the south of the A66 and close to the hamlet of Flinholme. It is possible that given the proximity of this feature to Flinholme and its adjacent earthworks (**6\_47**) (Cumbria HER: 3472), this area of focussed industry may well have driven the local economy of the hamlet and therefore is mapped as Medium Interest.
- 4.5.47 Quarrying activity in the area has created man-made, concave slope which cuts sharply into the natural topography, sloping towards Lowgill Beck to the south. This feature, although disused and overgrown remains visible in the landscape from some distance. It is distinct within the LiDAR data imagery and in aerial Satellite Imagery (Google Earth). This man-made feature is not represented by historic mapping and instead is illustrated as a strip of woodland.
- 4.5.48 The remaining examples of quarrying activity identified are smaller and more disparate along the Scheme and therefore are all mapped as Low Interest. The smallest is located to the far east, immediately north of the western entrance to the A66 bypass (**6\_73**). While not represented upon historic mapping, this feature shows clearly on the LiDAR data imagery and aerial Satellite Imagery (Google Earth). Despite its proximity to the Roman road, its small size means that it is unlikely to date from the construction of this feature and therefore is more likely to be associated with small-scale farming during the Post-medieval to early modern periods.
- 4.5.49 Located to the east of the Scheme and recorded by the HER as '*Sandford Mire Gravel Pit, Warcop*' (Cumbria HER: 15891), this study was able to corroborate its existence (**6\_77**), situated on the southern boundary of the Eden valley branch of the railway and less than 250 m of the Roman Road. Its general shape is described on historic mapping and labelled as an '*Old Gravel Pit*'. Today it is clearly visible in the LiDAR data imagery, however, lies beneath and is obscured by dense tree cover.
- 4.5.50 The HER determines that this quarry is of a post-medieval date. This is a possibility, as it may have been associated with the construction of the railway which later may have transported the extracted material. However, an alternative (or additional) interpretation may be that as with Ketland Quarry, this may have been a source of materials for Roman engineers responsible for the construction of the adjacent road.
- 4.5.51 The final feature discussed in this section has been thusly placed, as the interpretation of this anomaly is not certain (**6\_59**). Analysis of the LiDAR data imagery revealed an



ephemeral, circular depression measuring approximately 40 m across and situated at the summit of Wild Boar Hill. While this depression is likely the result of some form of extraction, other features identified and discussed in other sections reduce the confidence in this assessment and would require further detailed investigation (see section '*Enclosures and ring ditches*').

### **Agricultural remains**

- 4.5.52 Without doubt, the most frequently represented archaeological landscape features within Appleby to Brough (Warcop) relate to agricultural practice and largely have their origin in the medieval and post-medieval periods.
- 4.5.53 Analysis of the LiDAR data imagery revealed an obvious trend for a greater density of traces of agricultural remains encircling existing modern rural communities. These remnants offer visual proof of the early genesis of local settlement, the evolution of associated land use and a possible indication of vanished small-scale nucleation.
- 4.5.54 The earliest possible indication of agricultural practice found within Appleby to Brough (Warcop) belongs to a previously unrecorded square/rectilinear enclosure (**6\_5**), located adjacent to Ketland Quarry (**6\_1**) to the far west of the Study Area. This feature is clearly visible in both LiDAR data imagery and aerial Satellite Imagery (Google Earth) as a four-sided ditched compound and has been interpreted by this investigation as small stock enclosure, mapped as Medium Interest.
- 4.5.55 There are no obvious internal features to suggest long-term occupation nor does there appear to be a formalised entrance to the enclosure. This element may have been lost as the southern border has been severely truncated by later quarrying activity. The date of origin is at this stage uncertain, its form is not uncommon and may be characteristic of any pastoral activity from the Iron Age up until the post-medieval period.
- 4.5.56 This enclosure represents a diverse land use of the moorland which predates the localised quarrying activity. There is evidence to suggest that this quarry has been in use since the Romano-British period and therefore in conjunction with the known late Prehistoric activity in the area, this feature may possibly be attributed to the Iron Age.
- 4.5.57 An expanse of open-field systems comprising small clusters of strip plots (**6\_24, 6\_29**) and widespread pockets of curving broad ridge and furrow (**6\_20, 6\_21, 6\_25, 6\_26, 6\_31, 6\_32, 6\_33, 6\_35, 6\_38, 6\_51**) belie the early medieval and medieval farming practices associated with and stretching between Warcop, Flinholme and Brough. Largely these features are well preserved beneath and within later land division however, this study has identified a number of fragmentary field boundaries which are thought have once belonged to these open-field systems and have become detached by later development and change of land use (**6\_27, 40, 50**), consequently all of these monument polygons are mapped as Low Interest.
- 4.5.58 Other evidence illustrating the medieval agrarian economy of the area include several examples of cultivation terraces, all of which are of exceptional preservation and of not inconsiderable size. The first examples are the most extensive and are located to the west

of the village of Warcop upon an extended hill overlooking the existing B6259 (6\_10) and the modern village.

- 4.5.59 A set of between five and six lynchets follow the contour of both the northern and southern facing slopes to the far west, upon which they have been constructed and measure approximately 300 m in length. They are visible from the road and prominent in LiDAR and aerial Satellite Imagery. At the most eastern end of the hill and located within the recognised boundary of the medieval settlement to the north of Warcop (Cumbria HER: 6714-5) (6\_78) lie the 'Warcop Dyke and Lynchets' (Cumbria HER: 3113) (6\_11). These features were recorded by the NMP as aligned east to west, they too are visible from the road and prominent in LiDAR and aerial Satellite Imagery, measuring upwards of 300m in places.
- 4.5.60 Located north of Warcop on the northern side of the A66 and overlooking Moor Beck a pair of lynchets (6\_19) are visible upon the lidar, partially obscured in aerial imagery (Google Earth) by woodland. The features appear upon a steep slope and follow former field boundaries dating to the post-medieval period; therefore the monument polygons are mapped as Low Interest. The LiDAR also revealed possible quarrying activity to the immediate west upon the same slope.
- 4.5.61 Although less widely represented, continuity of agricultural practice into the post-medieval period and 18<sup>th</sup> - 19<sup>th</sup> century is visible in parts of the Scheme overlying earlier medieval field systems. This period is reflected in pockets of narrow ridge and furrow (6\_34, 6\_52, 6\_53, 6\_58, 6\_61, 6\_62, 6\_67, 6\_69), fragmentary field boundaries which mirror those illustrated within early historic mapping and areas of enclosure post 1770 (6\_6, 6\_22, 6\_39, 6\_41, 6\_54, 6\_68, 6\_70, 6\_74, 6\_76). All these monument polygons are mapped as Low Interest.

### Water Channels (Supply and Drainage)

- 4.5.62 The HER records a mill race (Cumbria HER: 15881, 15879) (6\_18) associated with the Warcop Walk Mill and Walk Mill High Bridge. This monument polygon is mapped as Medium Interest. Cut channels are visible to the north and south of the race in LiDAR and aerial imagery. It was observed from the ground (Streetview) that between Hayber Lane and where the Moor Beck and race flows beneath the A66, a series of distinct earthworks are visible in the garden plot. These may be the remains of further structures associated with the leat. Adjacent and overlooking the mill leat a sinuous ditch and a series of perpendicular features were observed (6\_64), possibly the remains of an old drainage system, that are mapped as Low Interest.
- 4.5.63 A number of small palaeochannels have been identified in the south-western part of the Scheme and appear as former channels relating to Crooks Beck and Lowgill Beck (6\_65, 6\_71, 6\_72). The geological strata in this location comprise Penrith Sandstone Formation overlain by alluvium. A larger palaeochannel has also been identified to the north of the A66 route, south of Cringle Beck (9\_94) (OS/96025 Frame Number 260). The geological strata in this location comprise Penrith Sandstone Formation overlain by till.
- 4.5.64 These four monument polygons are mapped as Low Interest. Although not directly of archaeological interest, these deposits possess the broad potential for containing



geoarchaeological materials that can help understand the palaeoenvironment and may retain evidence for Prehistoric human activities within the landscape.

#### 4.5.65 **Other features**

4.5.66 This section is reserved for features which have been observed by this study, but a firm interpretation could not be reached, nor could a specific pre-existing record be confidently corroborated.

4.5.67 Located to the far west of the Scheme, the HER records the 'Ketland Earthworks' (Cumbria HER: 4212) (**6\_42**) which described a group of Prehistoric features including a small stone cairn, a hut circle and a linear earthwork bank. These features were not easily identifiable within either the LiDAR or aerial imagery. Despite this a number of small round mounds are visible across this area and on the border of the Study Area which may be further cairn features, consequently the monument polygon is mapped as High Interest. Historic mapping certainly points to a number of mounds and cairns of indeterminate age further north and scattered across the moorland.

4.5.68 While some of these may make up the wider funerary landscape, the smaller cairns may be a feature of 'clearance cairn fields', a well evidenced feature of the Prehistoric Cumbrian landscape. Cairnfields in their simplest form are small, randomly distributed groups of cairns with no associated boundary banks or structures. It is thought that they represent small clearings for stock grazing on a temporary or seasonal basis from the mid to late Prehistoric period. The 'Ketland Earthworks' and additional small cairn like mounds to the north of the Study Area may well be an example of early Prehistoric land clearance and agriculture.

4.5.69 To the south of the Ketland Quarry and immediately adjacent to the Roman road, a pair of linear bank features (**6\_4**), running parallel to the road and aligned roughly east to west were observed within LiDAR imagery and aerial imagery (Google Earth). These features vary in terms of direction and state of preservation, measuring confidently c.88 m and with less confidence c.126m. The character of these features remain uncertain and therefore are mapped as Low Interest. Although, they be a surviving element of the Roman road though equally may be a former trackway, or lynchet as they are raised above the existing road level upon the gradient.

4.5.70 To the west of the Scheme, a curving sinuous feature was observed in the LiDAR data imagery (**6\_49**) close to Lowgill Beck on the road to Langrigg. While not obvious in aerial imagery (Google Earth) the raised curving bank is easily visible from the ground. Analysis of Streetview reveals a more complex group of raised features including steep and tightly spaced terracing at the crest of the slope. The date, purpose and full character of this grouping is not known and therefore the monument polygon is mapped as Low Interest. This feature is connected to the deserted medieval settlement of Flinholme (**6\_47**) and Langrigg Farm by a network of raised bank field boundaries and evidence for holloways (**6\_81, 6\_82**) (**See sections 3.5.16-7**).

4.5.71 Located on a small hillock which overlooks the A66 and the Mill race, north of Warcop a linear bank has been observed traversing the slope, north to south (**6\_63**). There is no obvious explanation for this feature other than possibly a former field boundary, although its placement and isolation over this ridge can draw no parallels within the surrounding landscape, consequently the monument polygon is mapped as Low Interest.

#### 4.6 **Bowes Bypass (A66/A67)**

##### **Fortified remains and associated settlement**



- 4.6.1 The remains of Lavatrae Roman Fort at Bowes (NHLE: 1002316; Durham HER: H2044) can be seen to extend further to the east and south than the boundaries identified by the Scheduled Monument record (7\_6). In the central area, LiDAR analysis shows raised earthworks, that likely relate to former building platforms, which suggest the siting of a vicus (settlement). A hollow visible in the south-eastern corner of the Scheduled Monument area is thought to be the result of excavations in the 19<sup>th</sup> century. This monument polygon is mapped as High Interest.
- 4.6.2 To the south, there are banks that run east to west that likely are part of the defences for the fort, leading down towards the river which would have been a natural defence from enemy attack. When RCHME visited the Scheduled Monument in the 1990s, the best surviving part of the former fort was identified in the south-western section, with the identification of a rampart from excavations conducted in the 1960s. However, from LiDAR analysis, there is evidence to suggest that there may be further buried remains within the footprint of the Scheduled Monument.
- 4.6.3 In 2007, ironworking slag was analysed from the site, with the results indicating that iron smithing was taking place within the grounds of the fort (and no evidence of iron smelting). There has also been a hoard of coins identified within the boundaries of the fort, which may suggest the trading of goods.
- 4.6.4 Cropmarks visible at the western edge of the Scheme area, immediately to the north of the current route of the A66 (and its possible Roman predecessor, see below) show two concentric rectilinear features indicative of a previously unrecorded, temporary Roman military camp or fortification (7\_76) (OS/72346 Frame 695). Unlike the fort and vicus at Lavatrae, no intrusive investigations has been carried out upon this monument.
- 4.6.5 The medieval Bowes Castle sits within the north-eastern corner of the former Roman fort (7\_57). Although there are upstanding remains of the former keep, there is archaeological potential for buried remains within its vicinity, and LiDAR analysis suggests that there is another defensive earthwork to the south-west of the keep and therefore is mapped as High Interest. Bowes was one of the first of three Norman castles to be built on the strategic route known as the Stainmore Pass, which was the border between England and Scotland at this time.

### **Roads and transport infrastructure**

- 4.6.6 There have been a number of possible Roman roads identified within the landscape across Bowes Bypass (A66/A67), one of which potentially follows the route of the A66 (7\_64), going from York to Carlisle (Durham HER: H3703). During a watching brief conducted for a service trench, sandstone blocks were identified, with their alignment suggesting that this could be a continuation of the route as seen across the rest of the A66. However, due to the nature of the LiDAR and aerial photography datasets, it was not possible to identify features associated with the road in this landscape, and the level of preservation along the route of the A66 is likely to already have been compromised by the intrusive works needed to construct the current A66.
- 4.6.7 This is the same case for the possible Roman road identified running along the route of the A67, which would have originally served a route from Bowes to Bishop Auckland (7\_63), as

mapped by Ivan Margary in *Roman Roads in Britain* (Margary, 1973)<sup>8</sup> (Durham HER: H3703). There have been no investigations that have identified the route within the Study Area. If the route runs underneath the A67 it is likely any remnants have been heavily truncated, although sightings of the Roman road elsewhere (at Carkin Moor, (Northern Archaeological Associates, 2015)<sup>9</sup>) have suggested that the Roman carriageway can survive well under the modern road. As a consequence, this has been mapped at High Interest.

- 4.6.8 Within the Roman Fort of Lavatrae (**7\_6**) (NHLE:1002316; Durham HER: H2044), investigations identified the remains of another possible Roman road, although there is no further information about the route of the road. Within the southern extent of the fort, LiDAR shows the road running east to west from the Bath house. This monument polygon is mapped as High Interest.
- 4.6.9 The route of the former railway for the South Durham and Lancashire Railway runs is visible on LiDAR and can be seen running from the former Bowes railway station in the north-eastern part of the Study Area (**7\_62**). Now disused, the railway banks are visible from LiDAR. The railway was set up in order to link the Stockton and Darlington Railway near Auckland with the Lancaster and Carlisle Railway at Tebay and became known as the Stainmore Line when it opened in 1861, closing in the 1960s. The polygon is mapped as Medium Interest.
- 4.6.10 A Holloway, mapped as Low Interest, has also been identified to the south of Lavatrae and could relate to the post-medieval watermill that is adjacent to the river, linking the mill to the village (**7\_60**). There are also two trackways that run through the field system to the north-east and south-east of the A66 (**7\_65-6**).

### Barrows

- 4.6.11 There are four small barrows, mapped as Medium Interest that have been identified in the south-western part of the Study Area. These are elliptical in shape and appear to have been undisturbed and can be seen on LiDAR as being on higher ground in an oblong group (**7\_1-4**). These are likely to be Prehistoric in date and are a type of round barrow known as bowl barrows. The peak of round barrow construction was in the Bronze Age, and these bowl barrows likely date to this period and are shaped like an inverted bowl-shaped mound. These do not appear to have surrounding ditches or outer banks and measuring approximately 15m each in diameter.

### Shrunken medieval village

- 4.6.12 The shrunken medieval village of Bowes has been identified in the fields to the west of the current village settlement (**7\_59**). Earthworks have been identified on LiDAR and suggest there are some building platforms within the field, and from the naked eye it is evident that the hedgerow boundary at the south is of a later date than the earthwork features visible on the ground. There is no further documentary evidence about the shrunken village, but it

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<sup>8</sup> Margary, D. I., 1973, *Roman Roads in Britain* (3<sup>rd</sup> Ed), John Baker Publishing

<sup>9</sup> Northern Archaeological Associates, 2015, Carkin Moor Roman Fort to West Layton Pipeline Renewal, (22nd February 2021)

would have likely been closely associated with the medieval castle of Bowes. This monument polygon is mapped as Medium Interest.

### **Agricultural**

- 4.6.13 The majority of the features within Bowes Bypass (A66/A67) relate to the development of an agricultural landscape through the medieval and post-medieval periods. The following monument polygons are mapped as Low Interest within this area, with the exception of broad medieval ridge and furrow which has been mapped as Medium Interest.
- 4.6.14 Identified from LiDAR and aerial photography, there are numerous areas of well-defined medieval ridge and furrow within the landscape, totalling to approximately 240 hectares. They can be differentiated by 'broad' (7\_9-10, 7\_19-20, 7\_22, 7\_28, 7\_38-9) and 'narrow' (7\_7, 7\_11, 7\_14-5, 7\_17, 7\_30-1, 7\_33-4, 7\_37, 7\_40-1, 7\_45-6, 7\_49-50, 7\_53-6, 7\_58, 7\_71, 7\_77) (Frame NMR 28636/ 03) ridge and furrow types, with the former indicating earlier medieval practices that seen on the LiDAR through their characteristic 's' shape, in comparison to the latter which are straighter in form.
- 4.6.15 Within the north-eastern corner of the Study Area, LiDAR analysis shows that there was a coaxial field system that will likely date to the post-medieval period (7\_51). The current field system in this part of the Study Area seem to respect these older agricultural field systems, suggesting these have been preserved since enclosure took place in this landscape.
- 4.6.16 Analysis of aerial photography has revealed additional field systems north of the A67 and south of Clint Lane (7\_70, 7\_74) (NMR 12969/ 65, Photo Reference: NY 9913 / 23-26), with former field boundaries identified immediately north of the carriageway of the A67 (7\_69) (NMR 1149/ 329, Photo Reference: NY 9913 / 1). Linear cropmarks can be observed, along with areas of ridge and furrow. These have been mapped as Medium Interest, with the exception of the former field boundary (7\_69) due to its proximity to the A67 route.
- 4.6.17 There are also a number of small square features within the fields to the south-west of the Study Area, which likely relate to footings of former sheep folds (7\_8, 7\_16, 7\_18 and 7\_36). These would have been used in the post-medieval period and 19th centuries as sheep pens.

### **Extraction Activities**

- 4.6.18 Mineral extraction activity is prevalent across this landscape, and still continues today in the far north-eastern corner of the Study Area (7\_61). The geological background of Alston formation limestone, sandstone, siltstone and mudstone makes the raw materials in this landscape desirable for different industries. Hence small-scale limestone quarrying taking place near to the barrows in the south-west part of the Study Area (7\_5), and the post-medieval sandstone quarry in the north-west corner (7\_44). All three polygon monuments are mapped as Low Interest.

### **Other features**

- 4.6.19 A palaeochannel has been identified in the south-western part of the Study Area (7\_43). Although not directly of archaeological interest, the Alston formation of limestone,





sandstone, siltstone and mudstone has the broad potential for containing geoarchaeological materials that can help understand early Prehistoric activities within the landscape. However, the superficial deposits of till only have a low potential for preserving archaeological and geoarchaeological datasets with any material it does contain being heavily and extensively reworked, consequently the monument polygon is mapped as Low Interest.

- 4.6.20 There is one linear bank feature with a circular feature in the centre which is dated to after the development of the post-medieval field system, to the south of the A66 (**7\_26**). The linear feature could indicate a continuation of a trackway running east-west across this landscape, with the circular feature potentially indicating a small former quarry or tree throw, although from LiDAR analysis its former function remains uncertain. Therefore, this monument polygon is mapped as Low Interest.
- 4.6.21 Several former building platforms have been identified via analysis of aerial photographs in the area to the south of Clint Lane (**7\_72**) (NMR 12967/ 23, Photo Reference NY 9913 / 37). These look to be associated with the farm buildings, with evidence of former land division also identified in aerial photos. Further analysis of historic mapping would help to determine the date and origin of these buildings and would help to identify building phases. These building platforms have been identified as Low Interest.
- 4.6.22 A roughly rectangular cropmark was identified in aerial photographs to the north of Clint Lane (**7\_73**) (NMR 12967/ 19, Photo Reference NY 9914 / 1). This feature is of uncertain date and due to its distance from the route of the A67, has been mapped as Low Interest.
- 4.6.23 Several roughly circular features have been identified in the northern part of the Study Area, immediately north of the A67 carriageway (**7\_67**) (RAF/106G/UK/1700, Frame No. 1146). These features are ephemeral and irregular and are of uncertain date. It is possible that they are geological rather than archaeological. Due to their proximity to the A67 carriageway they have been mapped as being of High Interest.

## **4.7 Cross Lanes to Great Bridge (Rokeby)**

### **Roman fort, temporary camp, and associated settlement**

- 4.7.1 The remains of the Scheduled fort at Greta Bridge (NHLE: 1019074) were well represented on the LiDAR survey with the palisade double ditch preserved in the southern section and partially on both the western and eastern sides (**8\_40**). Internally, two curvilinear features were identified in the north-east and south-east corner of the forts internal space (**8\_45** and **8\_46**) (NHLE: 1019074; HER: 2302633). The function was undetermined, but they may relate to the use of the fort or later agricultural use of the internal space.
- 4.7.2 Adjacent to the Roman Fort on the east side is a former cultivation terrace (**8\_39**). Given its location, the terrace is thought to be Roman in origin with it being common practice that land around a fort would be used for some form of agricultural purpose. At the southern end, there is a possible building platform of uncertain date though could also be Roman.

- 4.7.3 The extent of the associated vicus found to the north (**8\_37**), north-east (**8\_38**) and northwest (**8\_68**) (NHLE: 1919074; HER is unclear though faint linear features present in both areas could denote former building platforms or boundaries ditches for former house plots. Due to the scale of the LiDAR it is not possible to identify any discrete features or the present of the associated Roman road, though the listing description states it is preserved in the fields north and south of the A66.
- 4.7.4 All remains associated with the Roman Fort are mapped as High Interest.
- 4.7.5 Approximately 500m to the north of the fort, within the grade II registered park and garden Rokeby Park, lies the remains of a temporary Roman Camp (**8\_78**). The temporary camp was first identified by Bryn Gethin in 2015 from LiDAR data with the camp's rampart and ditches, and at least two tituli identified (Haken, 2018)<sup>10</sup>. The same features can be discerned from the LiDAR used in this study and suggests that the Durham HER entry for the fort is larger than what remains, with no indication based on the LiDAR that the camp extends as close to the A66 as they have illustrated (HER: 3021377). However, it does not rule out that potential for discrete or below ground features that leave no mark on the surface to survive outside of the temporary camp. The camp is mapped as being of Medium Interest.

#### **Shrunken village and associated remains**

- 4.7.6 A possible medieval shrunken settlement was identified in the central section of Cross Lanes to Rokeby, 400m north of the current A66 (**8\_73**). Faint markings of what may be building platforms were noted along with a series of banks just east of Rokeby Grange. A holloway (**8\_72**) runs along the southern boundary of the settlement northwards for 520m with well-preserved ridge and furrow located on its south and north side that are considered to be of medieval origin. No investigation has been undertaken of the site, nor has the area been previously identified by Durham HER or Cumbria HER. It could represent a small outlying community tied to the medieval deserted village of Mortham or the former manor present at Rokeby Park. This site is mapped as Medium Interest.

#### **Enclosures and ring ditches**

- 4.7.7 Several enclosures were recorded across Cross Lanes to Rokeby. The first three were recorded within areas of defined ridge and furrow 200m southwest of Tutta Farmstead. The first two are almost square in shape with one measuring approximately 25m wide and 26m long (**8\_67**) and the second 23m wide and 23m long (**8\_70**). The entrance into the enclosures could not be identified from the LiDAR. The third enclosure, which presents itself much clearer, is rectangular in shape measuring approximately 23m wide and 16m long with an entrance cut into the western bank (**8\_64**). All three enclosures cut the existing ridge and furrow (**8\_35** and **8\_63**) indicating they are of later origin. These enclosure features are mapped as being of Low Interest.
- 4.7.8 Two further enclosures were recorded 210m south of Dent House Farmhouse. The first enclosure (**8\_26**) is rectangular in shape measuring approximately 129m wide and 156m long though the western and southern boundaries are unclear. The enclosure is cut by the second enclosure (**8\_20**) which survives as three banks (eastern, western and northern)

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<sup>10</sup> Haken, M., 2018, Scotch Corner – Bowes – Maiden Castle, The Roads of Roman Britain, Roman Roads Research Association



with the southern boundary presenting as a holloway (**8\_18**). It is possible that these features are of Prehistoric origin and as such are mapped as being of Medium Interest.

- 4.7.9 A possible ring ditch was identified in the western section of the Scheme, adjacent to the north side of the A66 (**8\_4**). The ring ditch is approximately 34m in diameter with a break in the ditch in the north-east section and is possibly of Prehistoric origin and is mapped as Medium Interest.

### **Agricultural remains**

- 4.7.10 The remains of medieval and post-medieval agricultural activity are visible across Cross Lanes to Rokeby with large areas of medieval ridge and furrow at the western, eastern and central areas.
- 4.7.11 A large group of well-defined ridge and furrow was identified at the western end of the Scheme, north and south of the present A66 covering a total area of 27 ha (**8\_2, 8\_3, 8\_5, 8\_6, 8\_7, 8\_13, 8\_17, 8\_21, 8\_22, 8\_25, 8\_27; 8\_79, 8\_82**) and **8\_83 8\_84**. The area of ridge and furrow located around North Bitts Farm is particularly well defined as relatively straight broad ridge and furrow with intervals of approximately 5-7m whereas those to the east and south-west, designated (**8\_13, 8\_21** and **8\_27**), are characteristic of narrow ridge and furrow. The features had previously been identified under Durham HER (2307050), however, the entry does not fully capture the extent of the ridge and furrow in this area.
- 4.7.12 The second large area of ridge and furrow, totalling 36.5 hectares, was identified in the eastern extent focused on the south side of the A66, within Rokeby Park (NHLE: 1000733) and around the Scheduled remains of St Michael's Church (NHLE: 1016875) (**8\_29, 8\_30, 8\_31, 8\_32, 8\_33, 8\_34, 8\_74, 8\_75, 8\_76, 8\_77**). Compared to the area identified in the western extent, the ridge and furrow in the eastern extent has the more characteristic 'S' shape typical of medieval ridge and furrow. Also, selions are clearly visible within (**8\_31, 8\_74** and **8\_76**). The level of ridge and furrow in this area is expected with Rokeby Park located on a former medieval manor house and as St Michael's Church has medieval origins. This area of ridge and furrow is also connected to a linear earthwork running between two fields (**8\_85**) (OS/85103 Frame 16).
- 4.7.13 The area of ridge and furrow located in the central area, to the south of the A66, could suggest former settlement in the area with recorded enclosures discussed above present within the fields (**8\_35** and **8\_63**).
- 4.7.14 The areas of ridge and furrow identified above represent the remains of a visible medieval landscape and are mapped as being of Medium Interest.
- 4.7.15 Former field boundaries, remnants of post-medieval enclosure, were also noted within Cross Lanes to Rokeby. These represent the opening of the fields during the 20th century (**8\_47** and **8\_65**) and are mapped as Low Interest.

### **Other features**

- 4.7.16 Several linear features and mounds were noted to the west of the Scheduled remains of St Michael's Church (NHLE: 1000733) (**8\_52** and **8\_60**). The purpose of these features



remains uncertain though they are likely to either relate to the use of the land by the Church or to its use by owners of Rokeby Park and are mapped as Medium and Low Interest respectively.

- 4.7.17 Four features were recorded within the limits of the Rokeby Park registered park and garden that are of uncertain function (**8\_48**, **8\_49**, **8\_50** and **8\_51**). Two of the features were identified as possible former parkland features (**8\_50** and **8\_51**) and are mapped as Low Interest. The other two are thought to form a curvilinear/crescent shape in the western extent of the parkland. These could have had served a myriad of purposes from a large Prehistoric ring ditch to a feature of the post-medieval parkland and therefor are mapped as Medium Interest.
- 4.7.18 There have been two palaeochannels identified in the Scheme area, to the south of the A66 (**8\_80** and **8\_81**). The Alston formation of limestone, sandstone, siltstone and mudstone has the broad potential for containing geoarchaeological materials that can help understand early Prehistoric activities within the landscape. Furthermore, where layers of peat are preserved in alluvial deposits, these are of high geoarchaeological significance with the potential to preserve a range of paleoenvironmental indicators useful for reconstructing past vegetation, environment and the impact of human communities on the landscape. Deposits of organic-rich alluvium (e.g., forming in slow moving, backswamps) are likewise of high geoarchaeological potential. Peat deposits in palaeochannels are also key contexts for preservation of waterlogged archaeological and palaeoenvironmental remains. The final three features include two former extraction pits located 100m south of the A66 (**8\_14** and **8\_15**) and drainage system located in a field 175m to the north of A66 in the western extent of Cross Lanes to Rokeby (**8\_8**). The drainage system comprises of a series of banks that form a herringbone pattern. All are mapped as Low Interest.

## **4.8 Stephen Bank to Carkin Moor**

### **Roman Fort**

- 4.8.1 The most dominant feature of this Scheme is the remains of the Scheduled Roman Fort at Carkin Moor (NHLE: 1015418). This, along with the route of the Roman road which is now obscured by the route of the A66 carriageway, contribute to the interest of this area within the Roman landscape. The remains of the fort are well represented within the LIDAR survey, particularly on the northern side of the road where a rectangular enclosure bank is clearly visible along with an external boundary ditch (**9\_52**), measuring approximately 132m north-west to south-east (**9\_54**) (North York HER: MNY20941). The fort no longer survives as an earthwork to the south of the road but is clearly visible in aerial photos (CUCAP: W59).
- 4.8.2 The North Yorkshire HER point for the Roman fort (and also includes the enclosed settlement) appears to be in the correct location for the part of the fort on the southern side of the road but the northern point appears to be too far to the northwest for the northern section of the fort, lying within the Street Plantation.

4.8.3 All features related to the fort are mapped as High Interest.

### **4.8.4 Roads and Transport infrastructure**

- 4.8.5 Historic mapping, and previous archaeological investigation at Mainsgill, shows the route of the former Roman road (now the line of the A66) (**9\_3** (Durham HER 2301360)) and is marked as such on the 1857 OS County Series and subsequent later mapping (Northern Archaeological Associates, 2015)<sup>11</sup>. Two milestones also lie on the northern side of the road, one 700m southeast of West Layton (**9\_42**) and the other 170m west of Street Plantation (**9\_68**). Both are believed to be post-medieval in provenance and as such are ascribed Low Interest.
- 4.8.6 A holloway is clearly visible for a 380m stretch running in a north-east to south-west alignment from the Roman road to Browson Bank, not identified on the North Yorkshire HER (**9\_75**). This is marked as a track on historic mapping. This holloway appears to cut through ridge and furrow which is clearly visible in this field as narrow, straight selions (**9\_74**). Both of these are mapped as being of Low Interest.

### Enclosures and ring ditches

- 4.8.7 A Prehistoric enclosed settlement lies 200m north-west of the Roman fort and has been designated as a Scheduled Monument (NHLE: 1015418, North Yorkshire HER: MNY20941) (**9\_53**), and is mapped as High Interest. The settlement no longer survives as an earthwork and is cut by the route of the Roman road (**9\_3**) and is poorly represented in the LiDAR survey. Aerial photographs show the earthwork more clearly and it can be identified as sub-rectangular in shape, measuring approximately 100m by 75m (CUCAP: W59). Traces of internal features are visible in aerial imagery, including one side of a smaller enclosure parallel with the western side. The exact function of these internal features is unclear, but it is likely that they relate to the function of the enclosure. The proximity of this to a rectangular enclosure (**9\_84**), mapped as Low Interest, suggest that this area was focus for Prehistoric settlement activity.
- 4.8.8 Two possible tree ring enclosures have been identified at West Layton (**9\_69** and **9\_79**) and mapped as Medium and Low Interest respectively. It is possible that the one identified at (**9-79**) is a modern feature given its proximity to several modern buildings in West Layton.
- 4.8.9 A further enclosure has been identified as a cropmark in an aerial photograph (CUCAP: XA31) (**9\_13**). Although the cropmark is not well defined, it can be made out as sub-rectangular in shape, possibly a ditch, in the southern part of the field. Sub-rectangular cropmarks have also been identified in the western part of the site (**9\_6** and **9\_16**) although these may be representative of former field boundaries than enclosures, per se. Another sub-rectangular enclosure has been identified in the North Yorkshire HER (MNY32518) although is not well-defined in either the LiDAR data or aerial imagery (**9\_83**). These features were mapped as Low Interest.
- 4.8.10 A number of earthworks have also been identified 150m south of East Layton Moor (**9\_49** and **9\_51**), and also at 700m northeast of Ravensworth (**9\_45** and **9\_47**). Feature (**9\_45**) and represent a series of circular cropmarks, some of which may be geological but may represent circular enclosures and as such have been mapped as Medium Interest. Feature (**9\_47**) lies adjacent in the eastern field and is possibly a large ring ditch, visible as a slight mound in the LiDAR data, measuring approximately 45m in diameter. This feature is of uncertain origin but could represent a circular enclosure or possibly a round barrow as the

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<sup>11</sup> Northern Archaeological Associates, 2015



faint remains of a mound could be present, as such it is mapped as being of Medium Interest. Both (9\_49 and 9\_51) have been identified as semi-circular cropmarks, possibly part of two enclosures or natural features, and have been mapped as Low Interest.

- 4.8.11 Two further circular cropmarks can be seen on Carkin Moor (9\_61 and 9\_62), including one identified in the North Yorkshire HER (9\_61) (MNY24797). Both these cropmarks are visible although their shape is not well defined and suggests a possible natural origin. Both cropmarks lie immediately to the north of a sandstone quarry (9\_63). All features have been mapped as being of Low Interest.

### **Funerary Monuments**

- 4.8.12 A number of raised mounds were identified in the LiDAR data, and to some extent from aerial imagery, in the south-eastern part of the Scheme near to Carkin Moor (9\_29, 9\_48, 9\_55, 9\_58, 9\_60, 9\_65, 9\_70, 9\_85 and 9\_86). The majority of these features are not well-defined in either the LiDAR data or aerial imagery but can be seen as indistinct sub-circular forms. Due to their vague character, it has been difficult to ascertain any size or dimension of these possible monuments and it is entirely possible that these are natural features within the landscape. Due to their indistinct nature and the reasonable possibility that they are natural these have been assigned a Low Interest.

- 4.8.13 An elongated mound measuring 198m in length can be clearly identified in the LiDAR data just south of the A66 route (9\_58). This can be seen on Satellite Imagery as being cut by Warrener Lane. Given the shape of this monument, and its proximity to known Prehistoric settlement at Carkin Moor, it is possible that this feature represents the degraded remains of a long barrow although its considerable length suggests that it is perhaps too large to be attributed to this feature class. Due to the fact that this is predominately of note only due to its proximity to Carkin Moor and is most probably natural in origin it is mapped as being of Low Interest.

### **Agricultural remains**

- 4.8.14 The remains of parcels of ridge and furrow are present across the scheme, concentrated in the north-west. The most common features identified during the assessment were characteristic landforms derived from medieval and/or post-medieval ridge and furrow cultivation, including groups of selions contained within individual parcels.

- 4.8.15 To the south of the A66, on Browson Bank and at East Browson, there are several isolated areas of ridge and furrow earthworks (9\_71, 9\_12, 9\_18, 9\_19 and 9\_74). The majority of these are orientated on a north-east to south-west alignment, with exception of (9\_19) which is aligned north-west to south-east. Feature (9\_74) is cut by a clearly defined holloway (9\_75). A larger group of well-defined ridge and furrow was identified 500m south-east of New Road, comprising three distinct parcels of ridge and furrow covering a total area of six ha (9\_10, 9\_15 and 9\_72). The area of ridge and furrow highlighted as (9\_10) is particularly well defined as an area of narrow ridges at intervals of approximately 2m. Feature (9\_27) has been partially disturbed by a post-medieval quarry in the centre of this field although clear ridge and furrow can still be identified. These areas of ridge and furrow are interpreted as being post-medieval in origin and are mapped as being of Low Interest.



- 4.8.16 Several groups of fields surrounding the settlement of West Layton show clear remains of ridge and furrow, particularly in the area immediately to the west (**9\_26**, **9\_27**, **9\_78** and **9\_77**). Here, a total of eight hectares has been identified, bisected by three tracks, two running east to west and one running north to south (**9\_27**). The area of ridge and furrow to the west (**9\_26**) shows straight and narrow ridge and furrow, whereas the field immediately to the east (**9\_27**) has a slight, but distinct, 's' shaped curve in the ridge and furrow, particularly in the northern part of this field. Distinct selions within individual parcels can be clearly identified. Due to these areas of ridge and furrow displaying the characteristics of belonging to a medieval landscape they are mapped as being of Medium Interest.
- 4.8.17 All subsequent agricultural features are mapped as Low Interest.
- 4.8.18 To the east of West Layton two further areas of ill-defined ridge and furrow have tentatively been identified (**9\_77** and **9\_78**). The area to the south of West Lane (**9\_77**) has been cut by a possible bank or other earthwork feature (**9\_34**) which may have disturbed some of the original ridge and furrow in this field.
- 4.8.19 A large area immediately to the south of Foxwell Farm shows remains of ridge and furrow, bisected by several modern field boundaries (**9\_40**). Ridge and furrow is not well-defined in the southern part of this area but is more prevalent to the east. In addition, a narrow block of ridge and furrow has been identified in a narrow field at Foxwell Farm although the small extent of this area does not allow for clear identification (**9\_76**).
- 4.8.20 Earthworks are also visible immediately to the north of Carkin Moor Farm, covering an area of approximately three hectares (**9\_56**). Ridge and furrow is narrow and relatively straight, orientated in a roughly east to west alignment. A large mound feature is also present within the southern part of this field and may be linked to those identified in the neighbouring field (**9\_60**).
- 4.8.21 A further block of ridge and furrow are extant at the eastern extent of Stephen Bank to Carkin Moor, 225m north of West Ash House, covering an area of two hectares (**9\_81**). The remains are not hugely well defined but are clear enough to show narrow, north-south aligned ridge and furrow.
- 4.8.22 A series of three terraces are clearly visible at Browson Bank (**9\_73**). These terraces are located on a steep area of hillside and are approximately 150m in length. These have not been previously identified in the North Yorkshire HER. The shape and form of these terraces is consistent with strip lynchets, a distinctive indication of medieval cultivation.
- 4.8.23 A possible enclosure can be seen cutting the terraces in the south-east corner of the field and may relate to the known limestone quarry immediately to the west (**9\_11**).
- 4.8.24 A large proportion of the geographical expanse contained within Stephen Bank to Carkin Moor comprises fields under a mixture of arable cultivation and pasture, notably extensive areas of plantation. It is likely that the spatial distribution of these field systems is the product of the Enclosure Acts of the 18<sup>th</sup> and 19<sup>th</sup> centuries, although some elements may correspond with earlier land divisions, including relic components of medieval open field systems.



- 4.8.25 Subsequent opening out of previously enclosed fields, mainly during the 20<sup>th</sup> century, has resulted in the loss of numerous field boundaries. Many linear features were evident on the LiDAR imagery, typically in the form of linear banks and depressions, some of which were very faint (**9\_7, 9\_14, 9\_17, 9\_22, 9\_24, 9\_28, 9\_30-32, 9\_36-38, 9\_41, 9\_66, 9\_67**). Most of these features were interpreted as former field boundaries on the basis that they appeared to respect existing field systems and/or could be correlated with land divisions shown on early Ordnance Survey maps.
- 4.8.26 Analysis of aerial photographs has revealed further evidence of linear cropmarks, thought to be former field boundaries, in the area to the east of Dick Scot Lane, south of the route of the A66 (**9\_87, 9\_89, 9\_90**) (RAF/541/118, Frame 4059, OS/73422, Frame 11). It is likely that these former field boundaries are also a result of the opening of previously enclosed fields during the 20<sup>th</sup> century. These have been mapped as being of Low Interest.
- 4.8.27 Several features relating to woodland management have been identified within Street Plantation, 300m southwest of Carkin Moor Farm (**9\_83**). A sub-circular mound, with a diameter of 45m, is clearly visible in LiDAR imagery towards the south of the plantation, although this may be a natural feature.
- 4.8.28 Several cropmarks associated with drainage channels were identified in four fields to the east of Moor Lane (**9\_80**).

### **Extraction Activities**

- 4.8.29 Several quarry pits were identified within Stephen Bank to Carkin Moor, particularly concentrated on Browson Bank and East Browson (**9\_11, 9\_21** and **9\_23**). One of these, located at Browson Bank, has been identified in the North Yorkshire HER (MNY14881) (**9\_11**). Further quarries have been identified just west of New Road (**9\_1**), immediately south of the road in the western part of the Scheme (**9\_5** (Durham HER 287118)), 440m north of the Roman road (**9\_9**), and at Carkin Moor (**9\_63**).
- 4.8.30 These pits have been identified as earthworks within the LiDAR data as sub-circular or sub-oval pits, occasionally with corresponding mounds which may represent the spoil heaps derived from these excavations. This may serve to corroborate the suggestion that these were predominantly dug with the aim of extracting material in bulk. However, subsequent levelling by ploughing or natural processes may have reduced the visibility of any former spoil heaps.
- 4.8.31 Most of the quarries are marked on the OS 1857 County Series map. This documentary evidence suggests that most of the quarries were used for limestone extraction during the post-medieval period, with the exception of the quarry at Carkin Moor (**9\_63**) which was used to extract sandstone. All extractive pit features are mapped as being of Low Interest.

### **Other features**

- 4.8.32 At least three separate circular cropmarks are visible in the field immediately to the east of New Lane (**9\_44**). The size of these cropmarks varies, but the southern-most one is the largest with a diameter of 100m. Cropmark evidence clearly shows two concentric circular



ditches in both the northern and southern part of the field although both are cut by modern field boundaries. This would normally be consistent with the identification of a ring ditch, but the irregular and ephemeral nature of these cropmarks suggests some uncertainty towards their origin. These features are mapped as being of Low Interest but there remains some potential for more significant features being present.

- 4.8.33 Three linear cropmarks have been identified to the north of the road in the eastern part of the Scheme (9\_2, 9\_4 and 9\_8). (9\_4) is of considerable length (500m). It is possible that these are natural features and are mapped as Low Interest.
- 4.8.34 Two roughly parallel linear features have been identified to the east of West Layton (9\_34 and 9\_39) and have been mapped as Low Interest. Feature (9\_34) appears to be a raised bank running on a northeast to southwest alignment and is visible for approximately 300m. (9\_39) is less clear.
- 4.8.35 A large area covering 10ha south of the road at Mainsgill Plantation contains numerous irregular raised features including possible drainage features and ploughed out ridge and furrow remains (9\_50). An unmapped but apparently modern trench-like structure was identified within a field just north of Street Plantation (9\_82). All were mapped as Low Interest.
- 4.8.36 A large, north-south aligned linear feature, approximately 270m in length, was identified north of Warrener Lane with a 'v' shaped extension at its southern end (9\_64). A further linear feature was identified just south of Warrener Lane running parallel with the alignment of the lane at this point (9\_59). These are likely to be natural features and are mapped as Low Interest.
- 4.8.37 Several linear features of probable geological origin and Low Interest were identified to the north of the A66 (9\_33, 9\_43 and 9\_46), including several paleochannels (9\_20, 9\_25 and 9\_57).

## 4.9 Scotch Corner Junction

### Funerary monuments and fortified remains

- 4.9.1 An oval shaped mound can be clearly identified in the LiDAR data, 44m north of Scotch Corner Junction (11\_17). This feature cannot be examined in great detail using aerial imagery as a tree obscures most of the mound, although some of its outer edges are faintly visible. This monument lies on a north-south aligned ridge forming a field boundary between two distinct areas of ridge and furrow cultivation (11\_2).
- 4.9.2 The shape and size of this monument is consistent with that of a Bronze Age barrow and indeed documentary sources have referred to the monument as 'Violet Grange Barrow', identified on PastScape (Historic England 2015)<sup>12</sup>, (NRHE: 23559). It has also been suggested that this monument may have been used as a machine gun emplacement during World War Two due to an 'L' shaped slit dug into the centre of the mound. However, the

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<sup>12</sup> Historic England 2015, Violet Grange, PastScape, [REDACTED] (13th January 2021)

resolution of the LiDAR data and the tree in the aerial images means that this cannot be directly quantified. Though the remote sensing evidence is not conclusive, the supporting evidence allows enough confidence to map this monument as of High Interest.

- 4.9.3 Another, entirely different, interpretation of this monument is that it is the remains of a motte from a medieval castle site (NRHE: 23559). Again, this is difficult to directly quantify although it should be noted that no other remains of a medieval castle were identified at this location.

### **Settlement activity**

- 4.9.4 To the north of the A66 several monuments were identified that provide evidence for Iron Age or Romano-British settlement activity (**11\_2**, **11\_11** and **11\_16**). A clearly defined sub-rectangular earthwork can be in the south-east corner of a field immediately north of the A66 carriageway (**11\_16**). This lies within an area recognised on the North Yorkshire HER containing Iron Age and Romano-British activity (MNY36301). A further sub-rectangular enclosure and depression is also evident in the southwest corner of a field enclosure, to the north-east of (**11\_16**) (**11\_11**). It is possible that the depression represents a former pond. Earthworks can also be identified within the field immediately to the north of (**11\_11**), also recognised in the North Yorkshire HER as part of an Iron Age or Romano-British settlement (MNY39268) (**11\_2**). This field also contains clear evidence of ridge and furrow (See section 3.9.7).
- 4.9.5 Clearly this area demonstrates considerable evidence for Iron-Age and Romano-British activity and as such they have been mapped as having Medium Interest. However, both the earthwork at (**11\_16**) and in (**11\_2**) have been cut by modern ponds which has the potential to have severely impacted any below ground remains.

### **Enclosures**

- 4.9.6 A series of sub-rectangular and linear enclosures have been identified to the north of the Scotch Corner Junction (**11\_13** and **11\_14**). It is likely that these are a continuation of each other, cut by the carriageway of the M1. The function or provenance of these features has not been determined but their straight, regular form suggests that they may be modern field drains and they have been mapped as being of Low Interest.

### **Agricultural remains**

- 4.9.7 There are traces of ridge and furrow cultivation in several land parcels in the eastern part of the Scheme, with the exception of those at (**11\_2**, **11\_5**, **11\_7**, **11\_10** and **11\_15**). Of these, the most defined is the area of ridge and furrow to the south of Middleton Tyas Lane where the landforms characteristic of ridge and furrow cultivation are evident in a south-west to northeast orientation, albeit now cut by several north south aligned field boundaries. The three areas of ridge and furrow to the south-west are less well-defined in the LiDAR imagery although some faint ridge and furrow is visible (**11\_5**, **11\_15** and **11\_10**). A slightly sinuous, linear cropmark was identified in aerial imagery in the field at (**11\_5**) but it is unclear whether this has an archaeological or natural origin.
- 4.9.8 Ridge and furrow earthworks can also be clearly identified in both the LiDAR data and aerial imagery in the north of this Scheme, overlying earlier Iron-Age – Romano-British earthworks



and suggesting a continuity of activity in this location. All agricultural remains were mapped as Low Interest except for (11\_2) which shows the characteristics of potentially being medieval in origin and as such is given a Medium Interest rating.

### **Other features**

- 4.9.9 Three earthworks in the form of banks have been identified across the Scheme (11\_1, 11\_9 and 11\_12). One of these is a possible trackway running north-west to south-east through the middle of an enclosed field (11\_11). The alignment of this feature roughly corresponds with the line of the A66 route, a known Roman route. It is possible that this trackway is a remnant of this earlier route.
- 4.9.10 Two linear earthwork banks have also been identified at Crookacre Plantation (11\_12) and a short section aligned southwest-northeast partially within an area of woodland (11\_9). These features are mapped as being of Low Interest.

## **5 DISCUSSION**

### **5.1 M6 J40 Penrith to Kemplay Bank roundabout**

- 5.1.1 The suburban nature of the northern part of the M6 Junction 40 to Kemplay Bank Roundabout buffer area means that any surviving earthwork remains are confined to the less-developed corridor of the River Eamont at the southern edge of the survey area.
- 5.1.2 A potential Romano-British enclosure has been identified during analysis of aerial photographs near to the Kemplay Bank roundabout.
- 5.1.3 Both Scheduled Prehistoric Monuments to the south of the River Eamont are clearly visible, but there is little to no evidence of any associated remains, the sole example being a mound of possible natural origin to the east of Mayburgh Henge. A Scheduled standing stone east of Skirsgill is extant and further attests to the prehistoric activity in this area.
- 5.1.4 Surviving agricultural remains have been identified in areas close to the River Eamont and include ridge and furrow remains, strip lynchets and former field boundaries. Analysis of aerial photography has provided further information as to the location and extent of such earthworks, particularly as many of them are now covered by modern development.
- 5.1.5 Evidence of quarrying and the walled garden associated with St John's Mission House have also been identified during analysis of aerial photographs.

### **5.2 Penrith to Temple Sowerby**

- 5.2.1 The monuments along this Scheme are well dispersed throughout the scheme although are concentrated in the western part where there is a concentration of Romano-British activity. The most dominant features are Brougham Roman fort, a Roman temporary camp, Roman road and viscus and the remains of Brougham Castle. Several of these monuments have been designated as Scheduled Monuments, highlighting their importance and the surrounding area in terms of archaeological potential. Brougham Castle, castle remains remnants of earlier activity on the castle grounds is evident through earthworks and was identified during this study. Brougham Roman Fort is clearly discernible with surviving

extents clearly defined. However, other than Brougham Roman Fort, analysis of LiDAR data and aerial photographs was not able to identify the already known Roman features in the western part of the Scheme. Where the monuments were able to be identified in LiDAR data or aerial imagery, the Scheduling largely corresponds with the areas identified.

- 5.2.2 Unsurprisingly, given the course of the route of the Roman road in this direction, there is further evidence for Roman activity towards the east with a number of possible Roman enclosures in the central part of the Scheme, faintly visible in the LiDAR data as minor, sub-rectangular depressions.
- 5.2.3 There is some, limited evidence for earlier activity in this area in the form of several circular crop marks to the north of Whinfell (such as **3\_107**) and also further to the west. Although several of these cropmarks, notably (**3\_3**) just south of the A66 route, are consistent with the form and structure of round barrows or circular ditched enclosures, there is limited substantive evidence to suggest that these monuments are Prehistoric.
- 5.2.4 There is also some limited evidence for early medieval settlement in the form of Grubenhauses in the western part of the scheme, possibly in connection with a nearby sites of known activity, recorded in the HER.
- 5.2.5 There is clear evidence of medieval and post-medieval agricultural practices throughout the scheme in the form of both medieval and post-medieval ridge and furrow and field boundaries. The agrarian nature of this area is obvious, along with the associated enclosure of open field systems. As noted in other schemes, the presence of quarries, wells and a mill race provide evidence for the post-medieval industrialisation of this area.
- 5.2.6 The lack of LiDAR coverage in the eastern part of the scheme will have undoubtedly narrowed the identification of monuments in this area, although aerial images have provided some evidence for monuments and associated features in the landscape.

### **5.3 Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe**

- 5.3.1 Remains along this section of the scheme are largely anchored to the Penrith to Maiden Castle Roman Road, which at various points is obscured by the modern A66 and the disused Eden Valley railway line. The Roman fort and vicus at Kirkby Thore, camp at Redlands Bank and fortlet at Castrigg lie evenly spaced along its route, in varying states of survival.
- 5.3.2 The Roman fort and its associated vicus at Kirkby Thore is barely discernible in LiDAR data, although both the Redlands Bank camp and Castrigg fortlet are considerably better defined, allowing their surviving extents to be more easily demarcated. A number of features considered to be of High Interest have been identified solely through the analysis of historic aerial photography. These include a previously unrecorded second Roman camp immediately east of the Scheduled fort and vicus at Kirkby Thore, a Second World War Airfield at Hornby Hall and at Castrigg, a double ring ditch feature which is interpreted in the scheduling as a signal station.



5.3.3 There is currently an absence of LiDAR coverage between Powis House and the B6542 – a green way where potential for surviving remains of the Roman road is higher. Aerial photographs demonstrated that the line of the Roman road largely survives as a wooded trackway (NY 6622 / 12). The projected route of the Maiden Way, the Roman road between Kirkby Thore and Whitley Castle, is covered by LiDAR data, although any earthwork remains are not visible, nor are they visible in any available aerial photography.

5.3.4 The agricultural nature of Temple Sowerby to Appleby is particularly apparent in the LiDAR data, with large tracts of surviving ridge and furrow and former field boundaries visible. This is particularly true in the area surrounding Crackenthorpe, where tens of hectares of broad ridge and furrow dominate the landscape. These remains extend onto the alluvial deposits of the River Eden, while the wider Crackenthorpe landscape also includes the remains of lynchets, shrunken settlement and the site of the former St Giles Chapel.

#### **5.4 Appleby to Brough (Warcop)**

5.4.1 Broadly speaking the study of Appleby to Brough (Warcop) has shown there to be a broad palimpsest of archaeology spanning human history along the whole route. The study has highlighted the historical importance of Eden Valley as an important natural corridor since prehistory.

5.4.2 The formalisation of this routeway during the Roman period will have increased the range and speed of established trade networks, not to mention drawing greater numbers of people want to exploit the valley's natural resources of ready aggregate and fertile soils. This is represented during the early medieval period with evidence for the emergence of more permanent settlement and land division.

5.4.3 The evidence gathered also reveals the development of an area more heavily reliant upon a rural economy in the mid-late medieval period and Post-medieval periods of a once less-marginalised landscape. This is evidenced by the development of earlier villages and patterns of early regular open-field systems overlain or incorporated into irregular field patterns and enclosure.

5.4.4 While this assessment has corroborated much highlighted by the historic landscape characterisation (HLC) of Eden Valley (Hardie, C. et. Al., 2014)<sup>13</sup>, analysis of the aerial resource has revealed a greater potential for Prehistoric land use. Moreover, there exists a greater emphasis upon the Roman, medieval and post-medieval features recorded in the landscape however, there is evidence to suggest many of these sites reveal continuity of use by multiple communities, evolving across many centuries.

#### **5.5 Bowes Bypass (A66/A67)**

5.5.1 The main archaeological interest in this landscape relates to the development of the Romano-British fort and medieval castle within the village of Bowes. These are both designated as Scheduled Monuments, and so are of high archaeological interest. Although there have been archaeological excavations conducted within the fort, LiDAR suggests that

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<sup>13</sup> Hardie, C., Newman, C., Hodgson, J., Hopkins, B., Johnson, M., Newman, R., 2014. Cumbria and the Lakes Historic Landscape Characterisation (HLC). Lake District National Park Authority, Cumbria County Council & English Heritage.



there are further buried archaeological remains that have yet to be uncovered. Although there is limited evidence to suggest that the archaeological remains extend further than the area identified within the LiDAR analysis. In addition, two concentric rectilinear features are also visible as cropmarks at the western edge of the Study Area and indicate a temporary Roman military camp or fortification.

- 5.5.2 Further Romano-British archaeological interest is derived from the development of the Romano-British transportation networks that have been presumed to follow the routes of the A66 and A67. However, it is likely that the construction of these modern roads, as well as the development of the village of Bowes, will have truncated any remains relating to the roads.
- 5.5.3 Additionally, archaeological interest within this landscape relating to the development of a medieval ridge and furrow agricultural field system. LiDAR and aerial photographic analysis suggest that there is extensive archaeological remains across the whole landscape, although these remains are likely to be of low interest. There have also been further agricultural remains identified in the form of a coaxial field system and a further field system to in the north of the Study Area, all of which have been deemed to be of Low Interest.

## **5.6 Cross Lanes to Great Bridge (Rokeby)**

- 5.6.1 The identified features largely corroborates what has been previously identified in earlier Schemes with the majority of features relating to the medieval agricultural land management, known Roman military sites (in this instance the Scheduled Roman fort at Greta Bridge and the temporary camp at Rokeby Park) and interspersed areas of potential habitation in the form of enclosures.
- 5.6.2 While the Scheduled Roman fort boundaries were found to correlate well to the Scheduled monument area, it is possible that the Durham HER polygon's boundaries for the temporary camp are slightly larger than what was identified during the interpretation. This is a reference to the boundaries of its southern extent that Durham HER portrays as running into the existing A66. Nevertheless, there remains potential for archaeology associated with the temporary camp to lie outside its limits that do not show up on the 1m LiDAR used in the analysis.
- 5.6.3 Overall, with the exception of the possible ring ditch, the features identified suggest a presence within the landscape since the Roman period focused upon the known Roman road and the military garrison followed by the creation of a medieval agricultural landscape combined with areas of settlement. A final transition occurred during the post-medieval period with more formal division of the land and establishment of Rokeby Park. In addition, of the features identified within Cross Lanes to Rokeby, except for the Roman fort and associated remains, most are largely new discoveries or cover a greater extent than Durham HER records capture.

## **5.7 Stephen Bank to Carkin Moor**

- 5.7.1 The main areas of archaeological interest in this Scheme relate to the Roman fort at Carkin Moor and associated Prehistoric settlement. Both these monuments have been designated as Scheduled Monuments and therefore have high archaeological interest, both in terms of the area in which they cover and the surrounding landscape.



- 5.7.2 Several of the North Yorkshire HER points were in a slightly different location as the same monument identified in the LiDAR survey or aerial images and so where this occurred has been referenced in the results section. The boundaries of the Scheduled Roman fort correlated well with the boundaries of the fort identified in the LiDAR, particularly in the area north of the A66 where the earthworks are clearly visible.
- 5.7.3 The features identified suggest a presence within the landscape dating from the Prehistoric period, evidenced by the Prehistoric settlement and possible associated ring ditches in the surrounding landscape. Clearly, the route of the Roman road dominates the landscape through which it travels and in conjunction with the Roman fort at Carkin Bank, serves to provide significant evidence of Roman occupation, particularly when viewed in conjunction with other nearby military monuments.
- 5.7.4 The use of the area for medieval agriculture is clear and continued into the post-medieval period with the spatial distribution of field systems suggesting they were enclosed as part of the Enclosure Act. Subsequent opening of previously enclosed fields has now resulted in the loss of several earlier field boundaries, although many of these were identified during the assessment and during analysis of aerial photographs. The identification of several quarries contributes to the known popularity of the area for quarrying sandstone and limestone during the post-medieval period.

## **5.8 Scotch Corner Junction**

- 5.8.1 The suburban nature of this Scheme means that any surviving earthwork remains are confined to the less-developed areas away from the junction and connecting roads.
- 5.8.2 The oval shaped mound to the north, defined as Violet Grange Barrow, is faintly visible which has meant that no further evidence for either the monument as a Bronze Age barrow, or as part of a medieval motte has been able to be supplied. Clear evidence for Iron Age or Romano-British settlement has been identified in the north-western area with sub-rectangular enclosures being clearly identified in the LiDAR data.
- 5.8.3 Given the urban nature of this Scheme, only limited parcels of surviving agricultural remains were identified, with a small number of earthworks visible, most of which are in the eastern part of the Scheme.

## **6 CONCLUSIONS**

- 6.1.1 Investigation of the LiDAR data available across the Schemes has provided a means to rapidly record a number of archaeological features and sites of potential historical interest, in particular with regard to the Roman presence within the landscape.
- 6.1.2 Clearly the route of the Roman road throughout this landscape is the defining feature which has undoubtedly affected the landscape through which it travels.



- 6.1.3 However, it is likely that this Roman road was built upon, at least in part, on an earlier routeway. The identification of numerous Prehistoric monuments within the schemes, especially within the Eden Valley, provide clear evidence for Prehistoric activity although it is likely that this route was not formalised until the Roman period.
- 6.1.4 The sheer number of Roman forts, camps and associated remains which lie either alongside the route of the Roman road, or in close proximity, show the importance of this national routeway for Romano-British activity. Although this routeway has clearly been present in the landscape since the Prehistoric period, it is likely that its route was formalised at different stages, by which time some of the earlier Roman activity may have started to decline. For example, the Roman fort at Carkin Moor has possibly been cut through by the route of the Roman road, and so if this is the case, was presumably gone out of use prior to the route being built at this location (Haken 2018)<sup>14</sup>.
- 6.1.5 During the medieval and post-medieval period the area became more heavily reliant on an agricultural economy. This is particularly evident in the Schemes covering the central areas where shrunken medieval villages have been identified at Flitholme, Bowes and Rokeby. Parcels of ridge and furrow cultivation have been found across all schemes, some covering a sizeable area. These, along with evidence for the enclosure of former open field systems, suggests a continuation of agricultural uses in the landscape from the medieval to the post-medieval periods.
- 6.1.6 The lack of available 1m resolution Lidar data across some parts of the schemes was substantially mitigated through analysis of aerial photography, available online and through analysis of the Historic England photographic archive. Nevertheless, due to the known limitations of the available resource, minor concessions may be considered in regard to assignment of archaeological interest to individual monuments and more broadly, areas of archaeological potential.

## 7 COPYRIGHT

### 7.1 Archive and report copyright

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<sup>14</sup> Haken, M., 2018, Scotch Corner – Bowes – Maiden Castle, The Roads of Roman Britain, Roman Roads Research Association, (14th January 2021)





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### 8.2 Online Resources

[REDACTED] – National Library of Scotland Map Image



## 9 APPENDICES

## APPENDIX 1 MONUMENTS- GAZETTEER

Mon. ID	Broad Type	Narrow Type	Period	HER No.	NHLE No.	Evidence 1	Evidence 2	Photo 1	Photo 2	Photo 3	Photo 4	Photo 5	LiDAR	Map source	Comment	Interest	Scheme	Work package	New feature ?
1_2_1	Earthwork		21st century			Earthwork		Google Earth (2002)					Environment Agency 1m (2018)		Modern earthwork feature dating to approx 2002	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_2	Earthwork	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)		Narrow ridge and furrow earthworks running E-W	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_3	Boundary	Berm	Medieval			Earthwork							Environment Agency 1m (2018)		Field boundary/ bank	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_4	Boundary	Berm	Medieval			Earthwork							Environment Agency 1m (2018)		Field boundary/ bank	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_5	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2018)		Large bank earthwork	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_6	Earthwork	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)		Block of ridge and furrow	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_8	Bank (Earthwork)		Uncertain			Earthwork	Documentary Evidence						Environment Agency 1m (2018)		Large bank earthwork adjacent to river. Possible connection to known Roman Road (SMR#15412)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_9	Earthwork	Hollow Way	Post Medieval			Earthwork							Environment Agency 1m (2018)		Possible hollow way running NE-SW	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_10	Earthwork	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)		Broad ridge and furrow running E-W alignment	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_11	Earthwork	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)		Broad ridge and furrow running along an E-W alignment	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_12	Henge	Henge Enclosure	Neolithic	2867	100790 2	Earthwork	Documentary Evidence	CUCAP NY5128/P	CUCAP BOJ82				Environment Agency 1m (2018)		Mayburgh Henge (SMR#2867)	High	M6 J40 Penrith to Kemplay Bank roundabout	B	No
1_2_13	Quarry		Post Medieval	12029		Earthwork							Environment Agency 1m (2018)		Yanwath Hall Quarry (SMR# 12029)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No
1_2_14	Henge	Henge Enclosure	Neolithic	2868	100790 3	Earthwork	Documentary Evidence	CUCAP CIP19					Environment Agency 1m (2018)		King Arthur's Round Table Henge (SMR#2868)	High	M6 J40 Penrith to Kemplay Bank roundabout	B	No
1_2_15	Dyke (Defence)		Post Medieval	15420		Earthwork	Documentary Evidence						Environment Agency 1m (2018)		Westmorland Holme River Dykes (SMR#15420)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No



1_2_16	Pond		Post Medieval	15422		Earthwork	Documentary Evidence					Environment Agency 1m (2018)	Eamont Fish Ponds (SMR#15422)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No
1_2_17	Bank (Earthwork)		Uncertain			Earthwork						Environment Agency 1m (2018)	Possible bank and ditch running NE-SW	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Possibly
1_2_18	Bank (Earthwork)		Uncertain			Earthwork						Environment Agency 1m (2018)	Bank and ditch running NE-SW widening at NE extent	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Possibly
1_2_20	Dyke (Defence)		Post Medieval	15420		Earthwork	Documentary Evidence					Environment Agency 1m (2018)	Westmorland Holme River Dykes (SMR15420)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No
1_2_21	Earthwork		Post Medieval			Earthwork						Environment Agency 1m (2018)	Linear earthworks. Possible field divisions or related to nearby Toll House?	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_22	Earthwork		Uncertain			Earthwork						Environment Agency 1m (2018)	Curvilinear earthwork.	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Possibly
1_2_23	Earthwork		Uncertain			Earthwork						Environment Agency 1m (2018)	Curvilinear earthwork - possible continuation of (1_2_22)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Possibly
1_2_24	Earthwork	Broad Ridge and Furrow	Medieval			Earthwork						Environment Agency 1m (2018)	Block of broad ridge and furrow earthworks aligned N-S	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_25	Watercourse	Culvert	Medieval	3841		Earthwork	Documentary Evidence					Environment Agency 1m (2018)	Thacka Beck. Medieval watercourse (SMR#3841)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No
1_2_26	Weir		Post Medieval	44225		Earthwork	Documentary Evidence					Environment Agency 1m (2018)	Carelton Hall Weir (SMR#44225)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No
1_2_28	Mill		Post Medieval	12015		Earthwork	Documentary Evidence					Environment Agency 1m (2018)	Low Mill Corn and Snuff Mill (SMR#12015)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No
1_2_29	Weir		Post Medieval	44224		Earthwork	Documentary Evidence					Environment Agency 1m (2018)	Low Mill Weir (SMR#44224)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No
1_2_30	Earthwork	Broad Ridge and Furrow	Uncertain			Earthwork						Environment Agency 1m (2018)	Possible broad ridge and furrow.	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_31	Earthwork		Medieval			Earthwork						Environment Agency 1m (2018)	Series of former field boundaries and possible ridge and furrow	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_32	Earthwork	Hollow Way	Uncertain			Earthwork						Environment Agency 1m (2018)	Possible Hollow way	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_33	Earthwork		Uncertain			Earthwork						Environment Agency 1m (2018)	Curvilinear earthwork feature	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_36	Standing Stone		Prehistoric	1166	1007626	Earthwork	Documentary Evidence					Environment Agency 1m (2018)	Standing Stone - (NHLE#1007626)	High	M6 J40 Penrith to	B	No



																		Kemplay Bank roundabout		
1_2_37	Railway		Post Medieval	11531		Earthwork	Documentary Evidence						Environment Agency 1m (2018)		L&NWR Cockermouth and Workington Railway (SMR#11531)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No	
1_2_38	Railway		Post Medieval	11531		Earthwork	Documentary Evidence						Environment Agency 1m (2018)		L&NWR Cockermouth and Workington Railway (SMR#11531)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No	
1_2_39	Railway		Post Medieval	11531		Earthwork	Documentary Evidence						Environment Agency 1m (2018)		L&NWR Cockermouth and Workington Railway (SMR#11531)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No	
1_2_40	Railway		Post Medieval	41005		Earthwork	Documentary Evidence						Environment Agency 1m (2018)		Lancaster and Carlisle Railway (SMR#41005)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No	
1_2_41	Railway		Post Medieval	41005		Earthwork	Documentary Evidence						Environment Agency 1m (2018)		Lancaster and Carlisle Railway (SMR#41005)	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	No	
1_2_42	Enclosure	Sub Circular Enclosure	Uncertain	44979		Earthwork	Documentary Evidence						Environment Agency 1m (2018)		Skirsgill Lane Enclosure (SMR#44979)	Medium	M6 J40 Penrith to Kemplay Bank roundabout	B	No	
1_2_43	Earthwork		Uncertain			Earthwork							Environment Agency 1m (2018)	OS 1:10000	Series of linear and curvilinear earthworks. Possible bank and ditch. Likely to be part of Carletonhall Park. A former channel of the River Eamont can be seen on the eastern side.	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Possibly	
1_2_44	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2018)		Small block of narrow ridge and furrow	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely	
1_2_45	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 2m (2011)		A small parcel of narrow ridge and furrow remains are present to the south of a number of houses on Winters Park.	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely	
1_2_46	Earthwork		Uncertain			Aerial Photo	NY 5128/9	NY 5128/9							Earthworks of uncertain date	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely	
1_2_47	Walled Garden		Uncertain			Aerial Photo	RXB 3401/ 10A								Walled Garden associated with St John's Mission Room	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely	
1_2_48	Cultivation Marks	Strip Lynchet	Medieval			Aerial Photo	NY 5229 / 4								Strip Lynchet	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely	
1_2_49	Enclosure		Uncertain			Aerial Photo	OS/69032								Potential Roman-British enclosure but does align with former field boundaries/access tracks on northern and eastern boundaries. potential structures inside, with some ridge and furrow as well	High	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely	



1_2_50	Earthwork	Open field/ strip field	Medieval			Aerial Photo	OS/69032								Field Boundary pre- housing construction, open field system	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_51	Ridge and Furrow	Narrow Ridge and Furrow	Uncertain			Aerial Photo	OS/66147/502								Cultivation marks in aerial photographs	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
1_2_52	Ridge and Furrow	Narrow Ridge and Furrow	Uncertain			Aerial Photo	OS/66147/502								Cultivation marks in aerial photographs	Low	M6 J40 Penrith to Kemplay Bank roundabout	B	Likely
3_1	Road		Roman	2881	100720 3	Earthwork		Google Earth 6/30/2018					Environmen t Agency 1m (2018)		Road, possibly Roman road, visible as a cropmark and visible as a linear feature. The mapped feature appears as a more natural eastwards extension of the road, continuing due east instead of diverting to the SE. The feature may be a branch road. Its path would cross the river at a shingle bank and appears to continue east. The feature is visible continuing eastwards in aerial imagery. A cropmark enclosure is visible just outside the study area to the north of the road (Google Earth 30/6/2018).	High	Penrith to Temple Sowerby	B	No
3_2	Feature	Linear Feature	Uncertain			Earthwork		Google Earth 6/30/2018					Environmen t Agency 1m (2018)		Crop Mark, possible archaeology or field drain	Low	Penrith to Temple Sowerby	B	Likely
3_3	Pit		Bronze Age			Cropmark		Google Earth 3/11/2014							Crop mark, could also be a cattle feeder	Low	Penrith to Temple Sowerby	B	Likely
3_4	Field System	Drainage Ditch	Uncertain			Cropmark		Google Earth 6/30/2018							Crop marks, either water meadow or fields drains	Low	Penrith to Temple Sowerby	B	Likely
3_6	Estate Building	Boundary Ditch	Early 20th century			Earthwork							Environmen t Agency 1m (2018)	OS 1:25000, 1927-61	Boundary for Garden park - possible date medieval - connected to listed building	Low	Penrith to Temple Sowerby	B	No
3_7	Cultivation Marks		Post Medieval			Earthwork		Google Earth 3/11/2014					Environmen t Agency 1m (2018)		Crop mark, could also be medieval	Low	Penrith to Temple Sowerby	B	Likely
3_8	Mound		Uncertain			Earthwork							Environmen t Agency 1m (2018)		Probable modern dump	Low	Penrith to Temple Sowerby	B	Likely
3_9	Site	Linear Feature	Uncertain			Cropmark		Google Earth 3/11/2014							Possible Crop Mark	Low	Penrith to Temple Sowerby	B	Likely
3_10	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environmen t Agency 1m (2018)		Earthworks - ridge and furrow	Low	Penrith to Temple Sowerby	B	Likely
3_11	Boundary	Field Boundary	Early 20th century			Earthwork	Documentary Evidence						Environmen t Agency 1m (2018)	OS six Inch 1888- 1913	Medieval field boundary?	Low	Penrith to Temple Sowerby	B	No
3_12	Feature	Linear Feature	Uncertain			Earthwork							Environmen t Agency 1m (2018)		Unknown - LiDAR earthwork	Low	Penrith to Temple Sowerby	B	Likely



3_13	Natural Feature	Palaeochannel	Palaeolithic			Cropmark	Documentary Evidence	Google Earth 10/2/2019						Probable Glacial outwash channel with Holocene sediments?	Low	Penrith to Temple Sowerby	B	Likely
3_14	Feature	Linear Feature	Uncertain			Earthwork							Environment Agency 1m (2018)	Modern? Feature?	Low	Penrith to Temple Sowerby	B	Likely
3_15	Boundary	Field Boundary	Early 20th century			Cropmark	Documentary Evidence	Google Earth 6/30/2018					OS Six Inch 1888-1913	Crop marks	Low	Penrith to Temple Sowerby	B	No
3_17	Natural Feature	Palaeochannel	Palaeolithic			Earthwork	Documentary Evidence	Google Earth 10/2/2019					Environment Agency 1m (2018)	Glacial spring/palaeochannel	Low	Penrith to Temple Sowerby	B	Likely
3_18	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Cropmark		Google Earth 12/31/2003	Google Earth 3/11/2014				Environment Agency 2m (2001)	Crop marks, possibly post-medieval	Medium	Penrith to Temple Sowerby	B	Likely
3_19	Pit		Uncertain			Cropmark		Google Earth 3/11/2014						A series of annular crop marks/could also be cattle feeders	Low	Penrith to Temple Sowerby	B	Likely
3_27	Quarry		Uncertain			Cropmark		Google Earth (all epochs)					OS Six Inch 1888-1913	Labelled as Old Quarry - bedrock sandstone	Low	Penrith to Temple Sowerby	B	No
3_28	Well		Uncertain			Cropmark							OS Six Inch 1888-1913	Well next to old quarry - unknown period	Medium	Penrith to Temple Sowerby	B	No
3_29	Natural Feature		Palaeolithic			Earthwork	Documentary Evidence						Environment Agency 1m (2018)	Natural bedrock platforms - probable archaeology on top	Medium	Penrith to Temple Sowerby	B	Likely
3_30	Feature	Linear Feature	Uncertain			Cropmark		Google Earth 3/11/2014						Crop marks, possibly tracks and/or former boundaries	Low	Penrith to Temple Sowerby	B	Likely
3_33	Feature	Linear Feature	Uncertain			Cropmark		Google Earth 3/11/2014						Crop marks, possibly tracks and/or former boundaries	Low	Penrith to Temple Sowerby	B	Likely
3_40	Feature	Linear Feature	Uncertain			Cropmark		Google Earth 3/11/2014						Crop marks, possibly tracks and/or former boundaries	Low	Penrith to Temple Sowerby	B	Likely
3_44	Pit		Uncertain			Cropmark		Google Earth 3/11/2014						A series of annular crop marks/could also be cattle feeders, or small extractive pits	Low	Penrith to Temple Sowerby	B	Likely
3_56	Feature	Linear Feature	Uncertain			Cropmark		Google Earth 7/19/2016						Path or crop mark?	Low	Penrith to Temple Sowerby	B	Likely
3_57	Feature	Linear Feature	Uncertain			Earthwork							Environment Agency 1m (2018)	Possible track	Low	Penrith to Temple Sowerby	B	Likely
3_58	Site		Medieval	4457		Cropmark							OS Six Inch 1888-1913	Site of Hartshorn Tree, Brougham	Medium	Penrith to Temple Sowerby	B	No
3_59	Pit		Uncertain			Cropmark		Google Earth 10/2/2019						Crop mark, possible prehistoric?	Medium	Penrith to Temple Sowerby	B	Likely
3_60	Pit		Uncertain			Cropmark		Google Earth 10/2/2019						Crop mark, possible BA or prehistoric	Medium	Penrith to Temple Sowerby	B	Likely
3_61	Pit		Uncertain			Cropmark		Google Earth 10/2/2019						Crop mark, possible BA or prehistoric	Medium	Penrith to Temple Sowerby	B	Likely
3_62	Pit		Uncertain			Cropmark		Google Earth 10/2/2019						Crop mark, possible BA or prehistoric	Medium	Penrith to Temple Sowerby	B	Likely



3_63	Pit		Uncertain			Cropmark		Google Earth 10/2/2019							Crop mark, possible BA or prehistoric	Medium	Penrith to Temple Sowerby	B	Likely
3_64	Pit		Uncertain			Cropmark		Google Earth 10/2/2019							Crop mark, possible BA or prehistoric	Medium	Penrith to Temple Sowerby	B	Likely
3_65	Feature	Ring Ditch	Uncertain			Cropmark		Google Earth 10/2/2019							Crop mark, possible BA or prehistoric	Medium	Penrith to Temple Sowerby	B	Likely
3_66	Natural Feature	Palaeochannel	Palaeolithic			Earthwork		CUCAP no: JX16	Google Earth 3/11/2014				Environment Agency 1m (2018)	Possible Palaeochannel, probably Peri-glacial Devensian	Low	Penrith to Temple Sowerby	B	Likely	
3_67	Feature	Linear Feature	Uncertain			Earthwork							Environment Agency 1m (2018)	Linear feature, ditch	Low	Penrith to Temple Sowerby	B	Likely	
3_69	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2018)	Medieval - post-medieval	Low	Penrith to Temple Sowerby	B	Likely	
3_70	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2018)	Medieval - post-medieval	Low	Penrith to Temple Sowerby	B	Likely	
3_71	Earthwork	Field Boundary	Post Medieval			Earthwork		Google Earth 9/12/2009					Environment Agency 1m (2018)	OS six-inch 1888-1913 Former Field Boundary - earth work and cropmark	Low	Penrith to Temple Sowerby	B	No	
3_73	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2018)	Ridge and furrow	Low	Penrith to Temple Sowerby	B	Likely	
3_74	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2018)	Ridge and Furrow	Low	Penrith to Temple Sowerby	B	Likely	
3_75	Enclosure		Uncertain			Earthwork		Google Earth 3/11/2014					Environment Agency 1m (2018)	Crop mark and earthwork - possible structure - not on historic maps - Possible Roman or	Medium	Penrith to Temple Sowerby	B	Likely	
3_76	Site		Uncertain	3830		Earthwork	Documentary Evidence	CUCAP AEB31 1961	Google Earth (all epochs)				Environment Agency 1m (2018)	OS 1:25,000 1937-61 Crop mark, possible prehistoric, find spots contain prehistoric finds	Medium	Penrith to Temple Sowerby	B	No	
3_77	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	Ridge and Furrow	Medium	Penrith to Temple Sowerby	B	Likely	
3_78	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth 3/11/2014					Environment Agency 1m (2018)	Post-medieval Ridge and Furrow	Low	Penrith to Temple Sowerby	B	Likely	
3_79	Enclosure		Uncertain	2861		Earthwork		CUCAP no: JKx17	CUAP No: BE91	CUAP no: BFW58	CUAP no: BFW59	Google earth 6/30/2018	Environment Agency 1m (2018)	Crop mark, enclosure ditch described as Roman in AP	High	Penrith to Temple Sowerby	B	No	
3_80	Enclosure		Uncertain	9881		Cropmark		CUAP No: BE91	Google Earth 3/11/2014					Crop Mark, enclosure ditch described as Roman in AP	High	Penrith to Temple Sowerby	B	No	
3_81	Boundary	Field Boundary	Uncertain			Earthwork		Google Earth 6/30/2018					Environment Agency 1m (2018)	OS 25-Inch 1892-1914 Field boundary removed possibly older than 19th century	Low	Penrith to Temple Sowerby	B	No	
3_82	Linear Earthwork		Uncertain			Earthwork							Environment Agency 1m (2018)	OS One Inch 1885-1900 Possible road seen on 19th C Historic mapping	Low	Penrith to Temple Sowerby	B	No	
3_83	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork		Google Earth 3/11/2014					Environment Agency 1m (2018)	Shadow marks - Medieval Ridge and Furrow	Medium	Penrith to Temple Sowerby	B	Likely	
3_84	Boundary	Field Boundary	Uncertain			Earthwork	Documentary Evidence						Environment Agency 1m (2018)	OS six-inch 1888-1913 Earthwork - possibly older than 19th century	Low	Penrith to Temple Sowerby	B	No	





3_85	Structure		Uncertain			Earthwork		Google Earth 3/11/2014						Environment Agency 1m (2018)		Depression in LiDAR, Crop mark	Low	Penrith to Temple Sowerby	B	Likely
3_86	Field System	Water Meadow	Medieval			Earthwork		Google Earth 9/12/2009						Environment Agency 1m (2018)		Flood plain - field drainage system or water meadow	Low	Penrith to Temple Sowerby	B	Likely
3_87	Linear Earthwork		Uncertain			Earthwork								Environment Agency 1m (2018)		Not on Historic mapping - older? or farmers track	Low	Penrith to Temple Sowerby	B	Likely
3_89	Site	Ring Ditch	Uncertain			Cropmark		Google Earth 3/11/2014								Circular Crop mark - could be related to settlement to north	Medium	Penrith to Temple Sowerby	B	Likely
3_90	Dwelling	Grubenhau	Early Medieval	16791		Cropmark		Google Earth 12/31/2003								Crop mark, related to the settlement and Grubenhau's? Feature possibly of recent agricultural origin.	Medium	Penrith to Temple Sowerby	B	No
3_91	Site	Linear Feature	Uncertain			Cropmark		Google Earth 3/11/2014								Crop mark, In area with early medieval finds and field systems	Medium	Penrith to Temple Sowerby	B	Likely
3_92	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork	Documentary Evidence	EAW009279 (1947)						Environment Agency 1m (2018)	OS One Inch, 1885-1900	Post Med Ridge and furrow, area part of the Castle farm on Historic map	Low	Penrith to Temple Sowerby	B	No
3_93	Site	Blacksmiths Workshop	Victorian			Cropmark									OS One Inch 1885-1900	Location of a blacksmith (called smithy) Possibly destroyed with new housing	Low	Penrith to Temple Sowerby	B	No
3_94	Ridge and Furrow	Broad Ridge and Furrow	Medieval	CU 241		Earthwork	Documentary Evidence	EAW014522 (1948)						Environment Agency 1m (2018)	OS One inch 1885-1900	Medieval Ridge and Furrow probably part of the Castle farm	High	Penrith to Temple Sowerby	B	No
3_95	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork	Documentary Evidence							Environment Agency 1m (2018)	OS One inch 1888-1900	Ridge and furrow, possibly connected to area marked as Castle farm on Historic Map	Medium	Penrith to Temple Sowerby	B	No
3_96	Enclosure	Temporary Camp	Roman	9881		Cropmark	Documentary Evidence	CUCAP no: AXX97	CUCAP no: AXX100	CUCAP no: AXX95	CUCAP no: AXX96	CUCAP no: AXX98				Crop marks, referenced as a Roman Camp in the CUCAP	High	Penrith to Temple Sowerby	B	No
3_97	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Cropmark		Google Earth 9/12/2009								Ridge and furrow - could have connection to area named Castle Farm on Historic Map	Low	Penrith to Temple Sowerby	B	Likely
3_98	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Cropmark		Google Earth 6/30/2018								Possibly connected with Post-medieval activity at the Castle Farm on Historic map	Low	Penrith to Temple Sowerby	B	Likely
3_99	Road		Roman	2157		Cropmark									OS Six Inch 1888-1913	Site of Roman Road - Partially found in Oxford Archaeology and Wardell Armstrong Report	High	Penrith to Temple Sowerby	B	No
3_100	Bridge	Road Bridge	Georgian	44268		Earthwork		EAW009280 (1947)	EAW014523 (1948)	EAW009279 (1947)				Environment Agency 1m (2018)	OS One Inch 1885-1900	Listed Bridge	High	Penrith to Temple Sowerby	B	No
3_101	Dam		Early 20th century			Cropmark									OS 2nd Edition 1900 1:5000	Weir used to direct flow through Mill race	Medium	Penrith to Temple Sowerby	B	No
3_102	Mill Race		Early 20th century			Earthwork								Environment Agency 1m (2018)	OS 2nd edition 1900 1:5000	Manmade bank/ditch to either support bridge or as back fill/ remnants of the mill race	Medium	Penrith to Temple Sowerby	B	No
3_103	Mill	Corn Mill	Victorian	12014		Cropmark									OS Six Inch 1888-1913 and	Site of both corn and saw mill - named as mill late 19th C	Medium	Penrith to Temple Sowerby	B	No



															OS 2nd edition 1900 1:5000					
3_104	Site		Roman	2888		Cropmark										Scheduled Monument connected to the Brougham Roman Fort and Castle	High	Penrith to Temple Sowerby	B	No
3_105	Field System	Allotment	Post Medieval			Earthwork		Google Earth 3/11/2014					Environment Agency 1m (2018)		Crop mark Possible field system under allotment scheme - aligns with field subdivisions on LiDAR	Low	Penrith to Temple Sowerby	B	Likely	
3_106	Linear Earthwork		Uncertain			Earthwork		Google Earth 7/19/2016					Environment Agency 1m (2018)		Earthwork/ track possibly connected to swine gill	Low	Penrith to Temple Sowerby	B	Likely	
3_107	Natural Feature	Swallow Hole	Uncertain			Earthwork							Environment Agency 1m (2018)		Depression could be natural solution hole unlikely in sandstone. Possible quarry or pond barrow	Low	Penrith to Temple Sowerby	B	Likely	
3_108	Mound		Uncertain			Earthwork							Environment Agency 1m (2018)		Faint mound in LiDAR, possible ploughed damage Barrow?	Medium	Penrith to Temple Sowerby	B	Likely	
3_109	Round Barrow		Bronze Age			Cropmark		Google Earth 6/30/2018							Crop Mark, c.30m diameter, ditched	High	Penrith to Temple Sowerby	B	Likely	
3_110	Feature		Uncertain			Cropmark		Google Earth 10/2/2019							Soil mark, ditch	Low	Penrith to Temple Sowerby	B	Likely	
3_111	Natural Feature		Uncertain			Cropmark		Google Earth 6/30/2018							Crop Mark, possible glacial deposition, connection to spring to the south	Low	Penrith to Temple Sowerby	B	Likely	
3_112	Firing Range	Rifle Butts	Post Medieval	15410		Cropmark								OS Six Inch 1888-1913	Part of marching camp	Low	Penrith to Temple Sowerby	B	No	
3_113	Feature		Uncertain			Cropmark		Google Earth 3/11/2014							Crop mark, depression	Low	Penrith to Temple Sowerby	B	Likely	
3_114	Site		Roman	2890, 5090	100718 6	Cropmark	Documentary Evidence								Scheduled Monument connected to the Brougham Roman Fort and Castle	High	Penrith to Temple Sowerby	B	No	
3_115	Fort		Roman	2890, 5090, 2888	100718 6	Earthwork		CUACP no: CLB12	CUACP no: AEB30	CUACP no: BE92	CUACP no: BE39	CUACP no: BE94	Environment Agency 1m (2018)	OS one Inch, 1885-1900 and OS Six inch, 1888-1913	Scheduled Monument CU 241, Brougham Roman Fort	High	Penrith to Temple Sowerby	B	No	
3_116	Site		Roman	2990		Cropmark	Scheduled Monument	CuCAP no: DO70	Google Earth 6/30/2018						Part of the Scheduled Monument CU 242, Roman Marching Camp	High	Penrith to Temple Sowerby	B	No	
3_117	Platform		Uncertain			Earthwork							Environment Agency 1m (2018)		Square raised Platform 100m width - Possible Roman or post-med	Low	Penrith to Temple Sowerby	B	Likely	
3_118	Quarry		Uncertain			Earthwork							Environment Agency 1m (2018)		Possible quarry	Low	Penrith to Temple Sowerby	B	Likely	
3_118	Platform		Uncertain			Earthwork							Environment Agency 1m (2018)		Raised Topography - possibly archaeological platform or natural	Low	Penrith to Temple Sowerby	B	Likely	
3_119	Site		Uncertain			Cropmark		Google Earth 10/2/2019							Soil Mark - HER multiple find spots 45162, 42956,	Medium	Penrith to Temple Sowerby	B	Likely	



															42956, 45161 in close proximity - Prehistoric				
3_120	Castle	Moat	Medieval	2887	1007186	Earthwork	Documentary Evidence	EAW014522 (1948)	EAW014522 (1948)	EAW009279 (1947)	EAW009280 (1947)	CUACP no: 35kAE018	Environment Agency 1m (2018)	OS one inch, 1888-1900 onwards	Brougham Castle Scheduled monument, Castle Motte and Bailey and Moat	High	Penrith to Temple Sowerby	B	No
3_120	Field System		Roman	15272		Earthwork		Google Earth 6/30/2018					Environment Agency 1m (2018)		Field system Roman or Medieval?	Medium	Penrith to Temple Sowerby	B	No
3_121	Field System		Medieval			Cropmark		Google Earth 6/30/2018							Crop mark, Possible Ladder settlement	Medium	Penrith to Temple Sowerby	B	Likely
3_122	Enclosure		Medieval	15140		Cropmark		Google Earth 6/30/2018							Crop mark square enclosure possibly medieval ladder settlement	Medium	Penrith to Temple Sowerby	B	No
3_123	Site		Roman	42096, 42097		Cropmark									Excavation and Evaluation, Roman surface and finds	Medium	Penrith to Temple Sowerby	B	No
3_124	Pond		Medieval	15419		Earthwork							Environment Agency 1m (2018)	OS Six-inch 1888-1913	Medieval Fish Pond - labelled Mauds pond	Medium	Penrith to Temple Sowerby	B	No
3_125	Enclosure		Uncertain			Earthwork							Environment Agency 2m (2001)		A possible enclosure to the north-east of Woodside Farm Cottage, bound on the north-west by a bank.	Low	Penrith to Temple Sowerby	B	Likely
3_126	Mound		Uncertain			Earthwork							Environment Agency 2m (2011)		A small mound, c.7m in diameter and of unknown function. Owing to its size it may represent the remains of a small round barrow, although it may also be of recent date.	Medium	Penrith to Temple Sowerby	B	Likely
3_127	Mound		Uncertain			Earthwork							Environment Agency 2m (2011)		A small mound, c.9m in diameter. Possible round barrow but uncertain.	Medium	Penrith to Temple Sowerby	B	Likely
3_128	Site		Uncertain			Cropmark	RAF/541/61								Cropmark visible on APs. May be associated with 3_119 and as a result may be Bronze Age activity.	Medium	Penrith to Temple Sowerby	B	Likely
3_129	Pit		Uncertain			Earthwork	RAF/58/1959								Cropmark visible on APs. May be associated with 3_119 and as a result may be Bronze Age activity.	Medium	Penrith to Temple Sowerby	B	Likely
3_130	Pit		Uncertain				RAF/58/1959								Cropmark visible on APs. May be associated with 3_119 and as a result may be Bronze Age activity.	Medium	Penrith to Temple Sowerby	B	Likely
3_131	Airfield		Early 20 <sup>th</sup> Century			Built Heritage	RAF/541/61								Remnants of WWII Airfield preserved in layout of roads and field boundaries. The original hangar remains in situ. Other elements visible on the AP are no longer extant. Exact location of grass airstrip is unknown.	Medium	Penrith to Temple Sowerby	B	Likely
3_132	Quarry		Prehistoric			Cropmark	RAF/58/1959								Cropmarks associated with possible Bronze Age activity in the vicinity of	Medium	Penrith to Temple Sowerby	B	Likely



															assets 3_108 and 3_109.. Origin uncertain however.				
3_133	Natural Feature	Paleochannel	Palaeolithic			Cropmark	RAF/541/61								Additional Paleochannel	Low	Penrith to Temple Sowerby	B	Likely
4_5_1	Railway		Victorian	19990		Earthwork								Environment Agency 1m (2007)	Earthworks associated with the Eden Valley branch railway (Skygarth Viaduct-Kirkby Thore Station section).	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_2	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (12/9/2009)	Google Earth (11/3/2014)	Google Earth (30/6/2018)	Google Earth (2/10/2019)			Environment Agency 1m (2007)	Narrow ridge and furrow between farm buildings and disused railway. Possibly modern.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_3	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (12/9/2009)	Google Earth (11/3/2014)	Google Earth (30/6/2018)	Google Earth (2/10/2019)			Environment Agency 1m (2007)	Narrow ridge and furrow bisected by former railway.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_4	Road		Roman	2800		Earthwork								Environment Agency 2m (2001)	A 250m long section of a possible former road. The remains lie to the north of a kink in the present road running eastwards out of Temple Sowerby and so may represent the remains of the agger of the Roman road between Penrith and Kirkby Thore.	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_5	Earthwork		Post Medieval			Earthwork								Environment Agency 1m (2007)	A bank on a NW-SE axis. Additional mounds to the E may relate to road construction.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_6	Field System		Post Medieval	6178		Earthwork								Environment Agency 1m (2007)	Former boundaries are visible, bisected by the A66. A pronounced bank lies in the southern area, at a tangent to the other features. The HER records unclassified cropmarks, which may refer to field boundaries?	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_7	Ridge and Furrow		Medieval			Cropmark		Google Earth (11/3/2014)							Broad ridges visible in AP. Possibly R&F.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_8	Field System		Post Medieval			Earthwork		Google Earth (30/6/2018)	Google Earth (11/3/2014)					Environment Agency 1m (2007)	Former boundaries visible within two fields. Cropmark settlement remains recorded in northern field on HER (4717), but not visible.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_9	Ridge and Furrow		Medieval			Earthwork								Environment Agency 1m (2007)	A number of ridges are visible in LiDAR. A curved former field boundary and	Low	Temple Sowerby to Appleby,	A	Likely



														parallel bank in the centre of the field suggests an earlier date for some of the features.		Kirkby Thore and Crackenthorpe		
4_5_10	Ridge and Furrow		Post Medieval			Earthwork							Environment Agency 1m (2007)	Ridge and furrow visible to the north of the Roman road.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_11	Ridge and Furrow		Post Medieval			Earthwork							Environment Agency 1m (2007)	Traces of ridge and furrow are visible across two fields. A former field boundary is also visible.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_12	Ditch		Uncertain			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2007)	A short section of ditch, running perpendicular to a pronounced bank in the field to the W.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_13	Trackway		Roman			Earthwork		Google Earth (12/9/2009)	Google Earth (19/7/2016)				Environment Agency 1m (2007)	A possible trackway runs SSE from the Roman road towards a point on the River Eden at Fitz Well. It is visible as a ditch, with a bank present on the western side. A temporary Roman camp (HER 9980) lies to the E. Its position - joining the Roman road and adjacent to a camp - suggests a possible Roman date. A parallel bank feature lies c.250m to the W, on the other side of a temporary Roman camp recorded in the HER (9980).	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_14	Drain		Uncertain			Earthwork		Google Earth (11/3/2014)					Environment Agency 1m (2007)	Parallel ditches, probably field drains and likely to be of recent origin.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_15	Boundary	Field Boundary	Post Medieval			Earthwork		Google Earth (11/3/2014)					Environment Agency 1m (2007)	Former field boundary	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_16	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2007)	A section of bank on SSE-NNW alignment, running parallel with a possible trackway located c.250m to the W. The bank heads towards a temporary Roman camp recorded in the HER (9980).	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_17	Field System		Post Medieval			Earthwork							Environment Agency 1m (2007)	Former field boundaries defined by banks to the W and E.	Low	Temple Sowerby to Appleby,	A	Possibly



																		Kirkby Thore and Crackenthorpe		
4_5_18	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2007)		Traces of narrow ridge and furrow abutting the Roman road.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_19	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2013)		Remains of broad ridge and furrow are visible as faint earthworks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_20	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (11/3/2014)					Environment Agency 1m (2013)		A former channel is visible as a sinuous, broad ditch-like feature.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_21	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2013)		Faint remains of ridge and furrow are visible within a field that itself appears to preserve open field activity.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_22	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2013)		Narrow ridge and furrow remains extend westwards to the edge of a shallow valley.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_23	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2013)		A substantial bank feature that may have formed part of a boundary around the buildings at Hale.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_24	Ditch	Drainage Ditch	Post Medieval			Earthwork							Environment Agency 1m (2013)		A straight section of ditch corresponding to Birk Sike as marked on historic mapping.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No	
4_5_25	Boundary	Field Boundary	Post Medieval			Earthwork		Google Earth (12/09/2009)					Environment Agency 1m (2013)		Bank representing a former field boundary.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No	
4_5_26	Field System		Post Medieval			Earthwork		Google Earth (19/07/2016)					Environment Agency 1m (2013)		Former field boundaries visible as banks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No	



4_5_27	Field System		Post Medieval			Earthwork							Environment Agency 1m (2013)	A series of parallel banks representing former fields, themselves possibly a remnant of earlier open field activity.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_28	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2013)	Two parallel banks, possibly a remnant of ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_29	Water Regulation Installation	Drainage System	Post Medieval			Earthwork		Google Earth (11/3/2014)	Google Earth (19/7/2016)	Google Earth (12/9/2009)	Google Earth (31/12/2004)		Environment Agency 1m (2013)	A series of drainage channels are visible within a valley. The drains are arranged in a herringbone pattern.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_30	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork		Google Earth (19/7/2016)					Environment Agency 1m (2013)	Broad, curving ridge and furrow remains. The extents are defined at the E end by a bank that appears to represent a headland that became a layer boundary.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_31	Boundary		Medieval			Earthwork		Google Earth (11/3/2014)					Environment Agency 1m (2013)	Former field boundary that appears to represent a headland at the end of a block of broad ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_32	Ridge and Furrow	Broad Ridge and Furrow	Medieval	16993		Earthwork		Google Earth (11/3/2014)					Environment Agency 1m (2007)	Broad ridge and furrow remains are visible to the north of the Roman road. They are contained within modern fields displaying a reverse-'S' shape, representing relict remains. The remains are likely to be of medieval origin.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_33	Field System		Medieval			Earthwork							Environment Agency 1m (2013)	Indistinct banks, possibly the remains of former field boundaries or ridge and furrow. The remains are defined to the E by a bank (possibly two headlands) at the edge of a small valley.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_34	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2013)	Broad ridge and furrow remains, extending W to a small valley.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_35	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (31/12/2003)	Google Earth (12/9/2009)				Environment Agency 1m (2013)	Very narrow ridge and furrow, possibly modern in origin.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely



4_5_36	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2013)	Broad, curving banks. The western headland continues to form a field boundary.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_37	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork		Google Earth (19/7/2016)	Google Earth (11/3/2014)	Google Earth (12/9/2009)			Environment Agency 1m (2007)	Traces of ridge and furrow within a curved field.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_38	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval	16994		Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (11/3/2014)			Environment Agency 1m (2007)	Narrow banks extend S to the former railway. A former field boundary appears to be visible running along the centre of the parcel.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_39	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (11/3/2014)					Environment Agency 1m (2007)	Narrow banks extend SW to the disused railway line.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_40	Boundary	Field Boundary	Post Medieval			Earthwork							Environment Agency 1m (2007)	A former field boundary is visible as a slight bank.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_41	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (11/3/2014)	Google Earth (19/7/2016)				Environment Agency 1m (2007)	Very straight, narrow ridge and furrow is visible running parallel with the River Eden.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_42	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (19/7/2016)	Google Earth (11/3/2014)				Environment Agency 1m (2007)	A small parcel of narrow ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_43	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (19/7/2016)	Google Earth (11/3/2014)	Google Earth (12/9/2009)	Google Earth (31/12/2004)		Environment Agency 1m (2007)	A sinuous feature representing a former channel of the River Eden.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_44	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (11/3/2014)					Environment Agency 1m (2007)	Well-defined narrow ridge and furrow in a small wedge between the disused railway line and former channel of the River Eden.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_45	Boundary	Field Boundary	Post Medieval			Earthwork		Google Earth (11/3/2014)					Environment Agency 1m (2007)	Extension of a mapped field boundary, overlying a former channel of the River Eden.	Low	Temple Sowerby to Appleby, Kirkby Thore and	A	Likely





																	Crackenthorpe		
4_5_46	Field System		Post Medieval			Earthwork							Environment Agency 1m (2007)		Traces of banks, some of which appear to represent the remains of former field boundaries. Broad ridge and furrow lies to the SW (beyond the study area) and the remains may be associated.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_47	Settlement	Vicus	Roman	2800	1012183	Earthwork		Google Earth (19/7/2016)					Environment Agency 1m (2013)		Extent of the vicus (NHLE 1012183) to the south of the Roman road. Detailed remains are unclear. The scheduled area follows the path of a former field boundary, although an additional bank is located further south and may represent the southern remains of the vicus. A slight, square-shaped bank at the eastern end of the area may represent the remains of an internal feature.	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_48	Settlement	Vicus	Roman	2800		Earthwork							Environment Agency 1m (2013)		The extents of the scheduled vicus (1012183) are visible as a series of banks to the north of the Roman road. Boundary to the NW is unclear but may be represented by a right-angled bank.	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_49	Bank (Earthwork)		Roman	2800		Earthwork							Environment Agency 1m (2013)		An angular bank feature representing, in part, a former field boundary which itself may be the actual boundary of the Roman vicus. The bank appears to continue the NW boundary of the Roman vicus (NHLE 1012183), although its path beyond the end of the bank is unclear. High significance due to possible association with Roman vicus and fort (1012183). The scheduled boundary follows a modern field boundary.	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_50	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (11/3/2014)	Google Earth (19/7/2016)				Environment Agency 1m (2013)		Banks representing ridge and furrow remains. The earthworks at the western end display a curved appearance, as does the modern field boundary, possibly highlighting an earlier origin.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_51	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2013)		Traces of narrow ridge and furrow visible as banks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely



4_5_52	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork						Environment Agency 1m (2013)	Well-defined narrow ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_53	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (19/7/2016)				Environment Agency 1m (2013)	Very narrow ridge and furrow, appearing 'corrugated' from above.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_54	Ridge and Furrow		Uncertain			Earthwork						Environment Agency 1m (2013)	Possible ridge and furrow visible as faint banks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_55	Boundary	Boundary Bank	Uncertain			Earthwork		Google Earth (31/12/2004)				Environment Agency 1m (2013)	A straight bank feature in the centre of the field.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_56	Fort		Roman	2800	1012183	Earthwork		CUCAP DO77 (9/7/1949)				Environment Agency 1m (2013)	The area of a scheduled Roman fort (part of NHLE 1012183), much damaged by ploughing. The clearest surviving feature is the northern rampart. LiDAR shows a slight raised area to the NW, possibly representing the location of an associated building. More detail is visible on CUCAP AP DO77, which clearly shows the line of the northern rampart alongside a number of internal divisions.	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_57	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (19/7/2016)				Environment Agency 1m (2013)	Narrow ridge and furrow visible, extending S to a curved bank that represent a former field boundary created through earlier open field activity.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_58	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (19/7/2016)				Environment Agency 1m (2013)	A small block of straight, narrow ridge and furrow extending south to the Trout Beck.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_59	Settlement	Vicus	Roman	2800	1012183	Earthwork						Environment Agency 1m (2013)	A bank that appears to form part of the boundary of the scheduled vicus (NHLE 1012183).	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_60	Bank (Earthwork)		Uncertain			Earthwork						Environment Agency 1m (2013)	An area of indistinct banks within the vicus,	Low	Temple Sowerby to Appleby,	A	Possibly



														possibly associated with later agricultural activity.		Kirkby Thore and Crackenthorpe		
4_5_61	Bank (Earthwork)		Uncertain	2800		Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2013)	A section of bank, possibly associated with the scheduled vicus (NHLE 1012183). Significance based on possible association with scheduled remains.	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_62	Natural Feature	Palaeochannel	Uncertain			Earthwork							Environment Agency 1m (2013)	Former channel of the Trout Beck, visible as a wide, sinuous ditch.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_63	Railway Station		Victorian			Earthwork							Environment Agency 1m (2013)	Remains of Kirkby Thore railway station.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_64	Spoil Heap		21st century			Earthwork							Environment Agency 1m (2013)	Mound, assumed to be related to recent work in the field constructing the enclosed area to the NE.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_65	Natural Feature	Palaeochannel	Uncertain			Earthwork							Environment Agency 1m (2007)	A number of former channels of the River Eden, visible as sinuous ditches.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_66	Natural Feature	Palaeochannel	Uncertain			Earthwork							Environment Agency 1m (2007)	Former channels of the River Eden.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_67	Field System		Uncertain			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)				Environment Agency 1m (2007)	A series of connected banks appearing to form the remains of a field system. One of the features appears to represent a modern unmapped boundary, visible on APs until at least 2009.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_68	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2007)	Narrow ridges within a small parcel of woodland, possibly associated with planting.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_69	Boundary	Field Boundary	Post Medieval			Earthwork							Environment Agency 1m (2007)	Two former field boundaries visible as banks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely



4_5_70	Enclosure		Roman	1641	1007124	Cropmark		CUCAP DO78 (9/7/1949)						Cropmarks associated with a scheduled Roman farmstead (NHLE 1007124) are visible as a sub-circular enclosure with a possible entrance to the E, along with a possibly associated ditch.	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_71	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2007)	Narrow ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_72	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (31/12/2003)	Google Earth (19/7/2016)	Google Earth (12/9/2009)			Environment Agency 1m (2013)	Three adjacent fields containing sinuous ditches representing former channels of the Trout Beck.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_73	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2013)	Broad ridge and furrow is visible, displaying a slight reverse-'S' profile. Two pronounced banks appear to have become later field boundaries.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_74	Earthworks		Roman	5132		Earthwork							Environment Agency 1m (2013)	Traces of earthworks, visible as slight banks, are visible immediately E of the known extents of the Roman vicus (NHLE 1012183, HER 2800). The layout is suggestive of an early field system, possibly of Roman origin. A cropmark complex is recorded in the HER (5132).	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Possibly
4_5_75	Ridge and Furrow		Uncertain			Earthwork							Environment Agency 1m (2013)	Possible ridge and furrow, visible as faint earthworks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_76	Building Platform		Uncertain			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2013)	An area of indistinct earthworks to the N of Kirkby Thore Hall. The remains may in part represent the remains of building platforms.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_77	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (31/12/2003)	Google Earth (12/9/2009)				Environment Agency 1m (2013)	Well-defined narrow ridge and furrow with a curved profile. A bank forms the northern boundary of the block.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_78	Bank (Earthwork)		Uncertain			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2013)	A bank, possibly a former boundary.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely



4_5_79	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2013)	Traces of broad ridge and furrow visible as slight banks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_80	Boundary	Field Boundary	Medieval			Earthwork	Google Earth (31/12/2004)	Google Earth (19/7/2016)					Environment Agency 1m (2013)	An eastwards continuation of a former track. The feature may	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_81	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2013)	Slight remains of broad ridge and furrow, curving towards a shallow valley, are visible as a series of faint banks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Possibly
4_5_82	Trackway		Post Medieval			Earthwork	Google Earth (19/7/2016)						Environment Agency 1m (2013)	The path of a former track is visible as a slight bank. It may have its origins as a headland. It appears to form the northern boundary of a block of ridge and furrow, suggesting a possible medieval origin.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Possibly
4_5_83	Field System		Post Medieval			Earthwork	Google Earth (31/12/2003)	Google Earth (12/9/2009)	Google Earth (19/7/2016)				Environment Agency 1m (2013)	A number of former field boundaries are visible as banks, some of which are of recent origin. The area also contains traces of ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_84	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2013)	Traces of broad ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_85	Mound		Uncertain			Earthwork							Environment Agency 1m (2013)	An elongated mound, c.35m in length.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_86	Ridge and Furrow		Medieval			Earthwork							Environment Agency 1m (2013)	Ridge and furrow remains represented by broad but straight earthworks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_87	Ridge and Furrow		Medieval			Earthwork							Environment Agency 1m (2013)	Traces of ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_88	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2013)	A 'W'-shaped bank at the edge of a ditch, likely to be of recent agricultural origin.	Low	Temple Sowerby to Appleby, Kirkby Thore	A	Likely



4_5_89	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2013)	Indistinct banks, possibly representing former field boundaries or agricultural activity.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_90	Ridge and Furrow		Medieval			Earthwork							Environment Agency 1m (2013)	Traces of ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_91	Field System		Uncertain			Earthwork							Environment Agency 1m (2013)	Possible former field boundaries visible as banks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_92	Spoil Heap		21st century			Earthwork							Environment Agency 1m (2013)	Apparently recent spoil heap.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_93	Field System		Uncertain			Earthwork							Environment Agency 1m (2013)	A series of faint banks appearing to represent former field boundaries.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_94	Mineral Extraction Site		Post Medieval	15539		Earthwork		Google Earth (31/12/2003)	Google Earth (12/9/2009)	Google Earth (19/7/2016)			Environment Agency 1m (2013)	Former quarries.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_95	Mineral Extraction Site		Post Medieval	15539		Earthwork		Google Earth (31/12/2003)	Google Earth (12/9/2009)	Google Earth (19/7/2016)			Environment Agency 1m (2013)	Former quarrying activity.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_96	Mineral Extraction Site		Post Medieval	15539		Earthwork		Google Earth (31/12/2003)	Google Earth (12/9/2009)	Google Earth (19/7/2016)			Environment Agency 1m (2013)	A former quarry turned waste disposal site.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_97	Mineral Extraction Site		Post Medieval	15539		Earthwork		Google Earth (31/12/2003)	Google Earth (12/9/2009)	Google Earth (19/7/2016)			Environment Agency 1m (2013)	A former quarry.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_98	Trackway		21st century			Earthwork							Environment Agency 1m (2013)	A probable recent trackway between a field containing a large pit	Low	Temple Sowerby to Appleby,	A	Likely



														(possible waste disposal site) and a road.		Kirkby Thore and Crackenthorpe		
4_5_99	Waste Disposal Site	Refuse Disposal Site	21st century			Earthwork		Google Earth (31/12/2003)	Google Earth (12/9/2009)	Google Earth (19/7/2016)			Environment Agency 1m (2013)	A large, irregularly shaped feature is cut into a field. A ditch - a possible path - links the site with a quarry-turned-waste disposal site to the north. The feature is cut by a straight feature marked on mapping (a possible vent). ?Foot and mouth burial site	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_100	Ridge and Furrow		Uncertain			Earthwork							Environment Agency 1m (2013)	Traces of possible ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_101	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2013)	A substantial bank forming the southern edge of a field, possibly of recent origin.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_102	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2013)	Faint traces of broad ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_103	Ridge and Furrow	Broad Ridge and Furrow	Medieval	6008		Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2013)	Broad ridge and furrow between Trout Beck and Brandcrook Hill.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_104	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)			Environment Agency 1m (2013)	Former channels between the Trout Beck and Roman road.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_105	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2013)	Narrow, slightly curved ridge and furrow remains extending as far E as a former channel.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_106	Railway		Victorian	19990		Earthwork							Environment Agency 1m (2007)	Earthworks associated with the Eden Valley branch railway (Powis House-Roger Head section).	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_107	Military Camp	Temporary Camp	Roman	1654	1007189	Earthwork		Google Earth (12/9/2009)	CUCAP AAK69 (19/7/1959)	CUCAP BFW69 (6/7/1971)			Environment Agency 1m (2007)	The ploughed remains of a scheduled Roman temporary camp (NHLE 1007189) are visible as a fragmentary trapezoidal	High	Temple Sowerby to Appleby, Kirkby Thore and	A	No



															bank. Traces of an external bank are visible in LiDAR data at the NE corner, running parallel to the clearer trapezoidal bank on its NE facing side. An internal feature, visible as a cropmark, runs parallel with the NW facing bank of the camp in CUCAP image BFW69. It can be traced for a very short distance to the W of the road.		Crackenthorpe		
4_5_10_8	Natural Feature	Palaeochannel	Uncertain			Earthwork							Environment Agency 1m (2007)		Former channels, the eastern of which bisects a scheduled temporary Roman camp (1007189). Medium significance due to potential for survival of remains or hillwash within gully bisecting camp.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_10_9	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2007)		A long section of bank is visible, possibly geological (forming the edge of river terrace), roughly parallel with the River Eden, across a length of c.1.3km. The bank meets the river at The Lodge. It extends south from an enclosed Roman settlement recorded in the HER (1641). The earthwork may be Roman. Farmsteads named Westley Bank and Redlands Bank lie on its path.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_11_0	Mineral Extraction Site		Uncertain			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)				Environment Agency 1m (2007)		Three small, sub-circular depressions that may represent small-scale quarrying.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_11_1	Ridge and Furrow	Narrow Ridge and Furrow	Uncertain			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2007)		Earthwork remains, appearing like narrow ridge and furrow but possibly of more recent origin.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_11_2	Ridge and Furrow	Narrow Ridge and Furrow	Uncertain			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2007)		Traces of narrow ridge and furrow. A slightly more pronounced bank lies on a N-S axis, projecting south towards the edge of a spur.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_11_3	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)			Environment Agency 1m (2007)		Southern extension of former channel passing through temporary camp to the north.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely





4_5_11 4	Mound		Uncertain			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2007)	A slight, rectangular mound in the corner of a field. The remains may be of recent date (perhaps relating to agricultural activity), although the temporary Roman fort is c.100m to the north and so may be related.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_11 5	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)			Environment Agency 1m (2007)	Dry valley.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_11 6	Natural Feature	Palaeochannel	Uncertain			Earthwork							Environment Agency 1m (2009)	A channel is visible. Two dykes are recorded in the HER, one of which (6007) appears on the same alignment to the south and is likely to be related (the recorded dykes are not visible).	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_11 7	Road		Roman	1809		Earthwork		Google Earth (31/12/2004)	CUCAP W48 (20/7/1946)				Environment Agency 1m (2009)	A section of Roman road between Powis House and Appleby, now a track.	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_11 8	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (19/7/2016)	Google Earth (31/12/2004)				Environment Agency 1m (2009)	Faint traces of earthworks across a wide area, appearing to represent the remains of narrow ridge and furrow. Some of the better defined earthworks may be unmapped historic field boundaries.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_11 9	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2013)	Former channels of the Trout Beck.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_12 0	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2013)	Traces of broad ridge and furrow extending to the Trout Beck.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_12 1	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2009)	A former channel of the Trout Beck.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_12 2	Extractive Pit		Uncertain			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2009)	A slight circular depression, possibly an extractive pit.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely



4_5_12_3	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2009)	Traces of ridge and furrow, with a headland at the E edge of the block.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_12_5	Enclosure		Uncertain	6006		Earthwork							Environment Agency 1m (2007)	Traces of earthworks are visible at the end of a slight spur to the north of Meadows Ing. They may be related to an enclosure recorded in the HER. A curved bank appears to cross the spur, enclosing the southern end.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_12_6	Field System		Post Medieval			Earthwork							Environment Agency 1m (2007)	An area containing a number of former field boundaries, visible as banks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_12_7	Ridge and Furrow	Broad Ridge and Furrow	Medieval	5823; 16989		Earthwork	Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (31/12/2004)				Environment Agency 1m (2007)	A substantial area of broad ridge and furrow to the north-west of Crackenthorpe. Large tracts are visible all around the village.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_12_8	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2007)	Traces of broad ridge and furrow, less well defined than the examples to the east.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_12_9	Bank (Earthwork)		Uncertain			Earthwork	Google Earth (12/9/2009)						Environment Agency 1m (2007)	A faint bank, possibly pre-dating the ridge and furrow in the field, although the relationship is not entirely clear.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_13_0	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork	Google Earth (12/9/2009)						Environment Agency 1m (2007)	A small parcel of well-defined narrow ridge and furrow is visible adjacent to the River Eden.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_13_1	Natural Feature	Palaeochannel	Uncertain			Earthwork							Environment Agency 1m (2007)	An area containing former channels of the River Eden.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_13_2	Natural Feature	Palaeochannel	Uncertain			Earthwork	Google Earth (31/12/2004)	Google Earth (19/7/2016)	Google Earth (20/9/2019)				Environment Agency 1m (2007)	Former channels of the River Eden.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_13_3	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2007)	Traces of ridge and furrow on the floodplain of River Eden, forming a	Low	Temple Sowerby to Appleby, Kirkby Thore	A	Likely



														westwards extension of remains to the E.		and Crackenthorpe		
4_5_13_4	Boundary	Field Boundary	Post Medieval			Earthwork		Google Earth (31/12/2004)	Google Earth (20/9/2019)				Environment Agency 1m (2007)	Former field boundaries, one of which contains a block of ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_13_5	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork		Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (31/12/2004)			Environment Agency 1m (2007)	Westwards continuation of ridge and furrow remains broken by the A66. The remains continue to the edge of the alluvial deposits.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_13_6	Boundary	Field Boundary	Post Medieval			Earthwork							Environment Agency 1m (2007)	A former field boundary visible as a faint bank, following the alignment of boundaries to the SW and NE.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_13_7	Boundary	Field Boundary	Post Medieval			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2007)	A former field boundary visible as a faint bank and continuing the alignment of a boundary immediately to the N.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_13_8	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork		Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (31/12/2004)			Environment Agency 1m (2007)	South-westwards continuation of ridge and furrow remains broken by the A66. The earthworks are generally narrower here.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_13_9	Ridge and Furrow	Broad Ridge and Furrow	Medieval	5823		Earthwork		Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (31/12/2004)			Environment Agency 1m (2007)	An area of ridge and furrow adjacent to the Crackenthorpe village. Further remains lie to the W and N.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_14_0	Road	Hollow Way	Medieval			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2013)	A section of hollow way, most clearly visible close to the River Eden. It extends NE from the river, passing through an area of ridge and furrow. It is broken by a later boundary.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_14_1	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (19/7/2016)					Environment Agency 1m (2007)	A small block of narrow ridge and furrow on lower land, adjacent to the River Eden.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_14_2	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (19/7/2016)					Environment Agency 1m (2007)	Traces of narrow ridge and furrow are visible to the south of the river.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely



4_5_14_3	Field System		Post Medieval			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2007)	Remains of former field boundaries are visible across a low-lying area to the south of the River Eden.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Possibly
4_5_14_4	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2009)	A former channel of the River Eden is visible crossing a field.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_14_5	Lynchets	Strip Lynchets	Medieval	5824		Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (20/9/2019)		Environment Agency 1m (2009)	Lynchets are visible as series of parallel, curved banks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_14_6	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (19/7/2016)	Google Earth (12/9/2009)	Google Earth (20/9/2019)			Environment Agency 1m (2009)	Traces of ridge and furrow are visible as a series of faint banks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_14_7	Boundary	Field Boundary	Medieval			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2009)	A former field boundary and/or headland, visible as a curved bank.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_14_8	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork		Google Earth (19/7/2016)	Google Earth (12/9/2009)	Google Earth (20/9/2019)			Environment Agency 1m (2009)	Remains of broad, curving ridge and furrow is visible adjacent to the River Eden. The remains are broadest and in the E, immediately adjacent to the river.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_14_9	Mill Race		Post Medieval	15733		Earthwork		Google Earth (19/7/2016)	Google Earth (20/9/2019)	Google Earth (31/12/2004)	Google Earth (12/9/2009)		Environment Agency 1m (2009)	A mill race is visible cutting through a bend in the River Eden.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_15_0	Weir		Post Medieval			Earthwork		Google Earth (20/9/2019)					Environment Agency 1m (2009)	A weir, recorded in historic mapping, is visible in the River Eden, channelling downstream water through a mill race.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_15_1	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2009)	A faint right-angled bank is visible, its S end perpendicular to the mill race. It may represent a section of former field boundary	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_15_2	Boundary	Field Boundary	Medieval			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (20/9/2019)		Environment Agency 1m (2009)	Interconnected earthworks appear to form the remains of former field boundaries and/or headlands associated with adjacent	Medium	Temple Sowerby to Appleby, Kirkby Thore and	A	Likely



															parcels of ridge and furrow.		Crackenthorpe		
4_5_15_3	Ridge and Furrow	Broad Ridge and Furrow	Medieval	1649		Earthwork								Environment Agency 1m (2009)	Broad, curving earthworks representing the remains of ridge and furrow.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_15_4	Ridge and Furrow	Broad Ridge and Furrow	Medieval	1649		Earthwork								Environment Agency 1m (2009)	A block of well-defined, broad ridge and furrow located between well-defined banks representing plough headlands and/or field boundaries.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_15_5	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (20/9/2019)			Environment Agency 1m (2013)	Traces of narrow ridge and furrow visible as faint earthworks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Possibly
4_5_15_6	Lynchets	Strip Lynchets	Medieval			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (20/9/2019)			Environment Agency 1m (2013)	A number of lynchets are visible as well-defined parallel banks.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_15_7	Platform		Medieval	1667		Earthwork		Google Earth (20/9/2019)						Environment Agency 1m (2013)	A rectangular platform. A feature corresponding to the site of St Giles Chapel lies with the area.	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_15_8	Chapel		Medieval	1667		Earthwork		Google Earth (31/12/2004)						Environment Agency 1m (2013)	A rectangular depression is visible at the site of St Giles Chapel. It stands on a rectangular platform. HER point is 80m to the east.	High	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_15_9	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval	1649		Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (20/9/2019)			Environment Agency 1m (2013)	Narrow ridge and furrow visible as earthworks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_16_0	Ridge and Furrow		Post Medieval			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (20/9/2019)			Environment Agency 1m (2013)	Very broad earthworks are visible to the E of Crackenthorpe Hall. The features may be related to the parkland at the Hall, as opposed to having an agricultural origin as the ditches appear sharply defined in LiDAR	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_16_1	Building Platform		Uncertain			Earthwork								Environment Agency 1m (2013)	Indistinct earthworks are visible to the Crackenthorpe Hall. The features may mark the position of former buildings, as their alignment matches that of the house and driveway.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely



4_5_16 2	Boundary	Field Boundary	Post Medieval			Earthwork		Google Earth (31/12/2004)	Google Earth (20/9/2019)	Google Earth (12/9/2009)	Google Earth (19/7/2016)		Environment Agency 1m (2013)	A well-defined bank appearing to represent a former field boundary.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_16 3	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)	Google Earth (20/9/2019)		Environment Agency 1m (2013)	Faint earthworks representing the remains of ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_16 4	Boundary	Field Boundary	Post Medieval			Earthwork							Environment Agency 1m (2013)	Remains of a former boundary, visible as a bank.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_16 5	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2013)	A parcel of very narrow ridge and furrow. The features may be of recent origin.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_16 6	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)				Environment Agency 1m (2013)	Broad ridge and furrow remains, forming a block of wider remains around Crackenthorpe, to the W of the disused railway, extending as far W as the A66.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_16 7	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)				Environment Agency 1m (2013)	Well-defined narrow ridge and furrow, showing a slight 'S'-shaped profile. A number of better-defined banks may represent later former field boundaries.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_16 8	Settlement	Shrunken Village	Medieval	6771		Earthwork		Google Earth (19/7/2016)	Google Earth (31/12/2004)				Environment Agency 1m (2013)	Former settlement remains are visible as banks at the E edge of Crackenthorpe village.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_16 9	Bank (Earthwork)		Uncertain			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2013)	Parallel banks, possibly plough headlands and/or former field boundaries.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_17 0	Natural Feature	Palaeochannel	Uncertain			Earthwork							Environment Agency 1m (2007)	An area containing a number of former channels.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_17 1	Ridge and Furrow		Post Medieval			Earthwork							Environment Agency 1m (2007)	Traces of ridge and furrow visible as faint earthwork remains.	Low	Temple Sowerby to Appleby, Kirkby Thore and	A	Likely



																	Crackenthorpe		
4_5_17_2	Mound		Uncertain			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (19/7/2016)			Environment Agency 1m (2007)	An elongated mound of unknown function, possibly a spoil heap, is visible in the middle of field.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_17_3	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork		Google Earth (31/12/2004)	Google Earth (12/9/2009)				Environment Agency 1m (2013)	Remains of broad ridge and furrow, forming a block of wider remains around Crackenthorpe, to the E of the disused railway.	Medium	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_17_4	Boundary	Field Boundary	Post Medieval			Earthwork		Google Earth (12/9/2009)	Google Earth (20/9/2019)	Google Earth (19/7/2016)	Google Earth (31/12/2004)		Environment Agency 1m (2013)	A possible former field boundary at the bottom of a shallow valley.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_17_5	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (31/12/2004)						Narrow ridge and furrow are visible across several small, adjacent fields.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_17_6	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2009)	Broad ridge and furrow remains to the E of Far Broom	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_17_7	Boundary	Field Boundary	Post Medieval			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2009)	Former boundary visible as a bank.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No	
4_5_17_8	Boundary	Field Boundary	Post Medieval			Earthwork							Environment Agency 1m (2009)	Former boundary visible as a bank.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No	
4_5_17_9	Ridge and Furrow		Post Medieval			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2009)	Traces of ridge and furrow visible are visible across a number of adjacent fields.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_18_0	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2009)	A former channel visible as a sinuous feature.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely	
4_5_18_1	Extractive Pit		Uncertain			Earthwork							Environment Agency 1m (2009)	A large depression is visible to the Castrigg, possibly representing past quarrying activity.	Low	Temple Sowerby to Appleby, Kirkby Thore	A	Likely	







4_5_18_9	Bank (Earthwork)		Uncertain			Earthwork								Environment Agency 1m (2013)	A number of indistinct banks are visible immediately to the south of the Roman road and 70m south of a Roman fortlet. The features may be associated.	Medium	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_19_1	Bank (Earthwork)		Roman			Earthwork	Google Earth (19/7/2016)	Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (20/9/2019)				Environment Agency 1m (2013)	Slight banks forming a 'Y' shape. The northern section follows the line of a straight sided dyke immediately to the E. A fortlet lies close by and the feature may be related to this Roman activity.	Medium	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_19_2	Bank (Earthwork)		Uncertain			Earthwork	Google Earth (19/7/2016)	Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (20/9/2019)				Environment Agency 1m (2013)	A parallel bank and ditch sharing a similar alignment to other ephemeral earthworks 300m to the E.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_19_3	Mineral Extraction Site		Roman			Earthwork	Google Earth (19/7/2016)	Google Earth (31/12/2004)	Google Earth (12/9/2009)	Google Earth (20/9/2019)				Environment Agency 1m (2013)	An area displaying signs of past extractive activity.	Medium	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_19_4	Bank (Earthwork)		Uncertain			Earthwork	Google Earth (31/12/2004)							Environment Agency 1m (2013)	A straight section of bank, possibly a former boundary,	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_19_5	Ridge and Furrow		Post Medieval			Earthwork	Google Earth (31/12/2004)							Environment Agency 1m (2013)	Traces of ridge and furrow.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_19_6	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork	Google Earth (31/12/2004)								Traces of narrow ridge and furrow, cut by an apparently later ditch on a different alignment.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_19_7	Enclosure		Uncertain			Earthwork	Google Earth (19/7/2016)								A possible enclosure visible as a cropmark. There are hints of a bank in LiDAR data.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_19_8	Ridge and Furrow		Post Medieval			Earthwork								Environment Agency 1m (2013)	Faint ridge and furrow remains.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely



4_5_19_9	Ridge and Furrow		Post Medieval			Earthwork		Google Earth (31/12/2004)				Environment Agency 1m (2013)	Traces of ridge and furrow, visible as faint earthworks.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_20_0	Ridge and Furrow		Post Medieval			Earthwork		Google Earth (31/12/2004)				Environment Agency 1m (2013)	Faint ridge and furrow remains, visible across adjacent fields.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_20_1	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork						Environment Agency 1m (2013)	Well-defined narrow ridge and furrow is visible across a small field.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_20_2	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (31/12/2004)				Environment Agency 1m (2013)	Traces of narrow ridge and furrow.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_20_3	Enclosure	Square Enclosure	Uncertain	5933		Earthwork						Environment Agency 1m (2013)	A small square enclosure, covered by trees, is visible in LiDAR data as a bank.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	No
4_5_20_4	Bank (Earthwork)		20th century			Earthwork						Environment Agency 1m (2013)	A substantial bank is visible at the northern end of Fair Hill, possibly recent and related to its use during Appleby Horse Fair.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_20_5	Bank (Earthwork)		20th century			Earthwork						Environment Agency 1m (2013)	A number of poorly defined features are visible on Fair Hill, probably related to recent use as a fair ground.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_20_6	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork						Environment Agency 1m (2013)	Remains of a small parcel of ridge and furrow are visible between the Roman road and the A66.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_20_7	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork						Environment Agency 1m (2013)	Traces of narrow ridge and furrow are visible over a number of adjacent fields.	Low	Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_20_8	Extractive Pit		Uncertain			Earthwork						Environment Agency 1m (2013)	A small pit is visible within woodland in LiDAR data.	Low	Temple Sowerby to Appleby, Kirkby Thore and	A	Likely



4_5_20_9	Extractive Pit		Uncertain			Earthwork		Google Earth (19/7/2016)					Environment Agency 1m (2013)	A small circular depression is surrounded by a slight bank.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_21_0	Natural Feature	Palaeochannel	Uncertain			Earthwork		Google Earth (19/7/2016)					Environment Agency 1m (2013)	Channels are visible as wide, sinuous ditches.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_21_1	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork		Google Earth (31/12/2004)						Ploughed out narrow ridge and furrow in a field adjacent to the River Eden.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_21_2	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2009)	Faint traces of narrow ridge and furrow are visible across a field.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_21_3	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2013)	Faint earthworks representing ridge and furrow remains.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_21_4	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2013)	An area of indistinct banks, possibly the remains of ridge and furrow and former field boundaries. Possibly natural in part.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_21_5	Ridge and Furrow		Post Medieval			Earthwork							Environment Agency 1m (2013)	Faint traces of ridge and furrow, visible as indistinct earthworks.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_21_6	Ridge and Furrow		Post Medieval			Earthwork		Google Earth (31/12/2004)					Environment Agency 1m (2013)	Faint traces of ridge and furrow, visible as indistinct earthworks.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_21_7	Boundary	Field Boundary	Post Medieval			Earthwork		Google Earth (19/7/2016)					Environment Agency 1m (2013)	A former field boundary is visible as a straight bank.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore and Crackenthorpe	A	Likely
4_5_21_8	Natural Feature	Palaeochannel	Uncertain			Earthwork							Environment Agency 1m (2013)	Channel of the River Eden.	Low	Crackenthorpe Temple Sowerby to Appleby, Kirkby Thore	A	Likely





															located a small square stock enclosure (6_5) which may be Late IA to Early RB.				
6_2	Quarry	Sand Pit	Post Medieval			Earthwork							Environment Agency 1m (2018)	Visible as large depression, approximately 46 m across. Located to the north-west of the main quarry site. Not visible on historic mapping.	Low	Appleby to Brough (Warcop)	A	Likely	
6_3	Quarry	Sand Pit	Post Medieval	15875		Earthwork	Documentary Evidence						Environment Agency 1m (2018)	Visible as two deep and irregular depressions. Marked upon historic mapping as 'sand pit and 'gravel pit'. Known as the Espland Pits, Warcop.	Low	Appleby to Brough (Warcop)	A	No	
6_4	Earthwork	Linear Feature	Uncertain			Earthwork							Environment Agency 1m (2018)	Visible upon LiDAR imagery and upon Aerial Imagery (Google Earth) double linear bank features, running parallel to the road and aligned roughly east to west. Measuring confidently c.88 m and with less confidence c.126m. Character and date uncertain. May be a former trackway, or lynchet as they are located upon the gradient.	Low	Appleby to Brough (Warcop)	A	Likely	
6_5	Enclosure	Stock Enclosure	Uncertain			Earthwork		Google Earth (12/9/2009)					Environment Agency 1m (2018)	Previously unrecorded square/rectilinear enclosure. Located adjacent to Post-med Quarry (6_1) Date uncertain, may be Late IA / Early RB although equally may be PM.	Medium	Appleby to Brough (Warcop)	A	Likely	
6_6	Field System	Field Boundary	Post Medieval			Earthwork							Environment Agency 1m (2018)	Visible as a series of upstanding banks, coincide with former field system illustrated on 19th century historic mapping (Old Maps)	Low	Appleby to Brough (Warcop)	A	Likely	
6_7	Earthwork		Uncertain	6364		Earthwork	Documentary Evidence						Environment Agency 1m (2018)	The HER gives little information- this study noted two large mound-like forms approx. 35M in diameter although their function and character is uncertain- a third possible circular features was also noted on Google Earth 209 however this was considered too indistinct to include.	Low	Appleby to Brough (Warcop)	A	No	
6_8	Earthwork		Uncertain	6364		Earthwork	Documentary Evidence						Environment Agency 1m (2018)	The HER gives little information- this study noted two large mound-like forms approx. 35M in diameter although their function and character is uncertain- a third possible circular features was also noted on Google Earth 209 however this was	Low	Appleby to Brough (Warcop)	A	No	







6_25	Field System	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	North to south aligned field boundaries- features on the 1863 OS ed- Continuation of the field systems to the west.	Low	Appleby to Brough (Warcop)	A	No
6_26	Field System	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	North to south aligned field boundaries- features on the 1863 OS ed- Likely associated with the village of Flintholme including broad ridge and furrow. Remains of railway embankment to the north of the field.	Low	Appleby to Brough (Warcop)	A	No
6_27	Field System	Field Boundary	Medieval			Earthwork							Environment Agency 1m (2018)	North to south aligned field boundaries- features on the 1863 OS ed- Likely associated with the village of Flintholme. Remains of railway embankment to the south of the field.	Low	Appleby to Brough (Warcop)	A	No
6_28	Field System	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	North to south aligned field boundaries. Likely associated with the village of Flintholme. Remains of railway embankment to the south of the field.	Low	Appleby to Brough (Warcop)	A	Likely
6_29	Field System	Strip Field	Medieval			Earthwork							Environment Agency 1m (2018)	North to south aligned field boundaries and broad ridge and furrow. Features on First Ed OS mapping.	Low	Appleby to Brough (Warcop)	A	Likely
6_30	Earthwork	Boundary Bank	Uncertain			Earthwork							Environment Agency 1m (2018)	Hilltop encircled by deep bank and ditch. Feature most visible to the north of the hilltop. Possible secondary and outer bank to the far west. Possibly military- possibly repurposed?	Medium	Appleby to Brough (Warcop)	A	Possibly
6_31	Field System	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	18th-19th century enclosure containing ephemeral narrow ridge and furrow. Visible on First Ed OS mapping.	Low	Appleby to Brough (Warcop)	A	Likely
6_32	Field System	Broad Ridge and Furrow	Medieval			Earthwork	Cropmark						Environment Agency 1m (2018)	Med- Post-med field system with evidence for distinct broad ridge and furrow. To the north of this area, a winding ditch is visible- could be a natural channel although no existing water course is nearby.	Low	Appleby to Brough (Warcop)	A	Likely
6_33	Field System	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	Broad ridge and furrow and former field boundaries- very faint in LiDAR imagery.	Low	Appleby to Brough (Warcop)	A	Likely
6_34	Field System	Narrow Ridge and Furrow	Medieval			Earthwork	Cropmark						Environment Agency 1m (2018)	Narrow ridge and furrow- sharply defined in the LiDAR imagery.	Low	Appleby to Brough (Warcop)	A	Likely
6_35	Field System	Broad Ridge and Furrow	Medieval	15769		Earthwork	Cropmark						Environment Agency 1m (2018)	Narrow ridge and furrow- sharply defined in the LiDAR imagery and extending as far east as the railway line. The earthworks appear to be	Low	Appleby to Brough (Warcop)	A	No









6_68	Boundary	Field Boundary	Post Medieval			Earthwork						Environment Agency 1m (2018)	Former field boundaries visible as faint earthwork remains.	Low	Appleby to Brough (Warcop)	A	Likely
6_69	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork						Environment Agency 1m (2018)	Narrow ridge and furrow remains.	Low	Appleby to Brough (Warcop)	A	Likely
6_70	Field System	Field Boundary	Post Medieval			Earthwork		Google Earth (31/12/2003)				Environment Agency 1m (2018)	A series of former field boundaries visible as earthworks.	Low	Appleby to Brough (Warcop)	A	Likely
6_71	Natural Feature	Palaeochannel	Uncertain			Earthwork						Environment Agency 1m (2018)	Former channels associated with Lowgill Beck.	Low	Appleby to Brough (Warcop)	A	Likely
6_72	Natural Feature	Palaeochannel	Uncertain			Earthwork						Environment Agency 1m (2018)	Former channels associated with Lowgill Beck.	Low	Appleby to Brough (Warcop)	A	Likely
6_73	Extractive Pit		Uncertain			Earthwork						Environment Agency 1m (2018)	A small depression, probably on old quarry pit.	Low	Appleby to Brough (Warcop)	A	Likely
6_74	Boundary	Field Boundary	Post Medieval			Earthwork						Environment Agency 1m (2018)	A former field boundary is visible as a bank.	Low	Appleby to Brough (Warcop)	A	Likely
6_75	Road	Hollow Way	Post Medieval			Earthwork		Google Earth (20/9/2019)					A southern continuation of Musgravefell Lane, visible as a hollow way.	Low	Appleby to Brough (Warcop)	A	Likely
6_76	Boundary	Field Boundary	Post Medieval			Earthwork		Google Earth (20/9/2019)					A former field boundary is visible as a bank.	Low	Appleby to Brough (Warcop)	A	Likely
6_77	Extractive Pit	Gravel Pit	Post Medieval	15891		Earthwork								Low	Appleby to Brough (Warcop)	A	No
6_78	Settlement	Deserted Settlement	Medieval	6715									Warcop Medieval Village	Low	Appleby to Brough (Warcop)	A	No
6_79	Earthwork	Boundary Bank	Uncertain					Google Earth (13/01/21)					Short section of curving bank cut into the slope gradient possibly associated with activity at Castleber immediately north of the feature.	Low	Appleby to Brough (Warcop)	A	Likely
6_80	Dyke (Defence)	Linear Feature	Uncertain			Earthwork		Google Earth 13/01/21				Environment Agency 2m (2004)	Long cut dyke, sinuous in parts, not featured as watercourse on mapping. Nearby Farm named 'Dyke Nook Cottage', corresponds at the eastern end with the parish boundary (6_43).	Low	Appleby to Brough (Warcop)	A	Likely
6_81	Earthwork	Boundary Bank	Uncertain					Google Earth 13/01/21					Raised banks encircling a field and divided by north to south aligned former field boundaries. Possible association with medieval settlement at Langrigg or Flintholme to the west.	Low	Appleby to Brough (Warcop)	A	Likely
6_82	Earthwork	Hollow Way	Medieval					Google Earth 13/01/21					Raised banks associated with field boundaries containing faint ridge and furrow and a possible former hollow way.	Low	Appleby to Brough (Warcop)	A	Likely
6_83	Boundary	Field Boundary	Post Medieval			Earthwork						Environment Agency 2m (2004)	A former field boundary visible as a straight bank.	Low	Appleby to Brough (Warcop)	A	Likely
6_84	Road	Hollow Way	Uncertain			Earthwork						Environment Agency 2m (2004)	A hollow way of uncertain date.	Low	Appleby to Brough (Warcop)	A	Likely



6_85	Boundary	Field Boundary	Post Medieval			Earthwork							Environment Agency 2m (2004)	The remains of a former field boundary are visible as a 125m long bank.	Low	Appleby to Brough (Warcop)	A	Likely
6_86	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 2m (1999)	Traces of narrow ridge and furrow.	Low	Appleby to Brough (Warcop)	A	Likely
6_87	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 2m (2004)	Traces of narrow ridge and furrow. Some of the features may relate to more recent agricultural activity.	Low	Appleby to Brough (Warcop)	A	Likely
6_88	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 2m (2004)	A small parcel of narrow ridge and furrow, bound on the south by a headland visible as a slight bank.	Low	Appleby to Brough (Warcop)	A	Likely
6_89	Water Disposal Site	Drainage System	Early 20th century			Earthwork							Environment Agency 2m (2004)	Traces of a herringbone drainage system in woodland to the SW of Bale Hill.	Low	Appleby to Brough (Warcop)	A	Likely
6_90	Boundary	Field Boundary	Post Medieval			Earthwork							Environment Agency 2m (2013)	A former field boundary is visible as a bank.	Low	Appleby to Brough (Warcop)	A	Likely
6_91	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 2m (2014)	Traces of ridge and furrow, bound to the north by the remains of a former field boundary.	Low	Appleby to Brough (Warcop)	A	Likely
6_93	Barrow		Uncertain			Aerial Photo	OS/68224							Earthwork truncated by field boundary	High	Appleby to Brough (Warcop)	A	Likely
6_94	Natural Feature	Paleochannel	Palaeolithic			Aerial Photo	OS/96025							Natural depression in aerial photos	Low	Appleby to Brough (Warcop)	A	Likely
6_95	Barrow		Uncertain			Aerial Photo	RAF/58/2190							Close to identified barrow group	High	Appleby to Brough (Warcop)	A	Likely
7_1	Barrow	Bowl Barrow	Bronze Age	H2051		Earthwork							Environment Agency 1m (2018)		Medium	Bowes Bypass (A66/A67)	D	No
7_2	Barrow	Bowl Barrow	Bronze Age	H2049		Earthwork							Environment Agency 1m (2018)		Medium	Bowes Bypass (A66/A67)	D	No
7_3	Barrow	Bowl Barrow	Bronze Age	H2048		Earthwork							Environment Agency 1m (2018)		Medium	Bowes Bypass (A66/A67)	D	No
7_4	Barrow	Bowl Barrow	Bronze Age	H2050		Earthwork							Environment Agency 1m (2018)		Medium	Bowes Bypass (A66/A67)	D	No
7_5	Quarry	Limestone Quarry	Georgian	H3455		Documentary Evidence							Environment Agency 1m (2018)	Lime kiln and limestone quarry	Low	Bowes Bypass (A66/A67)	D	No
7_6	Fort	Auxiliary Fort	Roman	H2044	1002316	Earthwork	Excavated Feature	CKQ12-14	BB24-6; BFW87, BOL24-28	CAL30-33	DP1-3; F8-9 and N1	70H-E18-22	Environment Agency 1m (2018)		High	Bowes Bypass (A66/A67)	D	No
7_7	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)		Low	Bowes Bypass (A66/A67)	D	Likely
7_8	Agricultural Building	Sheep Fold	Post Medieval			Earthwork							Environment Agency 1m (2018)	Later than the ridge and furrow	Low	Bowes Bypass (A66/A67)	D	Likely
7_9	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)		Low	Bowes Bypass (A66/A67)	D	Likely
7_10	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)		Low	Bowes Bypass (A66/A67)	D	Likely



7_11	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_14	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_15	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	Within the central area are a number of buildings		Low	Bowes Bypass (A66/A67)	D	Likely
7_16	Agricultural Building	Sheep Fold	Post Medieval			Earthwork							Environment Agency 1m (2018)	Later than ridge and furrow		Low	Bowes Bypass (A66/A67)	D	Likely
7_17	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_18	Agricultural Building	Sheep Fold	Post Medieval			Earthwork							Environment Agency 1m (2018)	Later than ridge and furrow		Low	Bowes Bypass (A66/A67)	D	Likely
7_19	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_20	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_22	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_26	Archaeological Feature	Linear Feature	Post Medieval			Earthwork							Environment Agency 1m (2018)	Tree throw into the centre?		Low	Bowes Bypass (A66/A67)	D	Likely
7_28	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	Trackway running through southern half, west-east		Low	Bowes Bypass (A66/A67)	D	Likely
7_30	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_31	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_33	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_34	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_36	Agricultural Building	Sheep Fold	Post Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_37	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_38	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_39	Ridge and Furrow	Broad Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_40	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_41	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely



7_43	Natural Feature	Palaeochannel	Uncertain			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_44	Stone Quarry	Sandstone Quarry	Post Medieval	H6365		Earthwork							Environment Agency 1m (2018)	Incorporates area identified as reservoir and suspected Roman road (although not visible on Google Earth imagery)		Low	Bowes Bypass (A66/A67)	D	No
7_45	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_46	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_49	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	Ridge and furrow and incorporates a historic trackway running north-east to south-west across the field system		Low	Bowes Bypass (A66/A67)	D	Likely
7_50	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_51	Field System	Coaxial Field System	Medieval			Earthwork	Cropmark	CLB20					Environment Agency 1m (2018)	Aerial photography is looking NE towards Barnard Castle. Trackway runs north-east to south-west across the western half of the area. Incorporates both broad and narrow ridge and furrow		Low	Bowes Bypass (A66/A67)	D	Likely
7_53	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_54	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Low	Bowes Bypass (A66/A67)	D	Likely
7_55	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	Incorporates a mixture of medieval and post-medieval field boundaries		Low	Bowes Bypass (A66/A67)	D	Likely
7_56	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	Incorporates a mixture of medieval and post-medieval field systems		Low	Bowes Bypass (A66/A67)	D	Likely
7_57	Castle	Tower Keep	Medieval	H2044	1002316	Earthwork	Excavated Feature	CKQ12-4	BB24-6; BFW87; BOL24-8	CAL30-3; DP1-3	F8-9; N1	70H-E18-22	Environment Agency 1m (2018)			High	Bowes Bypass (A66/A67)	D	No
7_58	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)	A number of blocks of narrow ridge and furrow		Low	Bowes Bypass (A66/A67)	D	Likely
7_59	Settlement	Shrunken Village	Uncertain			Earthwork							Environment Agency 1m (2018)	Earthworks suggestive of shrunken settlement remains at the western end of Bowes		Medium	Bowes Bypass (A66/A67)	D	Likely
7_60	Road	Hollow Way	Post Medieval			Earthwork		Google Earth (27/6/2018)	Google Earth (1/1/1945)				Environment Agency 1m (2018)	A hollow way leading from a former mill on the River Greta towards the centre of Bowes is visible as a ditch feature		Low	Bowes Bypass (A66/A67)	D	Likely
7_61	Mineral Extraction Site		Post Medieval	2970515		Earthwork							Environment Agency 1m (2018)	Hulands Quarry, in use and dating from at least the 19th century		Low	Bowes Bypass (A66/A67)	D	No
7_62	Railway		Victorian	2305183		Earthwork							Environment Agency 1m (2018)	A section of the disused Darlington-Tebay railway		Medium	Bowes Bypass (A66/A67)	D	No
7_63	Road		Roman	H67542										follows route of A67		High	Bowes Bypass (A66/A67)	D	No



7_64	Road		Roman	H3703		Excavation									Runs into area with no LiDAR coverage	Medium	Bowes Bypass (A66/A67)	D	No
7_65	Road	Trackway	Post Medieval			Earthwork										Low	Bowes Bypass (A66/A67)	D	Likely
7_66	Road	Trackway	Post Medieval			Earthwork										Low	Bowes Bypass (A66/A67)	D	Likely
7_67	Barrow	Bowl Barrow	Prehistoric			Aerial Photo	RAF/106G/UK/1700								Possible group of Prehistoric Barrows or natural features	High	Bowes Bypass (A66/A67)	D	Likely
7_69	Boundary	Field Boundary	Uncertain			Aerial Photo	NY9913/1								Earthwork and cropmarks beside the field boundary	High	Bowes Bypass (A66/A67)	D	Likely
7_70	Field System		Uncertain			Aerial Photo	NY9913/23-26								Cropmarks of field systems	Low	Bowes Bypass (A66/A67)	D	Likely
7_71	Ridge and Furrow	Ridge and Furrow	Medieval			Aerial Photo	NMR28636/03								Earthworks of ridge and furrow	Low	Bowes Bypass (A66/A67)	D	Likely
7_72	Building Platform		Uncertain			Aerial Photo	NY9913/37								Earthworks of building platform associated with farm	Low	Bowes Bypass (A66/A67)	D	Likely
7_73	Earthwork		Uncertain			Aerial Photo	NY9914/1								Rectilinear cropmark	Low	Bowes Bypass (A66/A67)	D	Likely
7_74	Field System		Uncertain			Aerial Photo	NY9913/23-26								Cropmarks of field systems	Low	Bowes Bypass (A66/A67)	D	Likely
7_76	Enclosure		Romano-British			Aerial Photo	OS/72346								Cropmarks and earthworks of possible roman military camp	High	Bowes Bypass (A66/A67)	D	Likely
7_77	Ridge and Furrow	Ridge and Furrow	Medieval			Aerial Photo	NMR28636/03								Earthworks of ridge and furrow	High	Bowes Bypass (A66/A67)	D	Likely
8_1	Path	Footpath	Victorian			Earthwork							Environment Agency 1m (2018)	1856-1857 1:10560 Ordnance Survey		Low	Cross Lanes to Great Bridge (Rokeby)	D	No
8_2	Ridge And Furrow	Broad Ridge and Furrow	Medieval	3055284		Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	No
8_3	Ridge And Furrow	Broad Ridge and Furrow	Medieval	3055284		Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	No
8_4	Enclosure	Ring Ditch	Prehistoric			Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_5	Ridge And Furrow	Broad Ridge and Furrow	Medieval	3055284		Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	No
8_6	Ridge And Furrow	Broad Ridge and Furrow	Medieval	3055284		Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	No
8_7	Ridge And Furrow	Broad Ridge and Furrow	Medieval			Earthwork	Cropmark						Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely



8_8	Water Regulation Installation	Drainage System	Uncertain			Earthwork	Cropmark	Google Earth imagery 12/2002				Environment Agency 1m (2018)		A drainage system within a field, visible as a series of ditches in a herringbone pattern	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_13	Ridge and Furrow	Broad Ridge and Furrow	Medieval	3055284		Earthwork	Cropmark	Google Earth imagery 5/2016				Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	No
8_14	Extractive Pit	Marl Pit	Uncertain			Earthwork						Environment Agency 1m (2018)			Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_15	Extractive Pit	Marl Pit	Uncertain			Earthwork						Environment Agency 1m (2018)			Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_16	Boundary	Field Boundary	Early 20th century			Earthwork	Physical Evidence					Environment Agency 1m (2018)	1854 1:10560 Ordnance Survey map	Shown from 1854 until 1912 as a field boundary or 'Riser'	Low	Cross Lanes to Great Bridge (Rokeby)	D	No
8_17	Ridge and Furrow	Narrow Ridge and Furrow	Medieval			Earthwork	Cropmark	Google Earth Imagery 12/2001				Environment Agency 1m (2018)		Very clear on the 2001 google earth image but shown on none of the later images	Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_18		Hollow	Uncertain			Earthwork	Physical Evidence					Environment Agency 1m (2018)		Undetermined function or significance	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_19	Feature	Palaeochannel	Uncertain			Earthwork	Physical Evidence	Google Earth Imagery, 12/1945 and 6/2018				Environment Agency 1m (2018)	1854 1:10560 Ordnance Survey map	Undetermined function or significance. visible on the 1854, 1895 and 1920 OS maps.	Low	Cross Lanes to Great Bridge (Rokeby)	D	No
8_20	Enclosure	Rectangular Enclosure	Uncertain			Earthwork						Environment Agency 1m (2018)		Three-sided rectangular enclosure	Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_21	Ridge And Furrow	Narrow Ridge and Furrow	Medieval	2307050		Earthwork						Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	No
8_22	Ridge And Furrow	Broad Ridge and Furrow	Medieval			Earthwork						Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_24	Ditch	Boundary Ditch	Uncertain			Earthwork						Environment Agency 1m (2018)		Uncertain age but is not shown on any historic mapping from 1840 to present day so unlikely to be a former field boundary.	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_25	Ridge And Furrow	Broad Ridge and Furrow	Medieval			Earthwork						Environment Agency 1m (2018)		Possible area of R&F but difficult to make out on the 1 metre LiDAR	Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_26	Ditch	Boundary Ditch	Uncertain			Earthwork						Environment Agency 1m (2018)		Possible rectangular enclosure. The ditches are faint on the west and south side. Does not appear on any historical mapping	Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_27	Ridge And Furrow	Broad Ridge and Furrow	Medieval			Earthwork						Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely





8_28	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)		Area of ridge and furrow with defined earth embankments.	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_29	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_30	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_31	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_32	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_33	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_34	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_35	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)			Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_36	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork					Google Earth (11/9/2007)		Environment Agency 1m (2018)			Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_37	Settlement	Vicus	Roman	2302301		Earthwork							Environment Agency 1m (2018)		Subtle traces of the Vicus associated with the Roman Fort visible on the LiDAR image including what may be house plots and former roads.	High	Cross Lanes to Great Bridge (Rokeby)	D	No
8_38	Settlement	Vicus	Roman	2302301		Earthwork							Environment Agency 1m (2018)		Further possible evidence of the Roman Vicus associated with the Roman fort.	High	Cross Lanes to Great Bridge (Rokeby)	D	No
8_39	Land Use Site	Cultivation Terrace	Roman			Earthwork							Environment Agency 1m (2018)	Google earth Imagery and historic mapping from 1850s	Possible cultivation terrace associated with the Roman Fort which ran against the slope. Could also be ridge and furrow of later date.	High	Cross Lanes to Great Bridge (Rokeby)	D	No
8_40	Fort	Auxiliary Fort	Roman	2302633	1019074	Earthwork		CUCAP AQQ22	CUCAP AQQ20	CUCAP AQQ21			Environment Agency 1m (2018)	Google earth Imagery and historic mapping from 1850s	Roman Auxiliary Fort which was designated a scheduled monument in 1929. Remains are believed to exist below ground to the north and south along with the Roman road that linked the Fort to the main Roman road to the north. Inner and outer fort ramparts visible as earthworks.	High	Cross Lanes to Great Bridge (Rokeby)	D	No



8_45	Earthwork	Linear Feature	Uncertain	2302633	101907 4	Earthwork		CUCAP AQQ22	CUCAP AQQ20	CUCAP AQQ21			Environment Agency 1m (2018)	Google Earth Imagery 9/2007	bank located within the main fort area. Function and date remains uncertain. Could be related to the Fort or of later origins.	High	Cross Lanes to Great Bridge (Rokeby)	D	No
8_46	Ditch	Ring Ditch	Uncertain	2302633	101907 4	Earthwork		CUCAP AQQ22	CUCAP AQQ20	CUCAP AQQ21			Environment Agency 1m (2018)	Google Earth Imagery 9/2007	small crescent ditch located within the main fort area. Function and date remains uncertain but either relates to the fort or a later use for the area.	High	Cross Lanes to Great Bridge (Rokeby)	D	No
8_47	Earthwork		Uncertain			Earthwork							Environment Agency 1m (2018)		Bank of uncertain function or origin. Does not correlate to any known field boundaries	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_48	Ditch	Segmented Ditch	Uncertain			Earthwork							Environment Agency 1m (2018)		circular segmented ditch with a linear bank at its northern end. It may for a crescent shape but difficult to identify.	Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_49	Earthwork	Linear Feature	Uncertain			Earthwork							Environment Agency 1m (2018)		Small are of a bank that may continue further to the north and northeast but difficult to make out. Associated with the segmented ditch to the south to form a circular/crescent shape	Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_50	Earthwork	Linear Feature	Uncertain			Earthwork							Environment Agency 1m (2018)		Linear feature present within the parkland.	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_51	Ditch	Segmented Ditch	Uncertain			Earthwork							Environment Agency 1m (2018)		Section of a liner feature that is cut by medieval ridge and furrow	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_52	Earthwork	Linear Feature	Uncertain		100073 3	Earthwork							Environment Agency 1m (2018)		Several earthworks are present to the southwest of the remains of St Michael's Church. Could be related to the medieval church and former medieval manor or be evidence of the post-medieval use of the parkland	Medium	Cross Lanes to Great Bridge (Rokeby)	D	No
8_60	Mound		Uncertain		100073 3	Earthwork							Environment Agency 1m (2018)		Two mounds present in an area of possible medieval and later activity. Function unknown.	Low	Cross Lanes to Great Bridge (Rokeby)	D	No
8_61	Mound		Uncertain			Earthwork							Environment Agency 1m (2018)		Two mounds present in an area of possible medieval and later activity. Function unknown.	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_62	Field System		Medieval			Earthwork							Environment Agency 1m (2018)	1895 Ordnance Survey map	Area of medieval ridge and furrow with a series of linear features that may relate to the field system or part of the parkland.	Medium	Cross Lanes to Great Bridge (Rokeby)	D	No
8_63	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork							Environment Agency 1m (2018)		Ridge and Furrow	Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely



8_64	Enclosure	Rectangular Enclosure	Uncertain			Earthwork							Environment Agency 1m (2018)		Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely	
8_65	Boundary	Field Boundary	Victorian			Earthwork							Environment Agency 1m (2018)	1895 Ordnance Survey map	Low	Cross Lanes to Great Bridge (Rokeby)	D	No	
8_66	Field System	Open Field	Medieval			Earthwork							Environment Agency 1m (2018)	Google Earth Imagery 6/2009	Medium	open field system likely to be of medieval date associated with St Michael's Church. visible on google earth imagery from 2009	Cross Lanes to Great Bridge (Rokeby)	D	No
8_67	Enclosure	Rectangular Enclosure	Uncertain			Earthwork							Environment Agency 1m (2018)		Low	rectangular enclosure set within a field system. not shown on any historical mapping.	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_68	Settlement	Vicus	Roman	2302301		Earthwork							Environment Agency 1m (2018)	Google Earth imagery 6/2018	High	further section of the Roman Vicus	Cross Lanes to Great Bridge (Rokeby)	D	No
8_69	Ridge And Furrow	Broad Ridge and Furrow	Medieval			Earthwork						Google Earth (1/1/2002)	Environment Agency 1m (2018)		Low	A block of possible ridge and furrow remains	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_70	Enclosure	Rectangular Enclosure	Uncertain			Earthwork						Google Earth (1/1/2002)	Environment Agency 1m (2018)		Low	A small enclosure, possibly a sheep fold	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_71	Field System		Post Medieval			Earthwork						Google Earth (9/5/2016)	Environment Agency 1m (2018)		Low	A series of former boundary, probably formed from open field headlands are visible in a field containing broad ridge and furrow remains	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_72	Road	Hollow Way	Post Medieval			Earthwork						Google Earth (9/5/2016)	Environment Agency 1m (2018)		Medium	A hollow way, marked as a path on mapping, is visible leading to Rokeby Grange. The remains are particularly visible at the western end as a deep ditch-like feature. The hollow way could have medieval origins.	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_73	Settlement	Shrunken Village	Uncertain			Earthwork						Google Earth (9/5/2016)	Environment Agency 1m (2018)		Medium	Possible former buildings/settlement remains visible as vague platforms/banks	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_74	Ridge And Furrow	Broad Ridge and Furrow	Medieval			Earthwork						Google Earth (11/9/2007)	Environment Agency 1m (2018)		Medium	Remains of ridge and furrow within an open field system likely to be of medieval	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_75	Ridge And Furrow	Broad Ridge and Furrow	Medieval			Earthwork						Google Earth (11/9/2007)	Environment Agency 1m (2018)		Medium	Clear ridge and furrow remains within a wider open field system	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_76	Ridge And Furrow	Broad Ridge and Furrow	Medieval			Earthwork						Google Earth (11/9/2007)	Environment Agency 1m (2018)		Medium	Clear ridge and furrow remains within a wider open field system	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_77	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork						Google Earth (11/9/2007)	Environment Agency 1m (2018)		Medium	Clear ridge and furrow remains within a wider open field system	Cross Lanes to Great Bridge (Rokeby)	D	Likely



8_78	Fort	Temporary Camp	Roman	3021377	Earthwork							Environment Agency 1m (2018)	Recorded Roman temporary camp by the HER. The northern limits of the camp have been lost and the western boundary is difficult to identify. It is also possible that the boundaries identified could relate to the medieval use of the area. Areas of the tituli and titulus (outer earthworks) may exist to the south but also difficult to identify on the LiDAR. There is no indication that the camp matched the shape or size of the polygon used by the HER	Medium	Cross Lanes to Great Bridge (Rokeby)	D	No
8_79	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval		Aerial Photo	OS/85103							Earthworks – Ridge and Furrow	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_80	Natural Feature	Paleochannel	Palaeolithic		Aerial Photo	OS/85103							Natural depression	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_81	Natural Feature	Paleochannel	Palaeolithic		Aerial Photo	RAF/106G/LA/127							Natural depression	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_82	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval		Aerial Photo	OS/85103							Earthworks – Ridge and Furrow	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_83	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval		Aerial Photo	OS/85103							Earthworks – Ridge and Furrow	Medium	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_84	Ridge and Furrow	Narrow Ridge and Furrow	Post Medieval		Aerial Photo	OS/85103							Earthworks – Ridge and Furrow	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
8_85	Earthwork		Uncertain		Aerial Photo	OS 85103							Linear Earthwork possibly associated with Ridge and Furrow	Low	Cross Lanes to Great Bridge (Rokeby)	D	Likely
9_1	Mineral Extraction Site		Uncertain		Earthwork	Cropmark	Google Earth 2002					Environment Agency 1m (2018)	Features representing a possible quarry.	Low	Stephen Bank to Carkin Moor	C	Likely
9_2	Feature		Uncertain		Cropmark		CAL34 (CUCAP)					Environment Agency 1m (2018)	Cropmarks identified on the AP. Bounded to the north by a former field boundary.	Low	Stephen Bank to Carkin Moor	C	Likely
9_3	Road		Roman	2301360,2301360	Cropmark		AQA24 (CUCAP)	MO32 (CUCAP)	JX90 (CUCAP)	Google Earth 2018		Environment Agency 1m (2018)	1857 1:10,560 OS County Series	Medium	Stephen Bank to Carkin Moor	C	No
9_4	Earthwork		Uncertain		Earthwork	Cropmark	Google Earth 2016					Environment Agency 1m (2018)	Cropmark, possibly geological in nature	Low	Stephen Bank to Carkin Moor	C	Likely
9_5	Quarry	Limestone Quarry	Post Medieval	ENY6849, 2871887	Earthwork							Environment Agency 1m (2018)	Seen on 1857 OS County Series	Low	Stephen Bank to Carkin Moor	C	No



9_6	Rectilinear Enclosure	Rectangular Enclosure	Uncertain			Earthwork	Cropmark	Google Earth 2018					Environment Agency 1m (2018)		Northern border is formed of a former field boundary	Low	Stephen Bank to Carkin Moor	C	Likely
9_7	Boundary	Field Boundary	Post Medieval			Earthwork							Environment Agency 1m (2018)	Seen on 1857 OS County Series	Former field boundary	Low	Stephen Bank to Carkin Moor	C	No
9_8	Feature	Linear Feature	Uncertain			Cropmark		Google Earth 2016	Google Earth (11/5/2009)	DP12 (CUCAP)			Environment Agency 1m (2018)		Linear cropmark	Low	Stephen Bank to Carkin Moor	C	Likely
9_9	Quarry		Post Medieval			Earthwork							Environment Agency 1m (2018)	1857 1:10,560 OS County Series		Low	Stephen Bank to Carkin Moor	C	No
9_10	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork	Cropmark	Google Earth 2016					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_11	Quarry	Limestone Quarry	Post Medieval	14881		Earthwork	Documentary Evidence						Environment Agency 1m (2018)	Seen on 1857 OS County Series		Low	Stephen Bank to Carkin Moor	C	No
9_12	Ridge And Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork	Cropmark	Google Earth 2007					Environment Agency 1m (2018)			Medium	Stephen Bank to Carkin Moor	C	Likely
9_13	Enclosure		Uncertain			Cropmark		XA31 (CUCAP)					Environment Agency 1m (2018)		Marked as enclosure in AP	Low	Stephen Bank to Carkin Moor	C	Likely
9_14	Boundary	Field Boundary	Post Medieval			Cropmark		Google Earth 2016					Environment Agency 1m (2018)	1953 OS Map		Low	Stephen Bank to Carkin Moor	C	No
9_15	Ridge And Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork	Cropmark						Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_16	Rectilinear Enclosure	Rectangular Enclosure	Uncertain			Earthwork	Cropmark						Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_17	Boundary	Field Boundary	Post Medieval			Cropmark	Earthwork	Google Earth 2016					Environment Agency 1m (2018)		Former field boundaries	Low	Stephen Bank to Carkin Moor	C	Likely
9_18	Ridge And Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork	Cropmark	Google Earth 2007					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_19	Ridge And Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork	Cropmark						Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_20	Natural Feature	Palaeochannel	Uncertain			Cropmark	Earthwork	Google Earth 2018					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_21	Quarry	Limestone Quarry	Post Medieval			Earthwork	Cropmark						Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_22	Boundary	Field Boundary	Post Medieval			Documentary Evidence							Environment Agency 1m (2018)	1857 1:10,560 OS County Series		Low	Stephen Bank to Carkin Moor	C	No
9_23	Quarry	Limestone Quarry	Post Medieval			Earthwork	Cropmark						Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_24	Boundary	Field Boundary	Post Medieval			Documentary Evidence							Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_25	Natural Feature	Palaeochannel	Uncertain			Cropmark	Earthwork	Google Earth 2018					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely



9_26	Ridge And Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork	Cropmark						Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_27	Ridge And Furrow	Narrow Ridge and Furrow	Medieval			Earthwork	Cropmark	Google Earth 2009					Environment Agency 1m (2018)		A large area containing curved earthworks representing ridge and furrow remains	Medium	Stephen Bank to Carkin Moor	C	Likely
9_28	Boundary	Field Boundary	Post Medieval			Cropmark		Google Earth 2009					Environment Agency 1m (2018)	1857 1:10,560 OS County Series		Low	Stephen Bank to Carkin Moor	C	No
9_29	Mound		Uncertain			Earthwork	Cropmark	Google Earth 2018					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_30	Boundary	Field Boundary	Uncertain			Cropmark	Earthwork	Google Earth 2009					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_31	Boundary	Field Boundary	Post Medieval			Cropmark	Documentary Evidence	Google Earth 2016					Environment Agency 1m (2018)	1857 1:10,560 OS County Series		Low	Stephen Bank to Carkin Moor	C	No
9_32	Boundary	Field Boundary	Post Medieval			Cropmark	Documentary Evidence	Google Earth 2016					Environment Agency 1m (2018)	1857 1:10,560 OS County Series		Low	Stephen Bank to Carkin Moor	C	No
9_33	Natural Feature	Geological Marks	Uncertain			Earthwork							Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_34	Bank (Earthwork)		Uncertain			Earthwork	Cropmark	Google Earth 2016	Google Earth (2/7/2009)				Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_36	Boundary	Field Boundary	Post Medieval			Cropmark		Google Earth 2016					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_37	Boundary	Field Boundary	Post Medieval			Cropmark		Google Earth 2016					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_38	Boundary	Field Boundary	Post Medieval			Cropmark		Google Earth 2016					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_39	Feature	Linear Feature	Uncertain			Cropmark		Google Earth 2009					Environment Agency 1m (2018)		Cropmark	Low	Stephen Bank to Carkin Moor	C	Likely
9_40	Ridge And Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork	Cropmark	Google Earth 2016					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_41	Boundary	Field Boundary	Post Medieval			Cropmark		Google Earth 2009					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_42	Sign	Milestone	Post Medieval	38821		Documentary Evidence	Documentary Evidence						Environment Agency 1m (2018)	1857 1:10,560 OS County Series		Low	Stephen Bank to Carkin Moor	C	No
9_43	Natural Feature	Geological Marks	Uncertain			Cropmark	Earthwork	Google Earth 2016					Environment Agency 1m (2018)		Seen as cropmark	Low	Stephen Bank to Carkin Moor	C	Likely
9_44	Earthwork	Circular Platform	Uncertain			Cropmark	Earthwork	Google Earth 2009					Environment Agency 1m (2018)		Annular cropmarks, possible ring ditches	Low	Stephen Bank to Carkin Moor	C	Likely
9_45	Enclosure	Circular Enclosure	Uncertain			Cropmark	Earthwork	Google Earth 2006					Environment Agency 1m (2018)		Circular cropmarks, some possibly geological. One cropmark, lying adjacent	Medium	Stephen Bank to Carkin Moor	C	Likely





9_66	Boundary	Field Boundary	Post Medieval			Cropmark	Documentary Evidence	Google Earth 2006					Environment Agency 1m (2018)	1899 OS County Series		Low	Stephen Bank to Carkin Moor	C	No
9_67	Boundary	Field Boundary	Uncertain			Cropmark	Earthwork	Google Earth 2007					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_68	Sign	Milestone	Post Medieval	38820		Documentary Evidence							Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	No
9_69	Enclosure	Tree Enclosure Ring	Uncertain			Earthwork	Cropmark	Google Earth 2016					Environment Agency 1m (2018)		Cropmark, possible tree ring	Medium	Stephen Bank to Carkin Moor	C	Likely
9_70	Mound		Uncertain			Cropmark	Earthwork	Google Earth 2006					Environment Agency 1m (2018)			Medium	Stephen Bank to Carkin Moor	C	Likely
9_71	Ridge And Furrow	Narrow Ridge and Furrow	Post Medieval			Earthwork							Environment Agency 1m (2018)		Narrow ridge and furrow	Low	Stephen Bank to Carkin Moor	C	Likely
9_72	Ridge And Furrow		Post Medieval			Earthwork	Cropmark	Google Earth (11/9/2007)					Environment Agency 1m (2018)		Traces of ridge and furrow	Low	Stephen Bank to Carkin Moor	C	Likely
9_73	Lynchet	Strip Lynchet	Medieval			Earthwork		Google Earth (11/9/2007)					Environment Agency 1m (2018)		A series of banks on a steep area of hillshade. Possibly lynchets, or broad ridge and furrow. A possible enclosure (the feature may relate to quarrying) can be seen in the SE corner of the field.	Low	Stephen Bank to Carkin Moor	C	Likely
9_74	Ridge And Furrow	Narrow Ridge and Furrow	Post Medieval			Cropmark		Google Earth (11/9/2007)					Environment Agency 1m (2018)		Narrow ridge and furrow remains	Low	Stephen Bank to Carkin Moor	C	Likely
9_75	Road	Hollow Way	Post Medieval			Cropmark		Google Earth (11/9/2007)					Environment Agency 1m (2018)		A hollow way representing a track on historic mapping, running between the Roman road and Browson Bank	Low	Stephen Bank to Carkin Moor	C	No
9_76	Ridge And Furrow	Narrow Ridge and Furrow				Cropmark		Google Earth (31/12/2002)					Environment Agency 1m (2018)			Low	Stephen Bank to Carkin Moor	C	Likely
9_77	Ridge And Furrow	Narrow Ridge and Furrow	Post Medieval			Cropmark		Google Earth (2/7/2009)					Environment Agency 1m (2018)		Small block of ridge and furrow visible on AP	Low	Stephen Bank to Carkin Moor	C	Likely
9_78	Ridge And Furrow		Post Medieval			Earthwork							Environment Agency 1m (2018)		Earthworks, possibly the remains of a small block of possible ridge and furrow	Low	Stephen Bank to Carkin Moor	C	Likely
9_79	Enclosure		Uncertain			Earthwork							Environment Agency 1m (2018)		A small, banked enclosure around a tree, possibly modern	Low	Stephen Bank to Carkin Moor	C	Likely
9_80	Water Regulation Installation	Drainage System	Post Medieval			Cropmark		Google Earth 2018					Environment Agency 1m (2018)		Cropmarks of drains visible across four fields	Low	Stephen Bank to Carkin Moor	C	Likely
9_81	Ridge And Furrow	Narrow Ridge and Furrow	Post Medieval			Cropmark		Google Earth 2006	Google Earth 2009				Environment Agency 1m (2018)		Traces of ridge and furrow remains	Low	Stephen Bank to Carkin Moor	C	Likely
9_82	Trench		Uncertain			Earthwork							Environment Agency 1m (2018)		An unmapped but apparently modern rectangular trench-like structure in a field.	Low	Stephen Bank to Carkin Moor	C	Likely
9_83	Managed Woodland		Post Medieval			Earthwork							Environment Agency 1m (2018)		Features relating to woodland management within Street Plantation. A mound, possibly natural, is visible towards the	Low	Stephen Bank to Carkin Moor	C	Likely





															southern end of the plantation.				
9_84	Enclosure	Rectangular Enclosure	Early Iron Age	32518		Documentary Evidence	Cropmark									Low	Stephen Bank to Carkin Moor	C	No
9_85	Mound		Bronze Age			Earthwork	Cropmark	Google Earth 2016					Environment Agency 1m (2018)		Circular cropmark	Low	Stephen Bank to Carkin Moor	C	Likely
9_86	Mound		Bronze Age			Aerial Photo	RAF/106G/UK/1170								Circular cropmark	High	Stephen Bank to Carkin Moor	C	Likely
9_87	Boundary		Uncertain			Aerial Photo	RAF/541/118	OS/73422							Possible boundary as result of opening enclosed fields in 20 <sup>th</sup> century	Low	Stephen Bank to Carkin Moor	C	Likely
9_89	Boundary		Uncertain			Aerial Photo	RAF/541/118	OS/73422							Possible boundary as result of opening enclosed fields in 20 <sup>th</sup> century	Low	Stephen Bank to Carkin Moor	C	Likely
9_90	Boundary		Uncertain			Aerial Photo	RAF/541/118	OS/73422							Possible boundary as result of opening enclosed fields in 20 <sup>th</sup> century	Low	Stephen Bank to Carkin Moor	C	Likely
11_1	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2018)		Possible trackway running NW-SE in middle of an enclosed field	Low	A1(M) J53 Scotch Corner Junction	C	Likely
11_2	Earthwork		Medieval			Earthwork	Documentary Evidence						Environment Agency 1m (2018)		Ridge and Furrow earthworks. Earthworks also potentially part of an Iron Age or Romano-British settlement (MNY39268). It appears to have been cut by a later pond.	Medium	A1(M) J53 Scotch Corner Junction	C	Likely
11_5	Earthwork		Uncertain			Earthwork							Environment Agency 1m (2018)		Possible Ridge and Furrow earthworks running E-W	Low	A1(M) J53 Scotch Corner Junction	C	Likely
11_7	Earthwork		Post Medieval			Earthwork							Environment Agency 1m (2018)		Ridge and Furrow earthworks running on a NE-SW alignment	Low	A1(M) J53 Scotch Corner Junction	C	Likely
11_9	Bank (Earthwork)		Uncertain			Earthwork							Environment Agency 1m (2018)		Possible earthwork bank within field enclosure	Low	A1(M) J53 Scotch Corner Junction	C	Likely
11_10	Earthwork		Uncertain			Earthwork							Environment Agency 1m (2018)		Possible ridge and furrow earthworks running along a E-W alignment. May extend further south.	Low	A1(M) J53 Scotch Corner Junction	C	Likely
11_11	Earthwork		Uncertain			Earthwork	Documentary Evidence						Environment Agency 1m (2018)		Sub-rectangular enclosure and depression in SW corner of field enclosure. The depression may be a former pond.	Medium	A1(M) J53 Scotch Corner Junction	C	Likely
11_12	Earthwork		Uncertain			Earthwork							Environment Agency 1m (2018)		Possible earthworks within Crookacre Plantation.	Low	A1(M) J53 Scotch Corner Junction	C	Likely
11_13	Earthwork		Uncertain			Earthwork							Environment Agency 1m (2018)		Sub-rectangular linear enclosures. Appear very similar to enclosures in (11_14). They may be drainage related.	Low	A1(M) J53 Scotch Corner Junction	C	Likely
11_14	Earthwork		Uncertain			Earthwork							Environment Agency 1m (2018)		Sub-rectangular enclosures. Possibly a continuation of those identified in (11_13). They may be drainage related.	Low	A1(M) J53 Scotch Corner Junction	C	Likely

11_15	Earthwork		Uncertain			Earthwork						Environment Agency 1m (2018)	Possible ridge and furrow earthworks running on a E-W alignment	Low	A1(M) J53 Scotch Corner Junction	C	Likely
11_16	Earthwork		Uncertain			Earthwork	Documentary Evidence					Environment Agency 1m (2018)	Sub-rectangular earthwork. Sits within MNY36301. Identified in HER as part of Iron Age-Romano-British settlement. Cut by a recent pond.	Medium	A1(M) J53 Scotch Corner Junction	C	Possibly
11_17	Mound		Uncertain	12587		Earthwork	Documentary Evidence					Environment Agency 1m (2018)	An oval shaped mound that has been variously referred to as a Bronze Age barrow (Violet Grange Barrow) or medieval motte.	High	A1(M) J53 Scotch Corner Junction	C	No

## Appendix 2 Aerial Photographs Availability

### Britain From Above

BfA ref	Title	Date	Place	Easting	Northing	Scheme	Available
EAW009276	[EAW009276] Brougham Castle, Brougham, 1947. This image has been produced from a print.	11-Aug-47	BROUGHAM	353686	528989	3	Yes
EAW014523	[EAW014523] Brougham Castle and Brougham Castle Bridge, Brougham, 1948	14-Apr-48	BROUGHAM	353770	529037	3	Yes
EAW014522	[EAW014522] Brougham Castle, Brougham, 1948	14-Apr-48	BROUGHAM	353709	529034	3	Yes
EAW009280	[EAW009280] Brougham Castle, Brougham, 1947. This image has been produced from a print.	11-Aug-47	BROUGHAM	353708	529015	3	Yes
EAW009279	[EAW009279] Brougham Castle, Brougham, 1947. This image has been produced from a print.	11-Aug-47	BROUGHAM	353734	528998	3	Yes
EAW009281	[EAW009281] Brougham Castle, Brougham, 1947	11-Aug-47	BROUGHAM	353724	528989	3	Yes
EAW009278	[EAW009278] Brougham Castle, Brougham, 1947. This image has been produced from a print.	11-Aug-47	BROUGHAM	353726	528986	3	Yes
EAW009277	[EAW009277] Brougham Castle, Brougham, 1947	11-Aug-47	BROUGHAM	353700	528974	3	Yes
EAW023616	[EAW023616] The site of Bravoniacum Roman Fort, Kirkby Thore, 1949. This image has been produced from a print marked by Aerofilms Ltd for photo editing.	02-Jun-49	KIRKBY THORE	363533	525667	4-5	Yes
EAW023618	[EAW023618] The site of Bravoniacum Roman Fort, Kirkby Thore, 1949. This image was marked by Aerofilms Ltd for photo editing.	02-Jun-49	KIRKBY THORE	363510	525694	4-5	Yes
EAW023619	[EAW023619] The site of Bravoniacum Roman Fort, Kirkby Thore, 1949. This image was marked by Aerofilms Ltd for photo editing.	02-Jun-49	KIRKBY THORE	363510	525702	4-5	Yes
EAW023617	[EAW023617] The site of Bravoniacum Roman Fort, Kirkby Thore, 1949. This image has been produced from a print marked by Aerofilms Ltd for photo editing.	02-Jun-49	KIRKBY THORE	363414	525724	4-5	Yes
EAW023614	[EAW023614] Appleby Grammar School playing field, Appleby-in-Westmorland, 1949. This image has been produced from a damaged negative.	02-Jun-49	APPLEBY-IN-WESTMORLAND	368141	520868	4-5	Yes
EAW023615	[EAW023615] Appleby Grammar School, Appleby-in-Westmorland, 1949. This image has been produced from a print marked by Aerofilms Ltd for photo editing.	02-Jun-49	APPLEBY-IN-WESTMORLAND	368118	520889	4-5	Yes
EAW023612	[EAW023612] Appleby Grammar School, Appleby-in-Westmorland, 1949	02-Jun-49	APPLEBY-IN-WESTMORLAND	368152	520984	4-5	Yes
EAW023613	[EAW023613] Appleby Grammar School, Appleby-in-Westmorland, 1949	02-Jun-49	APPLEBY-IN-WESTMORLAND	368130	521005	4-5	Yes
EAW023611	[EAW023611] Appleby Grammar School, Appleby-in-Westmorland, 1949. This image was marked by Aerofilms Ltd for photo editing.	02-Jun-49	APPLEBY-IN-WESTMORLAND	368112	520995	4-5	Yes
EAW005560	[EAW005560] The abbey ruins, Abbey Farm and environs, Egglestone Abbey, 1947	17-May-47	EGGLESTONE ABBEY	406197	515259	8	Yes
EAW005563	[EAW005563] The abbey ruins, Egglestone Abbey, 1947	17-May-47	EGGLESTONE ABBEY	406260	515147	8	Yes
EAW005561	[EAW005561] The abbey ruins, Egglestone Abbey, 1947	17-May-47	EGGLESTONE ABBEY	406241	515132	8	Yes
EAW005562	[EAW005562] The abbey ruins, Egglestone Abbey, 1947	17-May-47	EGGLESTONE ABBEY	406263	515122	8	Yes
EAW005564	[EAW005564] The abbey ruins, Egglestone Abbey, 1947	17-May-47	EGGLESTONE ABBEY	406245	515097	8	Yes

### Cambridge University Collection of Aerial Photography



CUCAP ref	Type	Date	Subject	Easting	Northing	Scheme	Available
35kAE018	Oblique	06/07/1971	. Brougham Castle, Westmorland, UK	353700	529000	3	Yes
35kAE019	Oblique	06/07/1971	. Brougham Castle, Westmorland, UK	353700	529000	3	Yes
35kU028	Oblique	27/06/1969	. Brougham Castle, Westmorland, UK	353700	529000	3	Yes
35kU029	Oblique	27/06/1969	. Brougham Castle, Westmorland, UK	353700	529000	3	Yes
BVY56	Oblique	04/09/1975	Brougham Castle	353700	529000	3	No
CLB14	Oblique	28/08/1979	Brougham Castle	353700	529000	3	Yes
DO64	Oblique	09/07/1949	Brougham Castle	353700	529000	3	Yes
DO65	Oblique	09/07/1949	Brougham Castle	353700	529000	3	Yes
DO66	Oblique	09/07/1949	Brougham Castle	353700	529000	3	Yes
TS52	Oblique	31/07/1956	Brougham Castle	353700	528900	3	No
TS53	Oblique	31/07/1956	Brougham Castle	353700	528900	3	No
WE74	Oblique	01/08/1957	Brougham Castle	353700	529000	3	No
WE75	Oblique	01/08/1957	Brougham Castle	353700	529000	3	No
WE77	Oblique	01/08/1957	Brougham Castle	353700	529000	3	No
XG78	Oblique	16/07/1958	Brougham Castle	353700	529000	3	No
XG79	Oblique	16/07/1958	Brougham Castle	353700	529000	3	No
BFW58	Oblique	06/07/1971	Crop marks, 1.5 miles ENE of Brougham	355300	529300	3	Yes
BFW59	Oblique	06/07/1971	Crop marks, 1.5 miles ENE of Brougham	355300	529300	3	Yes
AZJ81	Oblique	30/07/1969	Crop patterns, 1.5 miles E of Penrith	354000	529400	3	No
JX16	Oblique	14/07/1952	Cropmark, enclosure, 1 mile ENE of Brougham	355300	529300	3	Yes
JX17	Oblique	14/07/1952	Cropmark, enclosure, 1 mile ENE of Brougham	355300	529300	3	Yes
ATM95	Oblique	28/07/1967	Cropmarks, 1 mile NE of Brougham	354500	529300	3	No
CKP54	Oblique	02/08/1979	Cropmarks, 1 mile NE of Brougham	354500	529300	3	No
AEB31	Oblique	22/07/1961	Cropmarks, 1.25 miles ENE of Brougham	355500	528700	3	Yes
CKP45	Oblique	02/08/1979	Cropmarks, 1.5 miles ESE of Penrith	353700	529400	3	No
CKP46	Oblique	02/08/1979	Cropmarks, 1.5 miles ESE of Penrith	353700	529400	3	No
CKP49	Oblique	02/08/1979	Cropmarks, 1.5 miles ESE of Penrith	353700	529400	3	No
CKP50	Oblique	02/08/1979	Cropmarks, 1.5 miles ESE of Penrith	353700	529400	3	No
CKP51	Oblique	02/08/1979	Cropmarks, 1.5 miles ESE of Penrith	353700	529400	3	No
AVY50	Oblique	26/07/1968	Cropmarks, Brougham	355000	529300	3	No
AVY51	Oblique	26/07/1968	Cropmarks, Brougham	355000	529300	3	No
DO69	Oblique	09/07/1949	Cropmarks, Roman camp and field-system, E of Brougham	354400	529200	3	Yes
DO70	Oblique	09/07/1949	Cropmarks, Roman camp and field-system, E of Brougham	354400	529200	3	Yes
JI45	Oblique	06/07/1952	Eamont valley at Brougham Castle	353700	529000	3	No
JI46	Oblique	06/07/1952	Eamont valley at Brougham Castle	353700	529000	3	No
JI47	Oblique	06/07/1952	Eamont valley at Brougham Castle	353700	529000	3	No
BE91	Oblique	10/07/1948	Enclosures, 1 mile E of Brougham	355300	529300	3	Yes
WE78	Oblique	01/08/1957	Moraine, 2 mile NE of Brougham	355000	529400	3	No
CKP52	Oblique	02/08/1979	Native Settlement, 1.25 miles NE of Brougham	355300	529300	3	No
CKP53	Oblique	02/08/1979	Native Settlement, 1.25 miles NE of Brougham	355300	529300	3	No



BGC31	Oblique	09/07/1971	Native settlement, 1.5 miles ENE of Brougham	355300	529300	3	No
BGC32	Oblique	09/07/1971	Native settlement, 1.5 miles ENE of Brougham	355300	529300	3	No
CDI1	Oblique	25/07/1977	Native Settlement, 1.5 miles NE of Brougham	355300	529300	3	No
CDI2	Oblique	25/07/1977	Native Settlement, 1.5 miles NE of Brougham	355300	529300	3	No
CGW84	Oblique	20/07/1978	Native Settlement, 1.5 miles NE of Brougham	355300	529300	3	No
CGW85	Oblique	20/07/1978	Native Settlement, 1.5 miles NE of Brougham	355300	529300	3	No
XJ9	Oblique	17/07/1958	Panorama near Brougham, looking NNE	357600	528500	3	No
ATM91	Oblique	28/07/1967	Roman camp, Brougham	354100	529200	3	No
ATM92	Oblique	28/07/1967	Roman camp, Brougham	354100	529200	3	No
ATM93	Oblique	28/07/1967	Roman camp, Brougham	354100	529200	3	No
ATM94	Oblique	28/07/1967	Roman camp, Brougham	354100	529200	3	No
AXX95	Oblique	27/06/1969	Roman camp, Brougham	354100	529200	3	Yes
AXX96	Oblique	27/06/1969	Roman camp, Brougham	354100	529200	3	Yes
AXX97	Oblique	27/06/1969	Roman camp, Brougham	354100	529200	3	Yes
AXX98	Oblique	27/06/1969	Roman camp, Brougham	354100	529200	3	Yes
AXX99	Oblique	27/06/1969	Roman camp, Brougham	354100	529200	3	Yes
AXX100	Oblique	27/06/1969	Roman camp, Brougham	354100	529200	3	Yes
AZJ79	Oblique	30/07/1969	Roman camp, Brougham	354100	529200	3	No
AZJ80	Oblique	30/07/1969	Roman camp, Brougham	354100	529200	3	No
TS43	Oblique	31/07/1956	Roman camp, Brougham	354100	529200	3	No
TS44	Oblique	31/07/1956	Roman camp, Brougham	354100	529200	3	No
TS45	Oblique	31/07/1956	Roman camp, Brougham	354100	529200	3	No
TS46	Oblique	31/07/1956	Roman camp, Brougham	354100	529200	3	No
TS47	Oblique	31/07/1956	Roman camp, Brougham	354100	529200	3	No
TS48	Oblique	31/07/1956	Roman camp, Brougham	354100	529200	3	No
TS49	Oblique	31/07/1956	Roman camp, Brougham	354100	529200	3	No
XG80	Oblique	16/07/1958	Roman camp, Brougham	354100	529200	3	No
XG81	Oblique	16/07/1958	Roman camp, Brougham	354100	529200	3	No
XG82	Oblique	16/07/1958	Roman camp, Brougham	354100	529200	3	No
CAL11	Oblique	22/07/1976	Roman Camp, Brougham	354100	529200	3	No
CAL12	Oblique	22/07/1976	Roman Camp, Brougham	354100	529200	3	No
CAL13	Oblique	22/07/1976	Roman Camp, Brougham	354100	529200	3	No
UH40	Oblique	09/04/1957	Roman fort and castle, Brougham	353900	528900	3	No
UH41	Oblique	09/04/1957	Roman fort and castle, Brougham	353900	528900	3	No
UH42	Oblique	09/04/1957	Roman fort and castle, Brougham	353900	528900	3	No
UH43	Oblique	09/04/1957	Roman fort and castle, Brougham	353900	528900	3	No
UH44	Oblique	09/04/1957	Roman fort and castle, Brougham	353900	528900	3	No
UH45	Oblique	09/04/1957	Roman fort and castle, Brougham	353900	528900	3	No
BE92	Oblique	10/07/1948	Roman fort, and castle, Brougham	353800	528900	3	Yes
BE93	Oblique	10/07/1948	Roman fort, and castle, Brougham	353800	528900	3	Yes
BE94	Oblique	10/07/1948	Roman fort, and castle, Brougham	353800	528900	3	Yes
BE95	Oblique	10/07/1948	Roman fort, and castle, Brougham	353800	528900	3	Yes



AEB29	Oblique	22/07/1961	Roman fort, Brougham	353800	528900	3	Yes
AEB30	Oblique	22/07/1961	Roman fort, Brougham	353800	528900	3	Yes
AVY46	Oblique	26/07/1968	Roman fort, Brougham	353800	528900	3	No
AVY47	Oblique	26/07/1968	Roman fort, Brougham	353800	528900	3	No
DO67	Oblique	09/07/1949	Roman fort, Brougham	353800	528900	3	Yes
DO68	Oblique	09/07/1949	Roman fort, Brougham	353800	528900	3	Yes
F29	Oblique	30/07/1945	Roman fort, Brougham	353800	528900	3	No
F30	Oblique	30/07/1945	Roman fort, Brougham	353800	528900	3	No
F31	Oblique	30/07/1945	Roman fort, Brougham	353800	528900	3	No
CIP30	Oblique	06/02/1979	Roman Fort, Brougham	353900	528900	3	No
CIP31	Oblique	06/02/1979	Roman Fort, Brougham	353900	528900	3	No
CIP32	Oblique	06/02/1979	Roman Fort, Brougham	353900	528900	3	No
CKP47	Oblique	02/08/1979	Roman Fort, Brougham	353800	528900	3	No
CKP48	Oblique	02/08/1979	Roman Fort, Brougham	353800	528900	3	No
CLB11	Oblique	28/08/1979	Roman Fort, Brougham	353800	528900	3	Yes
CLB12	Oblique	28/08/1979	Roman Fort, Brougham	353800	528900	3	Yes
CLB13	Oblique	28/08/1979	Roman Fort, Brougham	353800	528900	3	Yes
CLB15	Oblique	28/08/1979	Roman Fort, Brougham	353800	528900	3	Yes
CLB16	Oblique	28/08/1979	Roman Fort, Brougham	353800	528900	3	Yes
CNF48	Oblique	06/08/1980	Roman Fort, Brougham	353800	528900	3	No
CNF49	Oblique	06/08/1980	Roman Fort, Brougham	353800	528900	3	No
N14	Oblique	29/07/1946	Roman fort, Brougham (fogged)	353800	528900	3	No
N15	Oblique	29/07/1946	Roman fort, Brougham (fogged)	353800	528900	3	No
WE76	Oblique	01/08/1957	Roman fort, Crougham, looking NE	353800	528900	3	No
WE73	Oblique	01/08/1957	Roman road N of Brougham	353800	528900	3	No
BFW74	Oblique	06/07/1971	Panorama near Brough, looking N	378100	514900	6	Yes
BFW75	Oblique	06/07/1971	Panorama near Brough, looking N	378100	514900	6	Yes
J137	Oblique	06/07/1952	Panorama near Brough, looking NNE over Hillbeck Wood	378000	515600	6	No
BME50	Oblique	03/04/1973	Panorama near Hillbeck, looking NE	378200	515600	6	Yes
DO85	Oblique	09/07/1949	Roman camp, Warsop NE of Sandyford	374100	516700	6	Yes
DO86	Oblique	09/07/1949	Roman camp, Warsop NE of Sandyford	374100	516700	6	Yes
CLB20	Oblique	28/08/1979	Agricultural Landscape near Bowes looking NE over Barnard Castle from	401100	514100	7	Yes
BFW87	Oblique	06/07/1971	Bowes castle	399300	513500	7	Yes
70H-E18	Oblique	25/07/1973	Bowes Castle	399500	513500	7	No
70H-E19	Oblique	25/07/1973	Bowes Castle	399500	513500	7	No
70H-E20	Oblique	25/07/1973	Bowes Castle	399500	513500	7	No
70H-E21	Oblique	25/07/1973	Bowes Castle	399500	513500	7	No
70H-E22	Oblique	25/07/1973	Bowes Castle	399500	513500	7	No
BOL24	Oblique	25/07/1973	Bowes Castle	399300	513500	7	No
BOL25	Oblique	25/07/1973	Bowes Castle	399300	513500	7	No
BOL26	Oblique	25/07/1973	Bowes Castle	399300	513500	7	No



BOL27	Oblique	25/07/1973	Bowes Castle	399300	513500	7	No
BOL28	Oblique	25/07/1973	Bowes Castle	399300	513500	7	No
CAL30	Oblique	22/07/1976	Bowes Castle	399300	513500	7	No
CAL31	Oblique	22/07/1976	Bowes Castle	399300	513500	7	No
CAL32	Oblique	22/07/1976	Bowes Castle	399300	513500	7	No
CAL33	Oblique	22/07/1976	Bowes Castle	399300	513500	7	No
BB24	Oblique	06/07/1948	Roman fort and Castle, Bowes	399300	513500	7	No
BB25	Oblique	06/07/1948	Roman fort and Castle, Bowes	399300	513500	7	No
BB26	Oblique	06/07/1948	Roman fort and Castle, Bowes	399300	513500	7	No
N1	Oblique	29/07/1946	Roman fort and castle, Bowes (fogged)	399300	513500	7	No
DP1	Oblique	09/07/1949	Roman fort, and castle, Bowes	399300	513500	7	No
DP2	Oblique	09/07/1949	Roman fort, and castle, Bowes	399300	513500	7	No
DP3	Oblique	09/07/1949	Roman fort, and castle, Bowes	399300	513500	7	No
F8	Oblique	30/07/1945	Roman fort, Bowes	399300	513500	7	No
F9	Oblique	30/07/1945	Roman fort, Bowes	399300	513500	7	No
CKQ12	Oblique	02/08/1979	Roman Fort, Bowes	399300	513400	7	No
CKQ13	Oblique	02/08/1979	Roman Fort, Bowes	399300	513400	7	No
CKQ14	Oblique	02/08/1979	Roman Fort, Bowes	399300	513400	7	No
AQQ20	Oblique	14/01/1967	Roman fort, Greta Bridge	408500	513300	8	Yes
AQQ21	Oblique	14/01/1967	Roman fort, Greta Bridge	408500	513300	8	Yes
AQQ22	Oblique	14/01/1967	Roman fort, Greta Bridge	408500	513300	8	Yes
AWS76	Oblique	31/01/1969	Roman fort, Greta Bridge	408500	513300	8	No
AWS77	Oblique	31/01/1969	Roman fort, Greta Bridge	408500	513300	8	No
AWS78	Oblique	31/01/1969	Roman fort, Greta Bridge	408500	513300	8	No
AWS79	Oblique	31/01/1969	Roman fort, Greta Bridge	408500	513300	8	No
AWS80	Oblique	31/01/1969	Roman fort, Greta Bridge	408500	513300	8	No
BAS57	Oblique	06/02/1970	Roman fort, Greta Bridge	408400	513200	8	No
BAS58	Oblique	06/02/1970	Roman fort, Greta Bridge	408400	513200	8	No
BAS59	Oblique	06/02/1970	Roman fort, Greta Bridge	408400	513200	8	No
BAS60	Oblique	06/02/1970	Roman fort, Greta Bridge	408400	513200	8	No
BAS61	Oblique	06/02/1970	Roman fort, Greta Bridge	408400	513200	8	No
BAS62	Oblique	06/02/1970	Roman fort, Greta Bridge	408400	513200	8	No
BB23	Oblique	06/07/1948	Roman fort, Greta Bridge	408500	513300	8	No
DP9	Oblique	09/07/1949	Roman fort, Greta Bridge	408500	513300	8	No
DP10	Oblique	09/07/1949	Roman fort, Greta Bridge	408500	513300	8	No
F6	Oblique	30/07/1945	Roman fort, Greta Bridge	408500	513300	8	No
F7	Oblique	30/07/1945	Roman fort, Greta Bridge	408500	513300	8	No
CIF58	Oblique	13/01/1979	Roman Fort, Greta Bridge	408500	513200	8	No
CIF59	Oblique	13/01/1979	Roman Fort, Greta Bridge	408500	513200	8	No
CIF60	Oblique	13/01/1979	Roman Fort, Greta Bridge	408500	513200	8	No
CIF61	Oblique	13/01/1979	Roman Fort, Greta Bridge	408500	513200	8	No
CKQ15	Oblique	02/08/1979	Roman Fort, Greta Bridge	408500	513300	8	No



CKQ16	Oblique	02/08/1979	Roman Fort, Gretna Bridge	408500	513300	8	No
BLN51	Oblique	22/01/1973	? Roman Fort, Carkin Noor	416200	508300	9	No
BLN52	Oblique	22/01/1973	? Roman Fort, Carkin Noor	416200	508300	9	No
BLN53	Oblique	22/01/1973	? Roman Fort, Carkin Noor	416200	508300	9	No
XA30	Oblique	14/07/1958	Crop marks, enclosure, 1 mile SE of Hutton Magna	413200	510700	9	Yes
XA31	Oblique	14/07/1958	Crop marks, enclosure, 1 mile SE of Hutton Magna	413200	510700	9	Yes
AGG37	Oblique	20/07/1962	Cropmark, enclosure, Carkin Moor, 1 mile S of East Layton	416100	508600	9	No
CAL34	Oblique	22/07/1976	Cropmarks, 1 mile S of Hutton Magna	412100	510900	9	No
ADT101	Oblique	17/07/1961	Cropmarks, 1 mile SSE of Hutton Magna	413100	510700	9	No
ADU1	Oblique	17/07/1961	Cropmarks, 1 mile SSE of Hutton Magna	413100	510700	9	No
ADU2	Oblique	17/07/1961	Cropmarks, 1 mile SSE of Hutton Magna	413100	510700	9	No
ADU3	Oblique	17/07/1961	Cropmarks, 1 mile SSE of Hutton Magna	413100	510700	9	No
CAL39	Oblique	22/07/1976	Cropmarks, 1 mile SSW of East Layton	416100	508400	9	No
CAL40	Oblique	22/07/1976	Cropmarks, 1 mile SSW of East Layton	416100	508400	9	No
CAL41	Oblique	22/07/1976	Cropmarks, 1 mile SSW of East Layton	416100	508400	9	No
DP11	Oblique	09/07/1949	Cropmarks, 1.25 miles SSE of Hutton Magna	412800	510400	9	No
DP12	Oblique	09/07/1949	Cropmarks, 1.25 miles SSE of Hutton Magna	412800	510400	9	No
W56	Oblique	20/07/1947	Cropmarks, Carkin Moor	416100	508400	9	Yes
W57	Oblique	20/07/1947	Cropmarks, Carkin Moor	416100	508400	9	Yes
W58	Oblique	20/07/1947	Cropmarks, Carkin Moor	416100	508400	9	Yes
W59	Oblique	20/07/1947	Cropmarks, Carkin Moor	416100	508400	9	Yes
ACB38	Oblique	19/07/1960	Cropmarks, Carkin Moor, 1 mile S of East Layton	416100	508400	9	No
ACB39	Oblique	19/07/1960	Cropmarks, Carkin Moor, 1 mile S of East Layton	416100	508400	9	No
AGG34	Oblique	20/07/1962	Cropmarks, enclosure, Carkin Moor, 1 mile S of East Layton	416100	508500	9	No
AGG35	Oblique	20/07/1962	Cropmarks, enclosure, Carkin Moor, 1 mile S of East Layton	416100	508500	9	No
DP13	Oblique	09/07/1949	Earthwork, (?) Roman fort, Carkin Moor	416200	508300	9	No
DP14	Oblique	09/07/1949	Earthwork, (?) Roman fort, Carkin Moor	416200	508300	9	No
BB21	Oblique	06/07/1948	Earthwork, (?) Roman site, Carkin Moor	416200	508300	9	No
BB22	Oblique	06/07/1948	Earthwork, (?) Roman site, Carkin Moor	416200	508300	9	No
MO33	Oblique	22/07/1953	Earthwork, Carkin Moor	416200	508300	9	No
XA17	Oblique	14/07/1958	Panorama near Gilling, looking ESE	417000	507800	9	Yes
XA18	Oblique	14/07/1958	Panorama near Gilling, looking ESE	417000	507800	9	Yes
AQA23	Oblique	02/08/1966	Panorama near Gilling, looking NW along Roman road	416000	508400	9	Yes
AQA24	Oblique	02/08/1966	Panorama near Gilling, looking NW along Roman road	416000	508400	9	Yes
CAL37	Oblique	22/07/1976	Panorama near Ravensworth, looking S from	414200	509400	9	No
CAL38	Oblique	22/07/1976	Panorama near Ravensworth, looking S from	414200	509400	9	No
AAB29	Oblique	13/07/1959	Roman fort (?), Carkin Moor, 1 mile S of East Layton	416200	508300	9	No
AAB30	Oblique	13/07/1959	Roman fort (?), Carkin Moor, 1 mile S of East Layton	416200	508300	9	No
AAB31	Oblique	13/07/1959	Roman fort (?), Carkin Moor, 1 mile S of East Layton	416200	508300	9	No



AAB32	Oblique	13/07/1959	Roman fort (?), Carkin Moor, 1 mile S of East Layton	416200	508300	9	No
AMH13	Oblique	05/08/1965	Roman fort ?, Carkin Moor	416200	508300	9	Yes
AMH14	Oblique	05/08/1965	Roman fort ?, Carkin Moor	416200	508300	9	Yes
ADT99	Oblique	17/07/1961	Roman fort, Carkin Moor	416200	508300	9	No
ADT100	Oblique	17/07/1961	Roman fort, Carkin Moor	416200	508300	9	No
AGG36	Oblique	20/07/1962	Roman fort,(?) Carkin Moor	416200	508300	9	No
JX90	Oblique	15/07/1952	Roman road, at Carkin Moor, looking WNW	416800	507800	9	Yes
CAL35	Oblique	22/07/1976	Roman Road, near Hutton Magna, looking SE from	412700	510400	9	No
CAL36	Oblique	22/07/1976	Roman Road, near Hutton Magna, looking SE from	412700	510400	9	No
MO31	Oblique	22/07/1953	Roman road, near Ravensworth, looking NW	416400	508300	9	No
MO32	Oblique	22/07/1953	Roman road, near Ravensworth, looking NW	416400	508300	9	No
M21	Oblique	27/07/1946	Panorama, looking N along Dere Street from Scotch Corner	421600	505500	11	No
M22	Oblique	27/07/1946	Panorama, looking N along Dere Street from Scotch Corner	421600	505500	11	No
M23	Oblique	27/07/1946	Panorama, looking N along Dere Street from Scotch Corner	421600	505500	11	No
M24	Oblique	27/07/1946	Panorama, looking N along Dere Street from Scotch Corner	421600	505500	11	No
DO59	Oblique	09/07/1949	Earthen circle, Mayburgh, Eamont Bridge	351900	528400	1-2	Yes
DO60	Oblique	09/07/1949	Earthen circle, Mayburgh, Eamont Bridge	351900	528400	1-2	Yes
CIP19	Oblique	06/02/1979	Henge Monument, King Arthur's Round Table, Eamont Bridge	352300	528400	1-2	No
CIP23	Oblique	06/02/1979	Henge Monument, King Arthur's Round Table, Eamont Bridge	352300	528400	1-2	No
BOJ82	Oblique	23/07/1973	Henge monument, Mayburgh, Eamont Bridge	351900	528400	1-2	No
BOJ83	Oblique	23/07/1973	Henge monument, Mayburgh, Eamont Bridge	351900	528400	1-2	No
CIP20	Oblique	06/02/1979	Henge Monument, Mayburgh, Eamont Bridge	351900	528500	1-2	No
CIP21	Oblique	06/02/1979	Henge Monument, Mayburgh, Eamont Bridge	351900	528500	1-2	No
CIP22	Oblique	06/02/1979	Henge Monument, Mayburgh, Eamont Bridge	351900	528500	1-2	No
CNF59	Oblique	06/08/1980	?Cropmarks, 0.75 mile NW of Kirkby Thore	363000	526700	4-5	No
CNF60	Oblique	06/08/1980	?Cropmarks, 0.75 mile NW of Kirkby Thore	363000	526700	4-5	No
W46	Oblique	20/07/1947	Crackenthorpe, Roman camp	365000	523800	4-5	Yes
W47	Oblique	20/07/1947	Crackenthorpe, Roman camp	365000	523800	4-5	Yes
AZM72	Oblique	01/08/1969	Crop marks, 0.5 mile E of Crackenthorpe	367000	522300	4-5	No
XJ12	Oblique	17/07/1958	Crop marks, 1 mile SE of Kirkby Thore	364400	524400	4-5	No
XJ13	Oblique	17/07/1958	Crop marks, 1 mile SE of Kirkby Thore	364400	524400	4-5	No
DO78	Oblique	09/07/1949	Cropmark, enclosure 0.75 mile SE of Kirkby Thore	364400	524400	4-5	Yes
CDI12	Oblique	25/07/1977	Cropmarks, 0.5 mile E of Crackenthorpe	367300	522100	4-5	No
CEG4	Oblique	03/08/1977	Cropmarks, 0.5 mile ESE of Temple Sowerby	361900	526800	4-5	No
BTO14	Oblique	01/07/1975	Cropmarks, 1 mile S of Long Marton	366500	523000	4-5	No
BVB27	Oblique	25/07/1975	Cropmarks, 1.75 miles WNW of Long Marton	363900	525200	4-5	No
CEG13	Oblique	03/08/1977	Cropmarks, Castrigg, 1.5 miles SSE of Long Marton	367500	522200	4-5	No
CEG14	Oblique	03/08/1977	Cropmarks, Castrigg, 1.5 miles SSE of Long Marton	367500	522200	4-5	No





CEG15	Oblique	03/08/1977	Cropmarks, Castrigg, 1.5 miles SSE of Long Marton	367500	522200	4-5	No
CEG16	Oblique	03/08/1977	Cropmarks, Castrigg, 1.5 miles SSE of Long Marton	367500	522200	4-5	No
CGX3	Oblique	20/07/1978	Cropmarks, Castrigg, 1.75 miles SSE of Long Morton	367500	522200	4-5	No
CGX4	Oblique	20/07/1978	Cropmarks, Castrigg, 1.75 miles SSE of Long Morton	367500	522200	4-5	No
CGX5	Oblique	20/07/1978	Cropmarks, Castrigg, 1.75 miles SSE of Long Morton	367500	522200	4-5	No
CGX6	Oblique	20/07/1978	Cropmarks, Castrigg, 1.75 miles SSE of Long Morton	367500	522200	4-5	No
CGX7	Oblique	20/07/1978	Cropmarks, Castrigg, 1.75 miles SSE of Long Morton	367500	522200	4-5	No
CAL20	Oblique	22/07/1976	Cropmarks, E of Temple Sowerby	361800	526800	4-5	No
BB45	Oblique	06/07/1948	Cropmarks, enclosure, Hanging Shaw farm, S of Brampton	368300	521800	4-5	No
BVB26	Oblique	25/07/1975	Cropmarks, SE of Kirkby Thore	364200	525200	4-5	No
BVY23	Oblique	04/09/1975	Earthworks, 0.5 mile N of Appleby	368400	521500	4-5	No
CDI5	Oblique	25/07/1977	Earthworks, 1.5 miles SSE of Long Marton	367500	522200	4-5	No
CDI6	Oblique	25/07/1977	Earthworks, 1.5 miles SSE of Long Marton	367500	522200	4-5	No
CDI7	Oblique	25/07/1977	Earthworks, 1.5 miles SSE of Long Marton	367500	522200	4-5	No
CDI8	Oblique	25/07/1977	Earthworks, 1.5 miles SSE of Long Marton	367500	522200	4-5	No
CDI9	Oblique	25/07/1977	Earthworks, 1.5 miles SSE of Long Marton	367500	522200	4-5	No
CDI10	Oblique	25/07/1977	Earthworks, 1.5 miles SSE of Long Marton	367500	522200	4-5	No
CDI11	Oblique	25/07/1977	Earthworks, 1.5 miles SSE of Long Marton	367500	522200	4-5	No
CLW36	Oblique	17/05/1980	Kirkby Thore	363700	525600	4-5	No
CLW37	Oblique	17/05/1980	Kirkby Thore	363700	525600	4-5	No
XJ10	Oblique	17/07/1958	Kirkby Thore	363800	526600	4-5	No
XJ11	Oblique	17/07/1958	Kirkby Thore	363800	526600	4-5	No
XJ14	Oblique	17/07/1958	Panorama near Crackenthorpe, looking NE	367300	522500	4-5	No
BOJ84	Oblique	23/07/1973	Panorama near Crackenthorpe, looking SSW	367100	522300	4-5	No
AZM65	Oblique	01/08/1969	Roman camp, Crackenthorpe	365000	523700	4-5	No
AZM66	Oblique	01/08/1969	Roman camp, Crackenthorpe	365000	523700	4-5	No
AZM67	Oblique	01/08/1969	Roman camp, Crackenthorpe	365000	523700	4-5	No
AZM68	Oblique	01/08/1969	Roman camp, Crackenthorpe	365000	523700	4-5	No
AZM69	Oblique	01/08/1969	Roman camp, Crackenthorpe	365000	523700	4-5	No
BFW60	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
BFW61	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
BFW62	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
BFW63	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
BFW64	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
BFW65	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
BFW66	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
BFW67	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
BFW68	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes



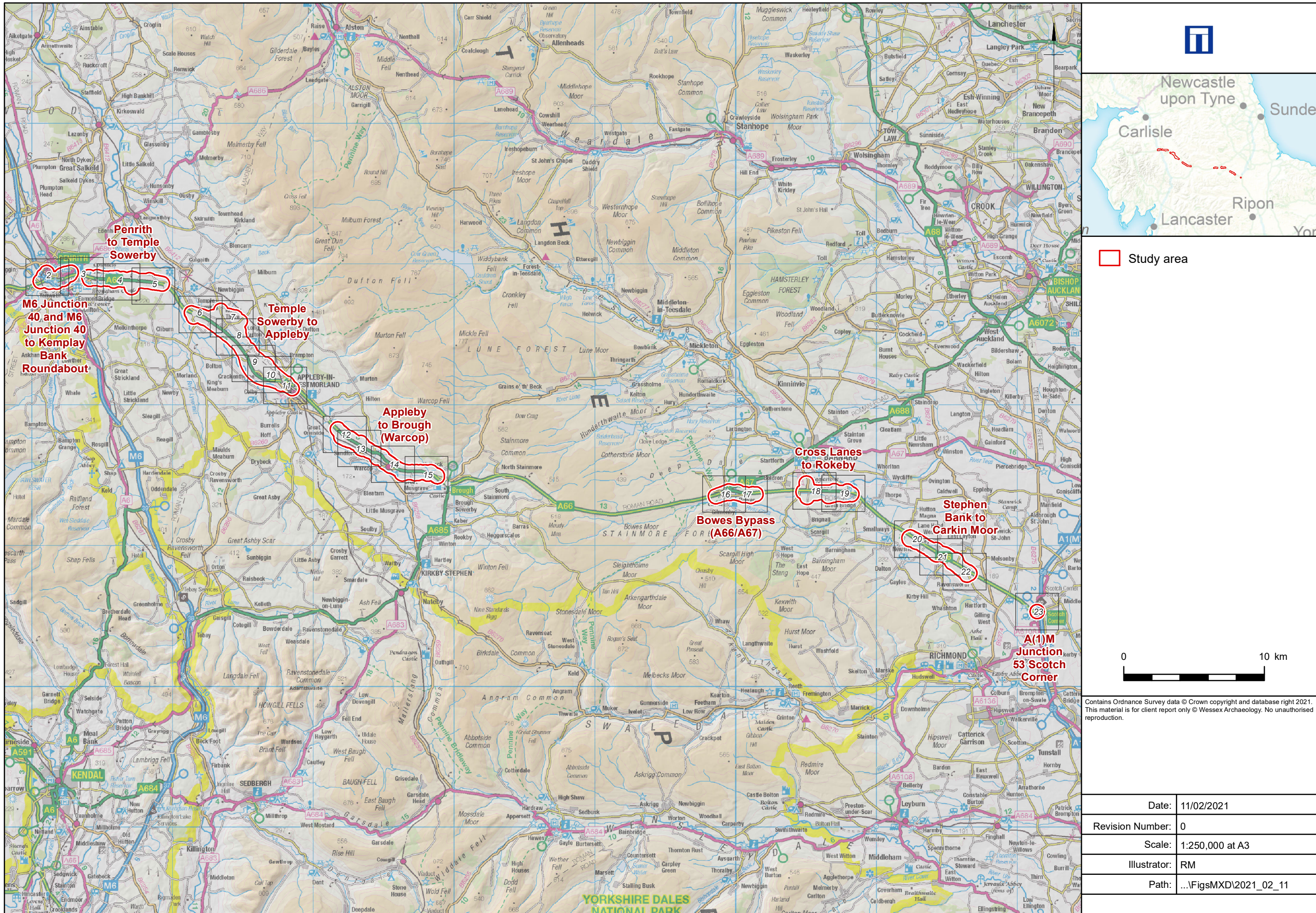
BFW69	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
BFW70	Oblique	06/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
BGC33	Oblique	09/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	No
BGC34	Oblique	09/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	No
BGC35	Oblique	09/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	No
BGC36	Oblique	09/07/1971	Roman camp, Crackenthorpe	365000	523700	4-5	No
BKF5	Oblique	27/07/1972	Roman camp, Crackenthorpe	365000	523700	4-5	No
BQD83	Oblique	24/06/1974	Roman camp, Crackenthorpe	365000	523700	4-5	No
BQD84	Oblique	24/06/1974	Roman camp, Crackenthorpe	365000	523700	4-5	No
G10	Oblique	31/07/1945	Roman camp, Crackenthorpe	365000	523700	4-5	No
G11	Oblique	31/07/1945	Roman camp, Crackenthorpe	365000	523700	4-5	No
G12	Oblique	31/07/1945	Roman camp, Crackenthorpe	365000	523700	4-5	No
G13	Oblique	31/07/1945	Roman camp, Crackenthorpe	365000	523700	4-5	No
P41	Oblique	01/08/1946	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
P42	Oblique	01/08/1946	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
P43	Oblique	01/08/1946	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
P44	Oblique	01/08/1946	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
P45	Oblique	01/08/1946	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
P46	Oblique	01/08/1946	Roman camp, Crackenthorpe	365000	523700	4-5	Yes
UH51	Oblique	09/04/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
UH52	Oblique	09/04/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
UH53	Oblique	09/04/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
UH54	Oblique	09/04/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
UH55	Oblique	09/04/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
UH56	Oblique	09/04/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
UH57	Oblique	09/04/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
WE79	Oblique	01/08/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
WE80	Oblique	01/08/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
WE81	Oblique	01/08/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
WE83	Oblique	01/08/1957	Roman camp, Crackenthorpe	365000	523700	4-5	No
Y3	Oblique	22/07/1947	Roman camp, Crackenthorpe	365000	523700	4-5	No
CAL27	Oblique	22/07/1976	Roman Camp, Crackenthorpe	365000	523700	4-5	No
CAL28	Oblique	22/07/1976	Roman Camp, Crackenthorpe	365000	523700	4-5	No
CAL29	Oblique	22/07/1976	Roman Camp, Crackenthorpe	365000	523700	4-5	No
CEG10	Oblique	03/08/1977	Roman Camp, Crackenthorpe	365000	523700	4-5	No
CEG11	Oblique	03/08/1977	Roman Camp, Crackenthorpe	365000	523700	4-5	No
CEG12	Oblique	03/08/1977	Roman Camp, Crackenthorpe	365000	523700	4-5	No
CKP63	Oblique	02/08/1979	Roman Camp, Crackenthorpe	365000	523700	4-5	No
CKP64	Oblique	02/08/1979	Roman Camp, Crackenthorpe	365000	523700	4-5	No
K17AT253	Vertical	02/08/1979	Roman Camp, Crackenthorpe	365000	523643	4-5	No
N10	Oblique	29/07/1946	Roman camp, Crackenthorpe (fogged)	365000	523700	4-5	No
N11	Oblique	29/07/1946	Roman camp, Crackenthorpe (fogged)	365000	523700	4-5	No



N12	Oblique	29/07/1946	Roman camp, Crackenthorpe (fogged)	365000	523700	4-5	No
Y1	Oblique	22/07/1947	Roman camp, Crackenthorpe (fogged)	365000	523700	4-5	No
Y2	Oblique	22/07/1947	Roman camp, Crackenthorpe (fogged)	365000	523700	4-5	No
AAK70	Oblique	19/07/1959	Roman fort Kirkby Thore	363800	525500	4-5	Yes
AAK71	Oblique	19/07/1959	Roman fort Kirkby Thore	363800	525500	4-5	Yes
DO79	Oblique	09/07/1949	Roman fort, Castrigg	367500	522300	4-5	Yes
DO80	Oblique	09/07/1949	Roman fort, Castrigg	367500	522300	4-5	Yes
DO81	Oblique	09/07/1949	Roman fort, Castrigg	367500	522300	4-5	Yes
AAK69	Oblique	19/07/1959	Roman Fort, Crackenthorpe	365000	523700	4-5	Yes
DO75	Oblique	09/07/1949	Roman fort, Kirkby Thore	363800	525500	4-5	Yes
DO76	Oblique	09/07/1949	Roman fort, Kirkby Thore	363800	525500	4-5	Yes
DO77	Oblique	09/07/1949	Roman fort, Kirkby Thore	363800	525500	4-5	Yes
UH48	Oblique	09/04/1957	Roman fort, Kirkby Thore	363800	525600	4-5	No
UH49	Oblique	09/04/1957	Roman fort, Kirkby Thore	363800	525600	4-5	No
UH50	Oblique	09/04/1957	Roman fort, Kirkby Thore	363800	525600	4-5	No
BVB24	Oblique	25/07/1975	Roman Fort, Kirkby Thore	363800	525500	4-5	No
BVB25	Oblique	25/07/1975	Roman Fort, Kirkby Thore	363800	525500	4-5	No
CAL21	Oblique	22/07/1976	Roman Fort, Kirkby Thore	363800	525500	4-5	No
CAL22	Oblique	22/07/1976	Roman Fort, Kirkby Thore	363800	525500	4-5	No
CAL23	Oblique	22/07/1976	Roman Fort, Kirkby Thore	363800	525500	4-5	No
CEG5	Oblique	03/08/1977	Roman Fort, Kirkby Thore	363800	525600	4-5	No
CEG6	Oblique	03/08/1977	Roman Fort, Kirkby Thore	363800	525600	4-5	No
CEG7	Oblique	03/08/1977	Roman Fort, Kirkby Thore	363800	525600	4-5	No
CEG8	Oblique	03/08/1977	Roman Fort, Kirkby Thore	363800	525600	4-5	No
CEG9	Oblique	03/08/1977	Roman Fort, Kirkby Thore	363800	525600	4-5	No
CGX1	Oblique	20/07/1978	Roman Fort, Kirkby Thore	363800	525500	4-5	No
CGX2	Oblique	20/07/1978	Roman Fort, Kirkby Thore	363800	525500	4-5	No
CKP61	Oblique	02/08/1979	Roman Fort, Kirkby Thore	363800	525600	4-5	No
CKP62	Oblique	02/08/1979	Roman Fort, Kirkby Thore	363800	525600	4-5	No
CNF61	Oblique	06/08/1980	Roman Fort, Kirkby Thore	363800	525500	4-5	No
CNF62	Oblique	06/08/1980	Roman Fort, Kirkby Thore	363800	525500	4-5	No
BVY24	Oblique	04/09/1975	Roman fortlet, Castrigg	367500	522300	4-5	No
BVY25	Oblique	04/09/1975	Roman fortlet, Castrigg	367500	522300	4-5	No
BVY26	Oblique	04/09/1975	Roman fortlet, Castrigg	367500	522300	4-5	No
BVY27	Oblique	04/09/1975	Roman fortlet, Castrigg	367500	522300	4-5	No
BVB21	Oblique	25/07/1975	Roman Fortlet, Castrigg	367500	522300	4-5	No
BVB22	Oblique	25/07/1975	Roman Fortlet, Castrigg	367500	522300	4-5	No
BVB23	Oblique	25/07/1975	Roman Fortlet, Castrigg	367500	522300	4-5	No
WE82	Oblique	01/08/1957	Roman road near Kirkby Thore, looking SE	364200	524700	4-5	No
UH60	Oblique	09/04/1957	Roman road, High Street, looking SE	364800	524400	4-5	No
AZM70	Oblique	01/08/1969	Roman road, High Street, near Crackenthorpe	367400	522100	4-5	No
AZM71	Oblique	01/08/1969	Roman road, High Street, near Crackenthorpe	367400	522100	4-5	No



UH58	Oblique	09/04/1957	Soil marks, 1 mile SE of Kirkby Thore	364900	524400	4-5	No
UH59	Oblique	09/04/1957	Soil marks, 1 mile SE of Kirkby Thore	364900	524400	4-5	No
BKR55	Oblique	12/10/1972	Soil marks, Kirkby Thore	364000	525600	4-5	No
W48	Oblique	20/07/1947	View SE along Roman road, past Castrigg	366700	522900	4-5	Yes

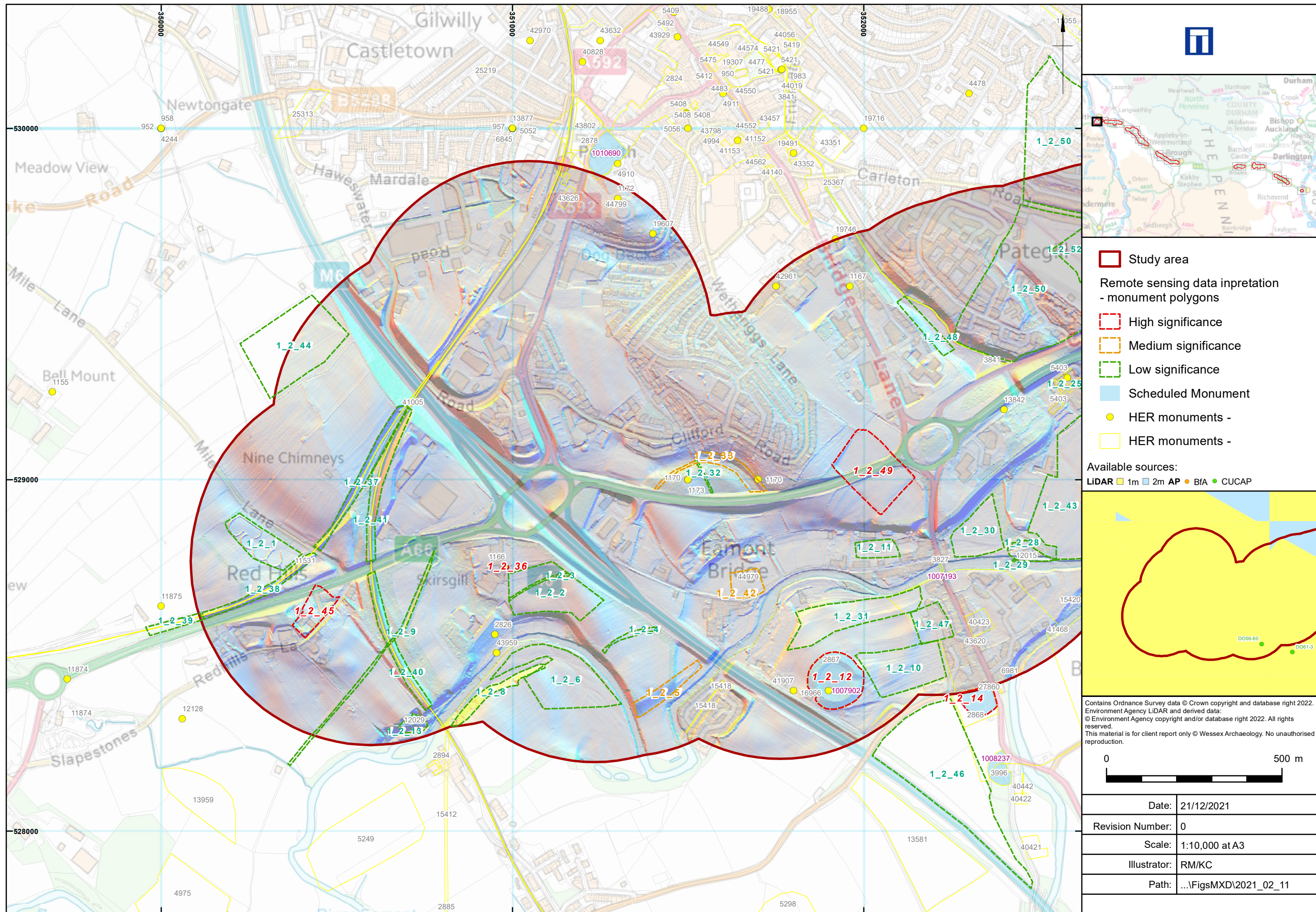


Scheme locations and key to Figures 2 to 23

Figure 1

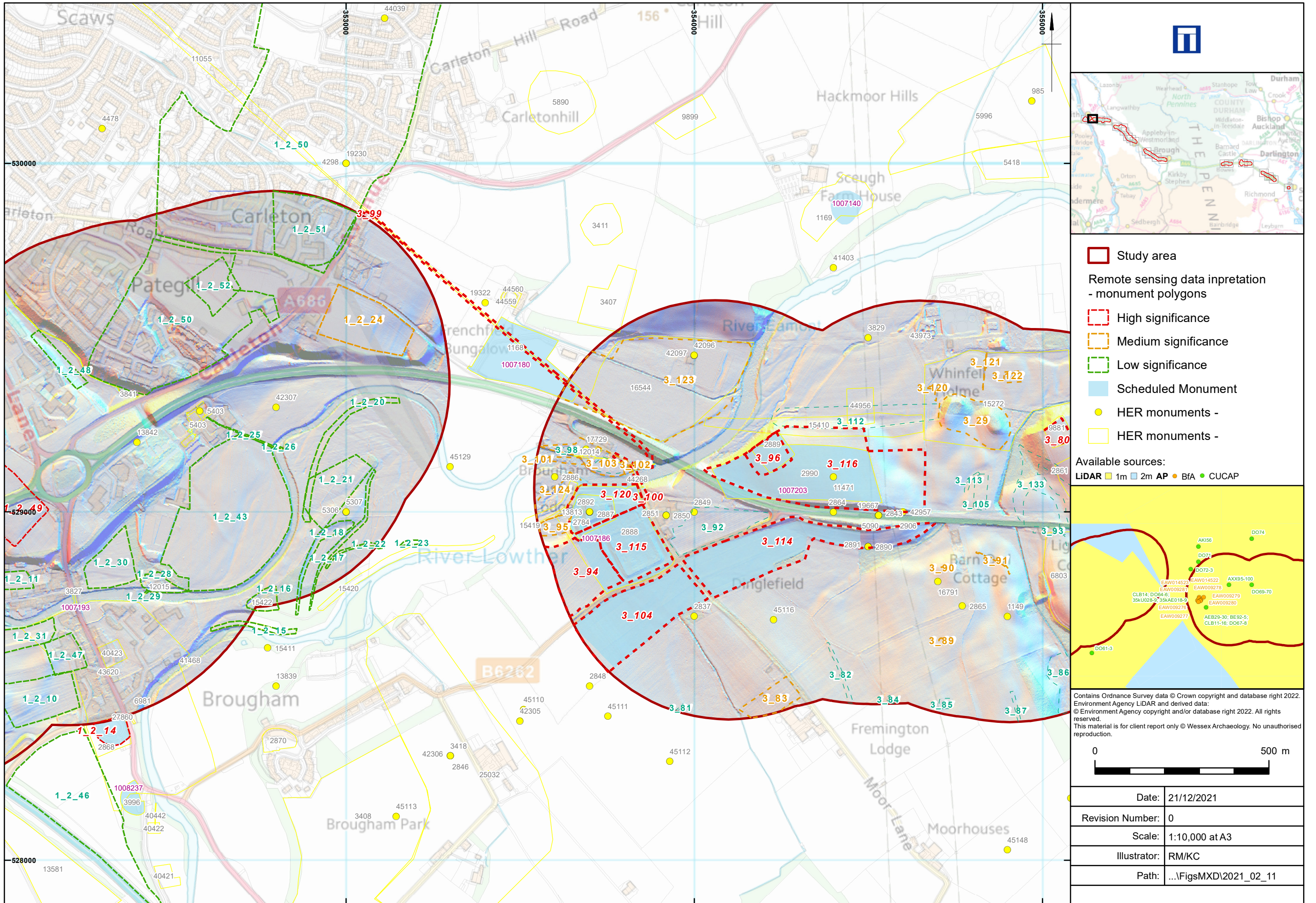
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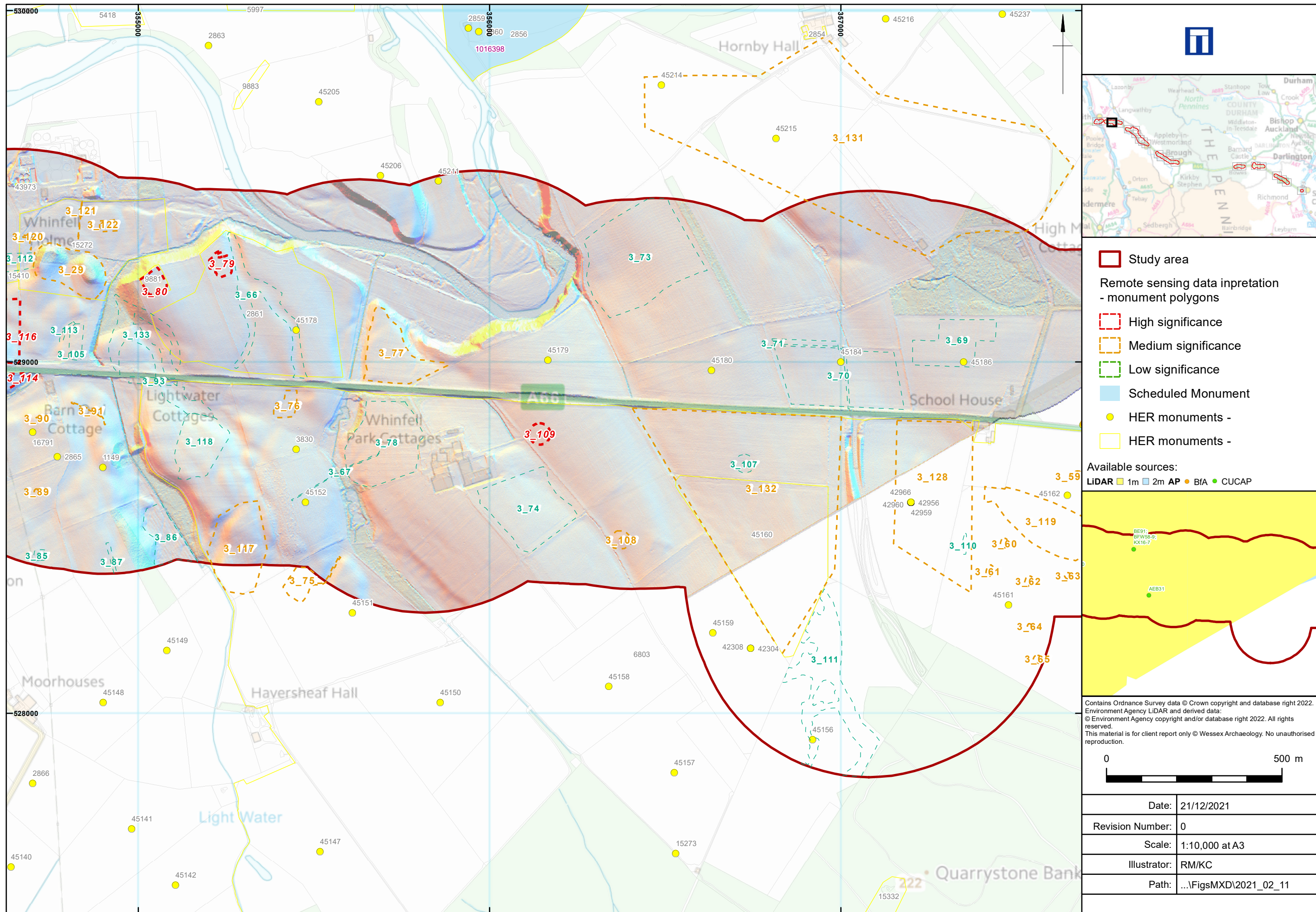
M6 Junction 40 and M6 Junction 40 to Kemplay Bank Roundabout

Figure 2



M6 Junction 40 and M6 Junction 40 to Kemplay Bank Roundabout and Penrith to Temple Sowerby

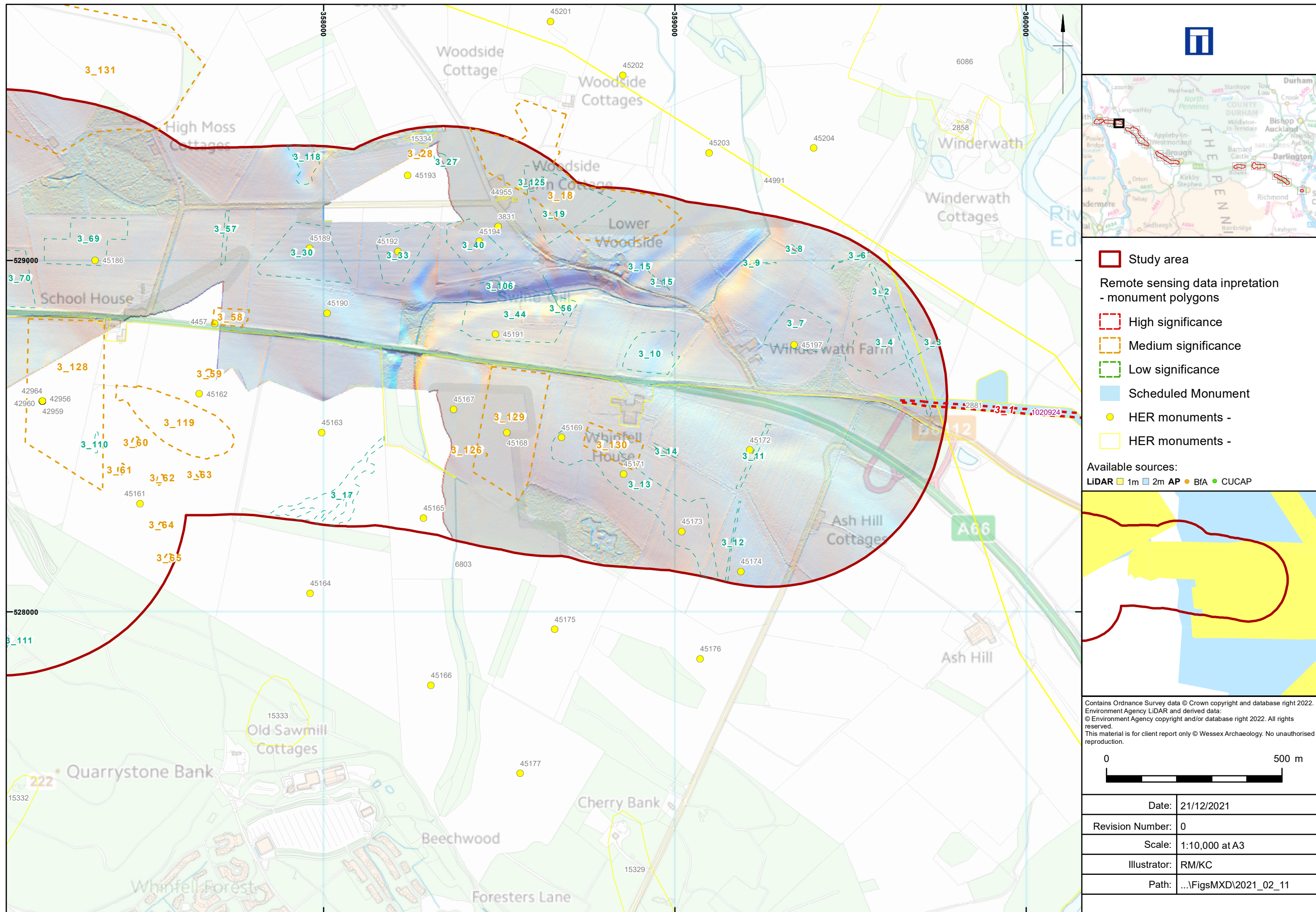
Figure 3



Penrith to Temple Sowerby

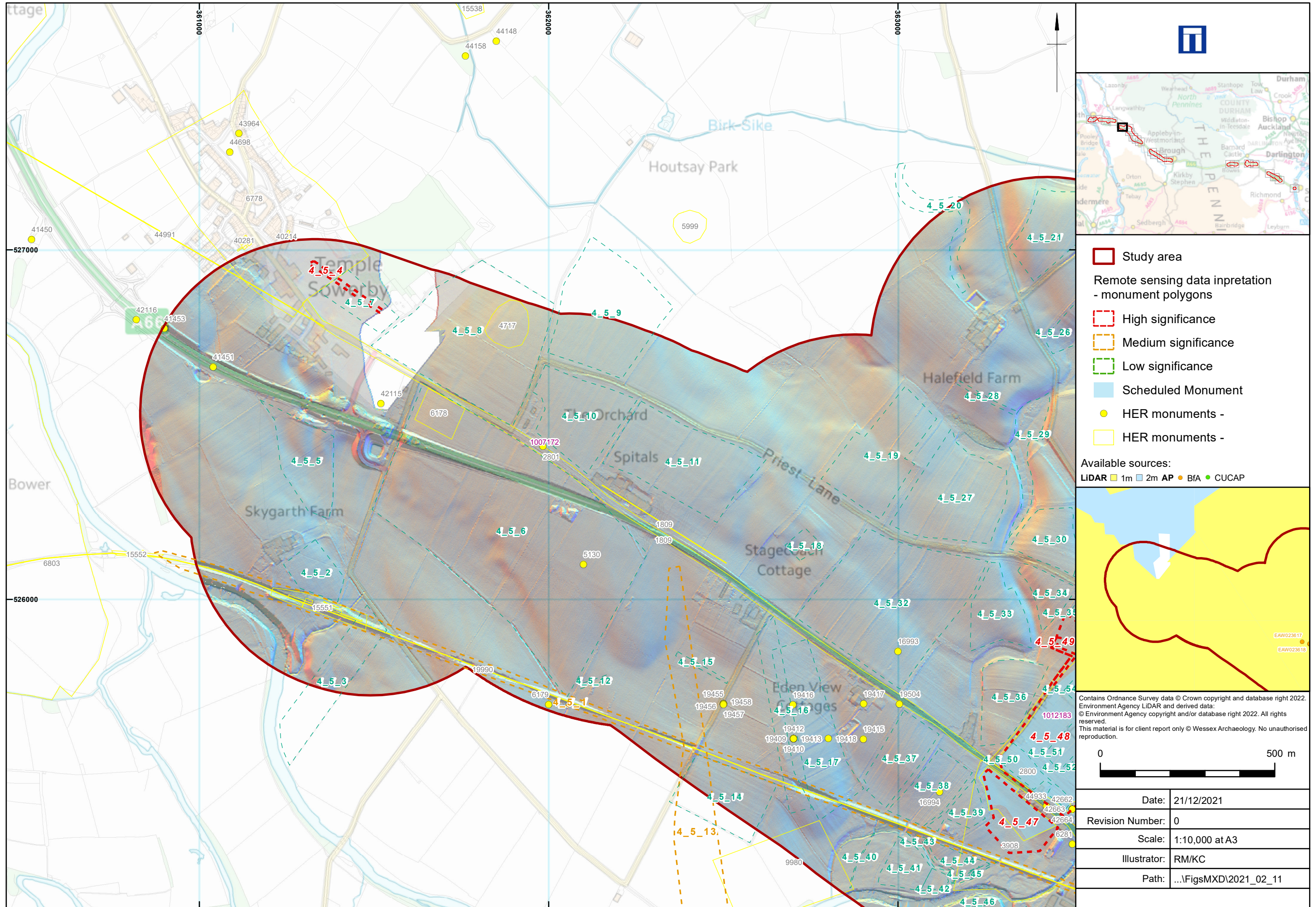
Figure 4





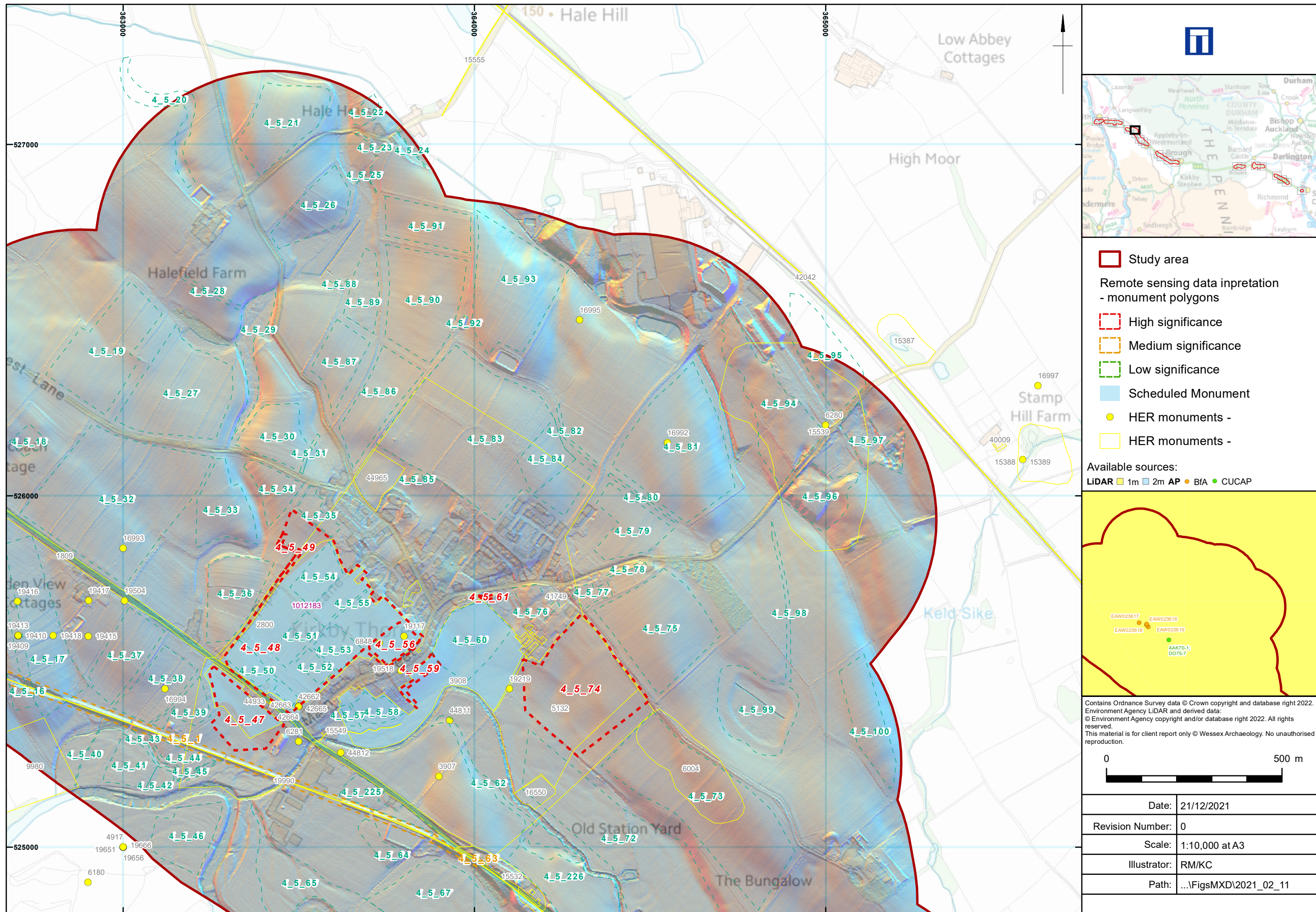
Penrith to Temple Sowerby

Figure 5



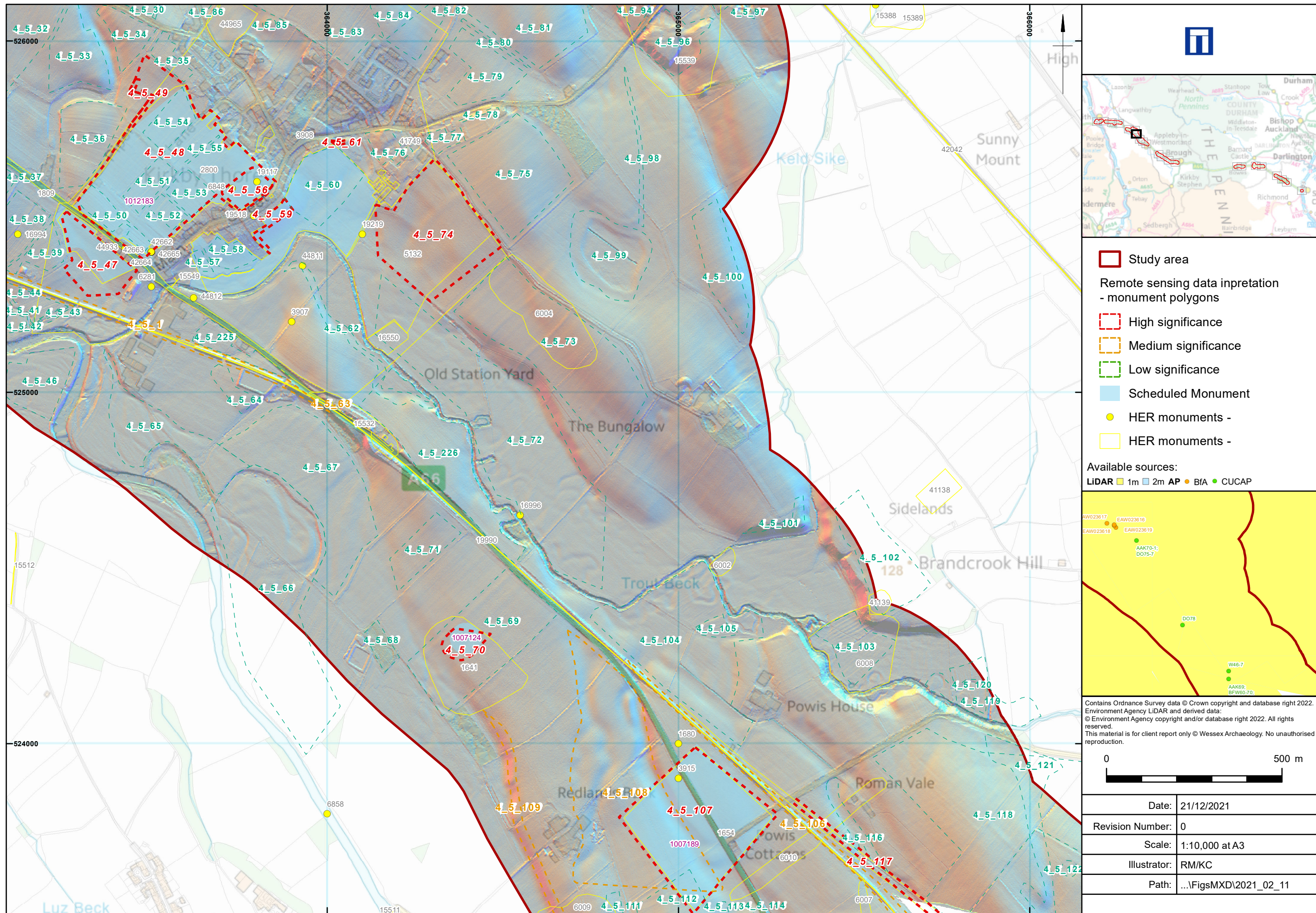
Temple Sowerby to Appleby

Figure 6



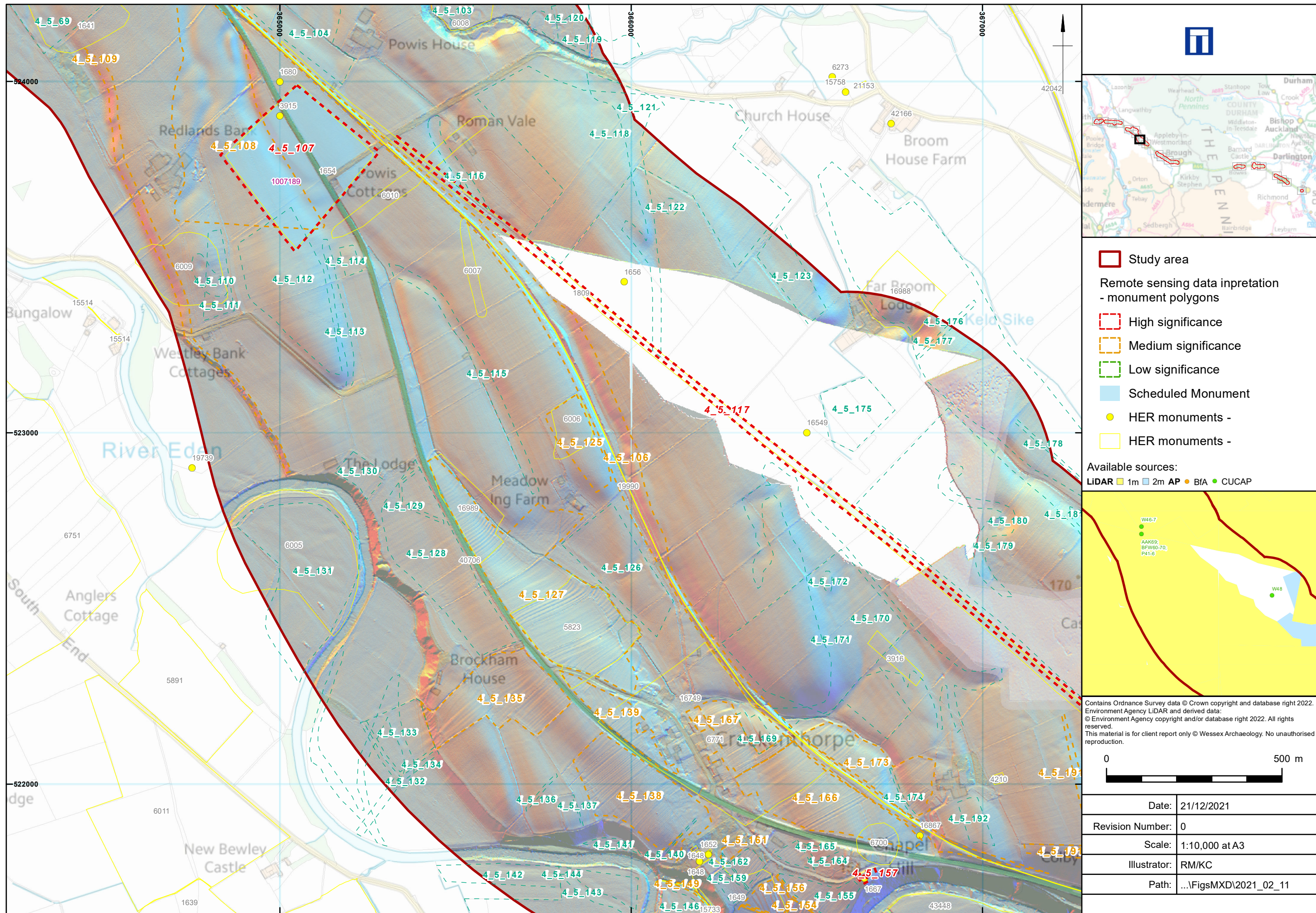
Temple Sowerby to Appleby

Figure 7



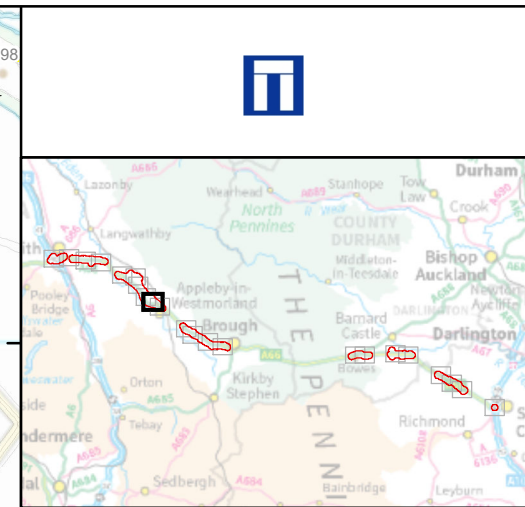
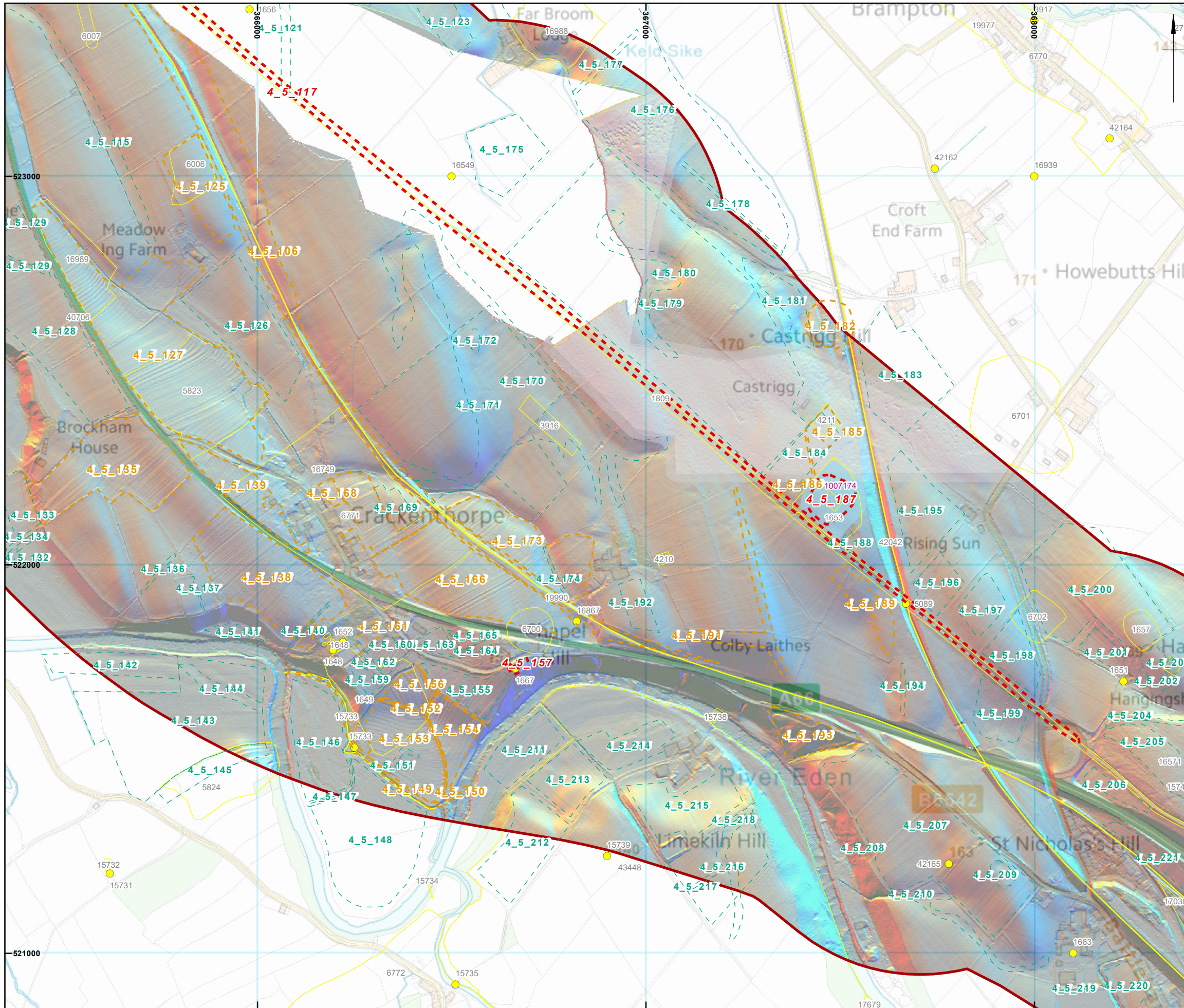
Temple Sowerby to Appleby

Figure 8



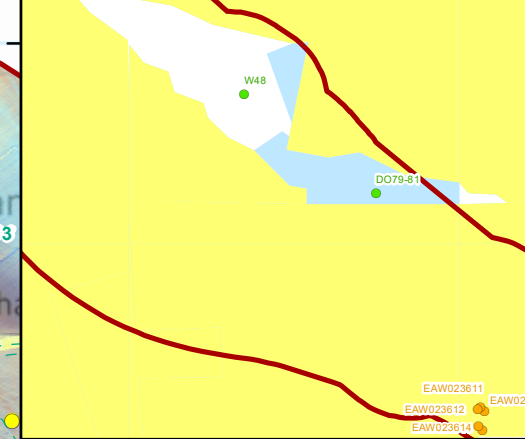
Temple Sowerby to Appleby

Figure 9



- Study area
- Remote sensing data interpretation - monument polygons
- High significance
- Medium significance
- Low significance
- Scheduled Monument
- HER monuments -
- HER monuments -

Available sources:  
 LiDAR ■ 1m ■ 2m ● AP ● BfA ● CUCAP



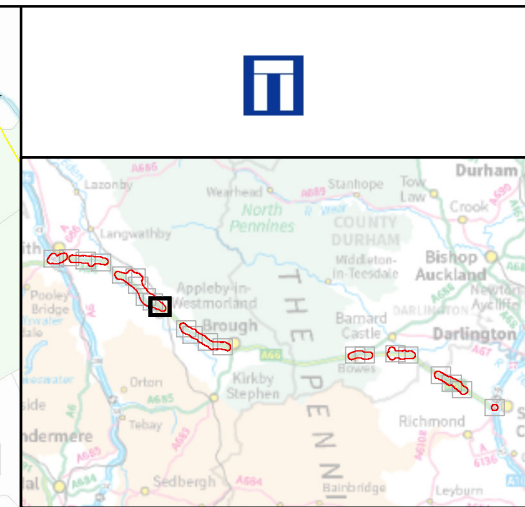
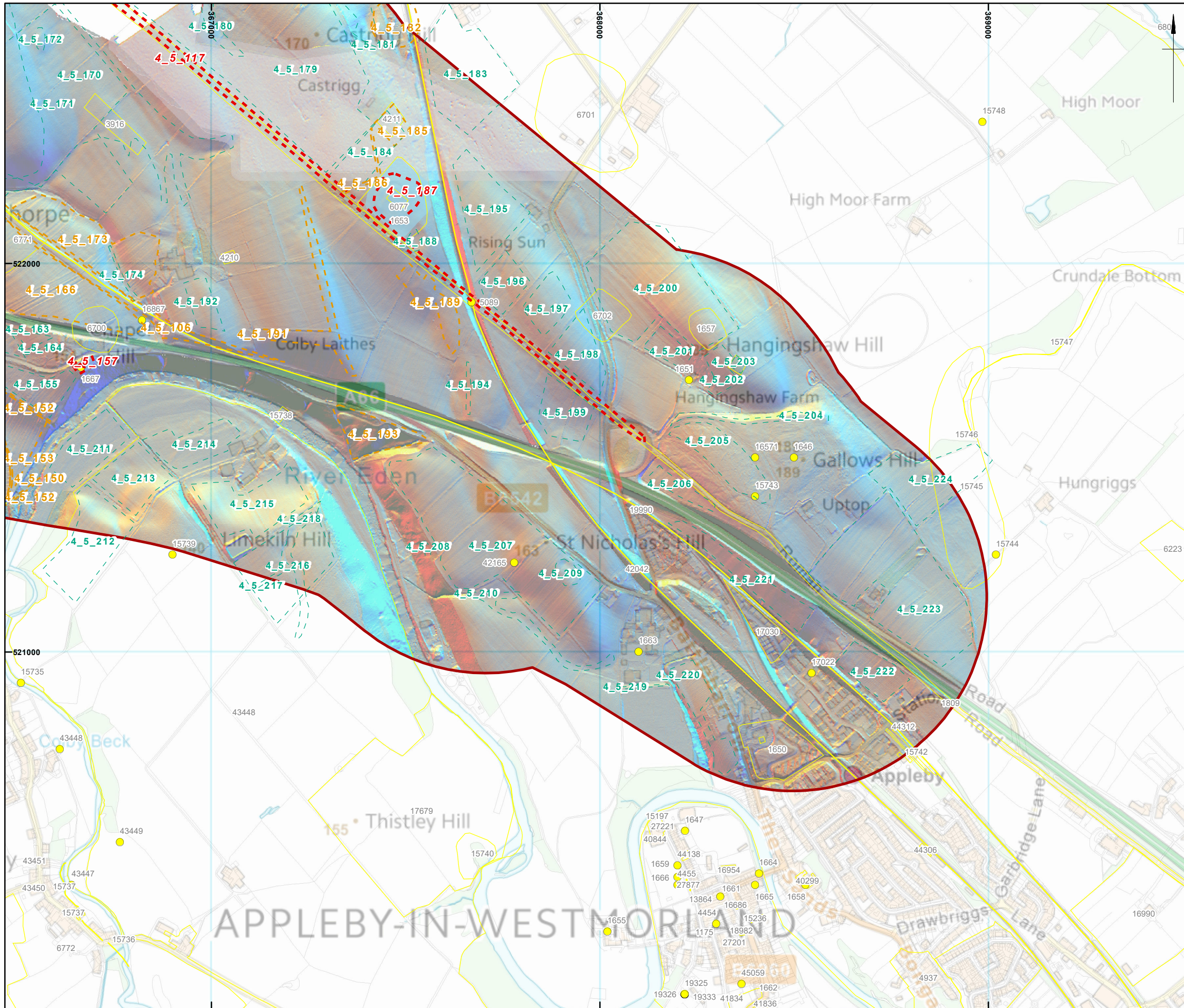
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Temple Sowerby to Appleby

Figure 10



- Study area
- Remote sensing data interpretation - monument polygons
- High significance
- Medium significance
- Low significance
- Scheduled Monument
- HER monuments -
- HER monuments -

Available sources:  
 LiDAR ■ 1m ■ 2m AP ● BfA ● CUCAP



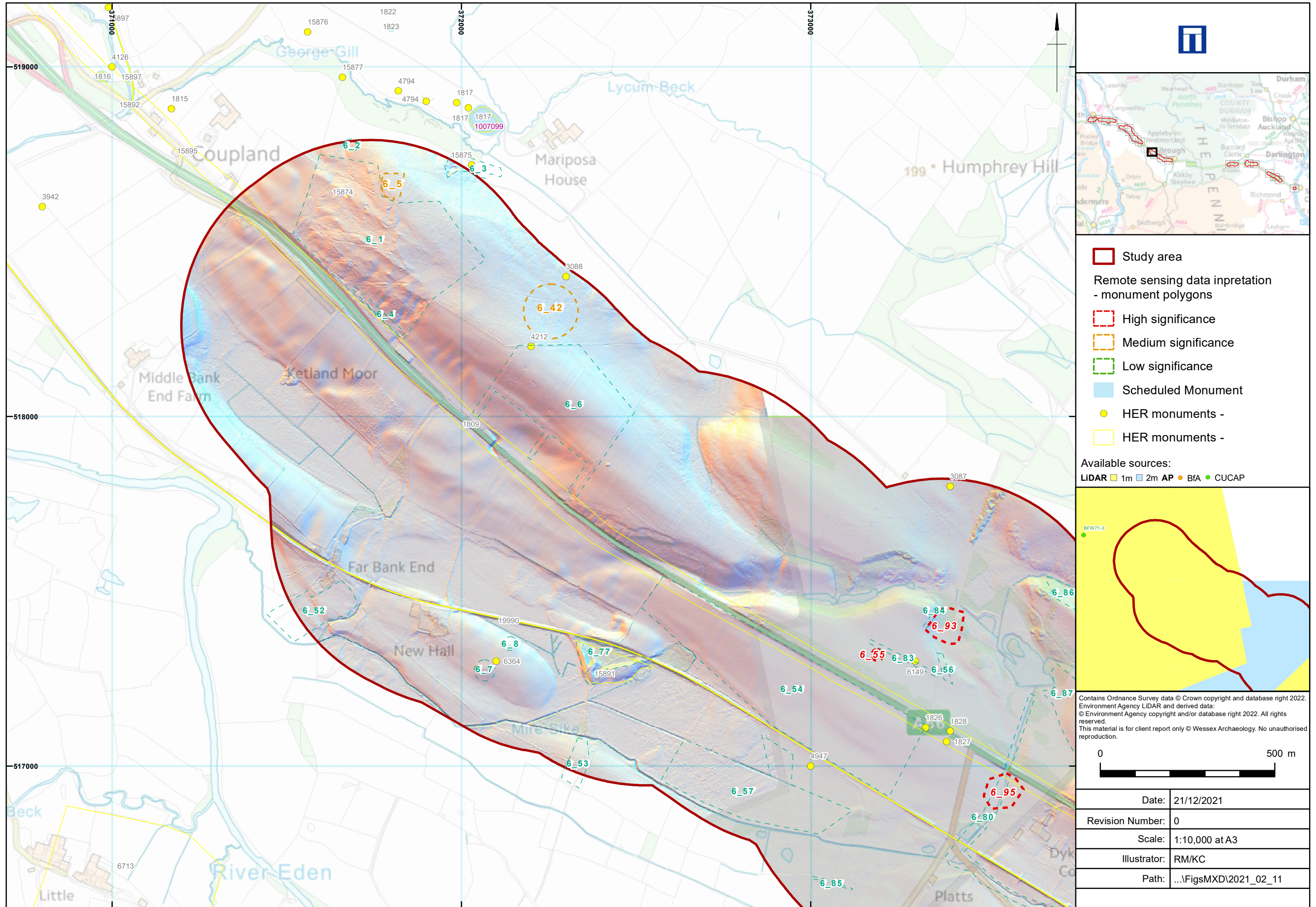
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Temple Sowerby to Appleby

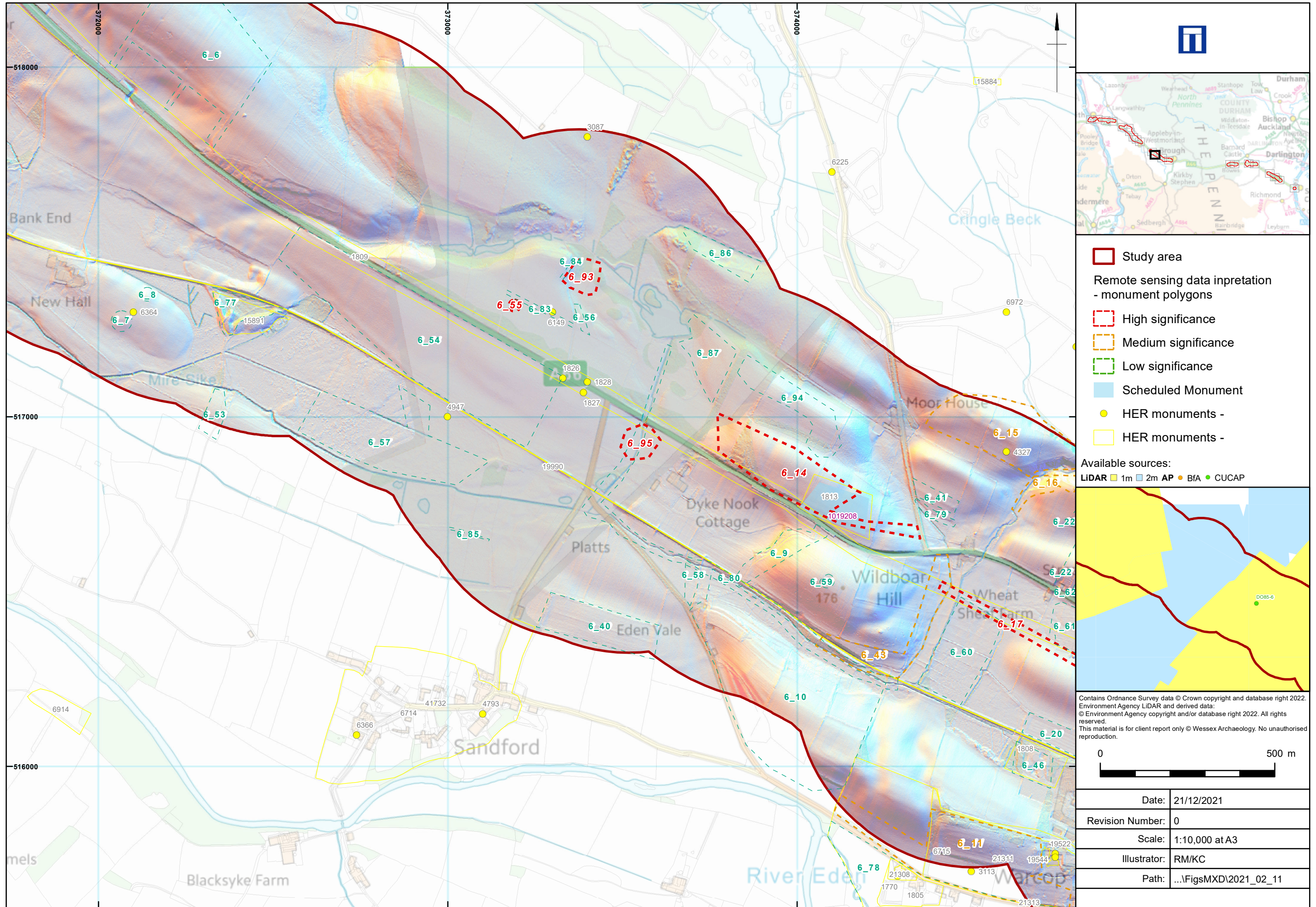
Figure 11



Appleby to Brough (Warcop)

Figure 12





- Study area
- Remote sensing data interpretation - monument polygons
- High significance
- Medium significance
- Low significance
- Scheduled Monument
- HER monuments -
- HER monuments -

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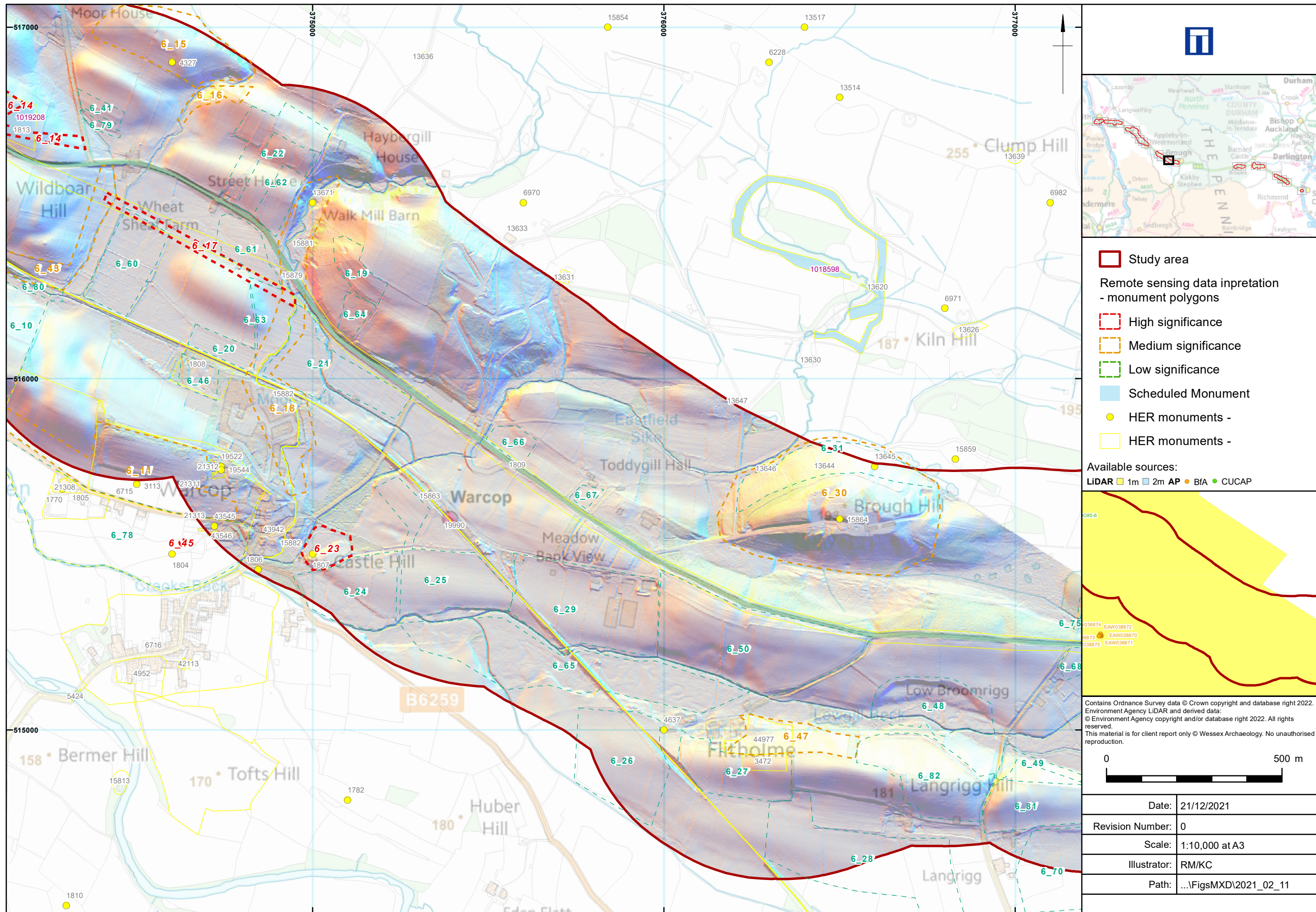
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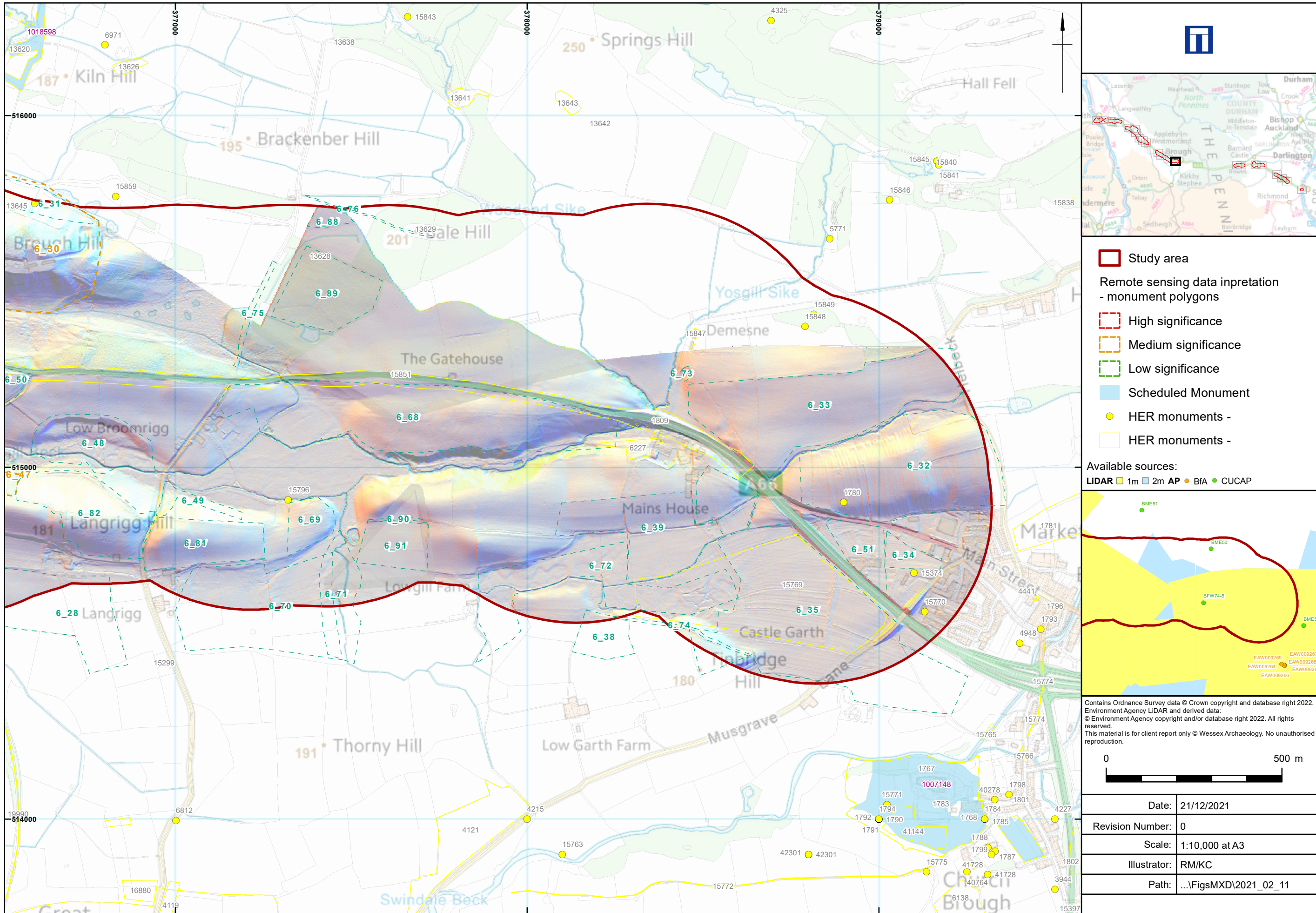
Appleby to Brough (Warcop)

Figure 13



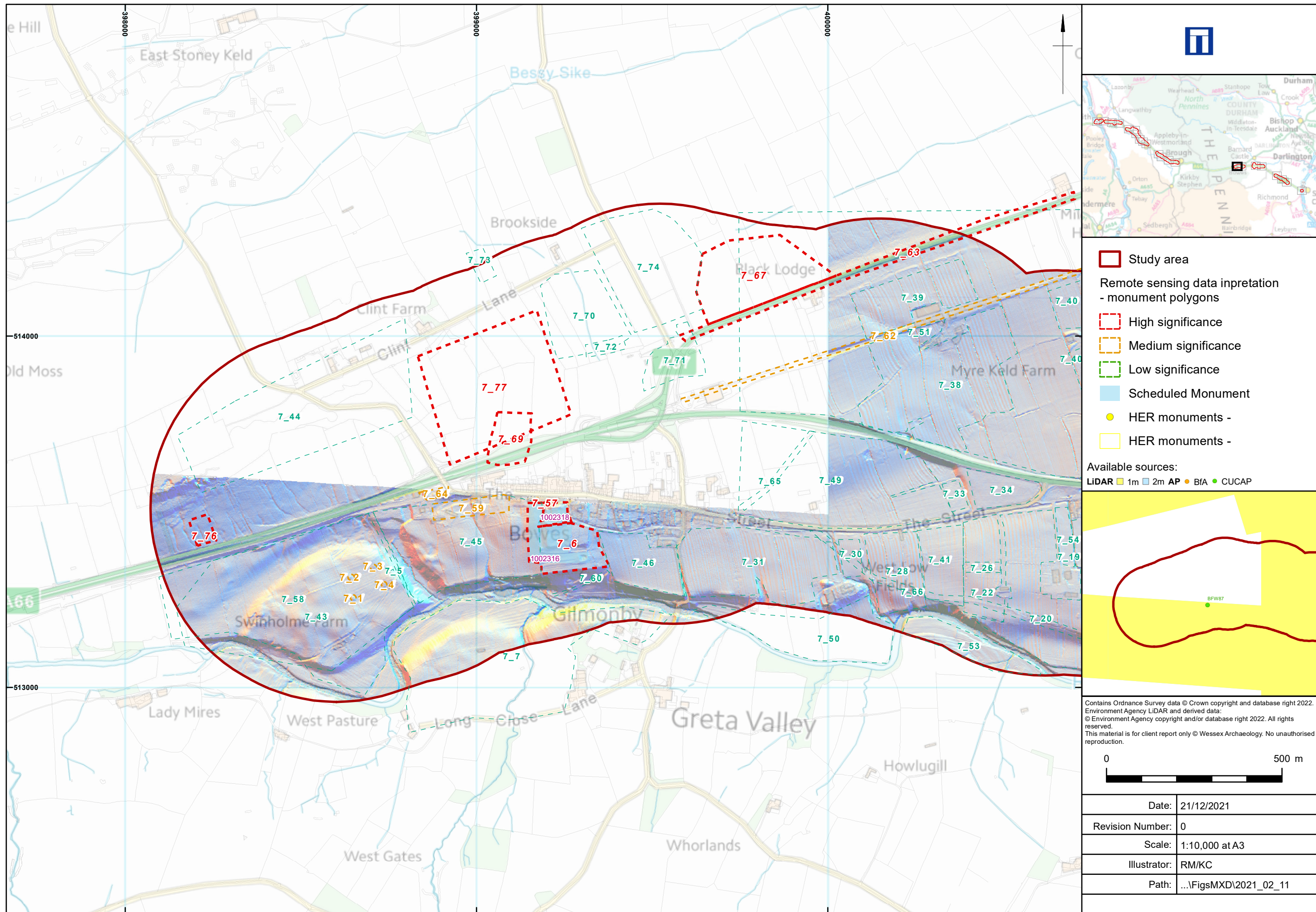
Appleby to Brough (Warcop)

Figure 14



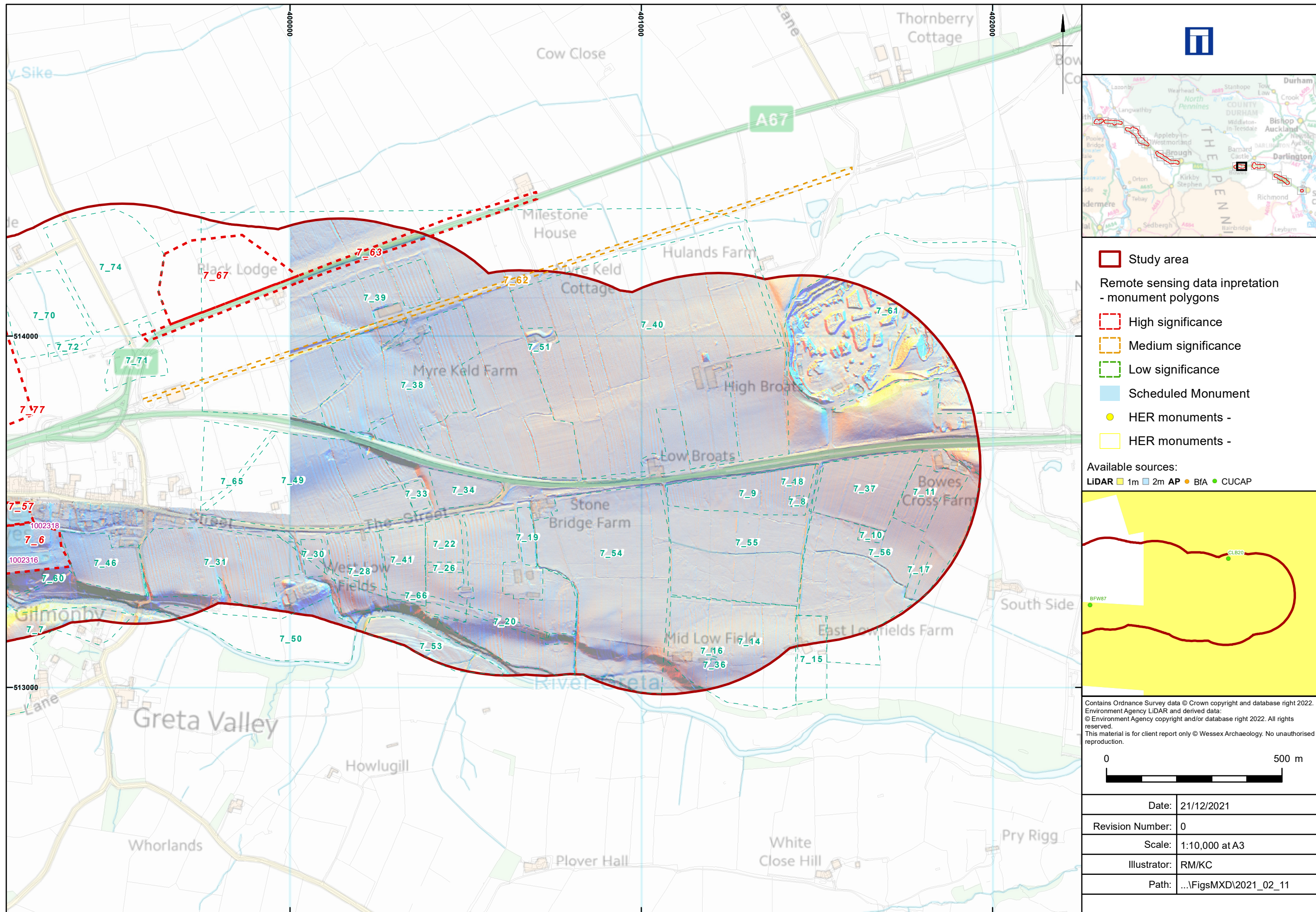
Appleyby to Brough (Warcop)

Figure 15



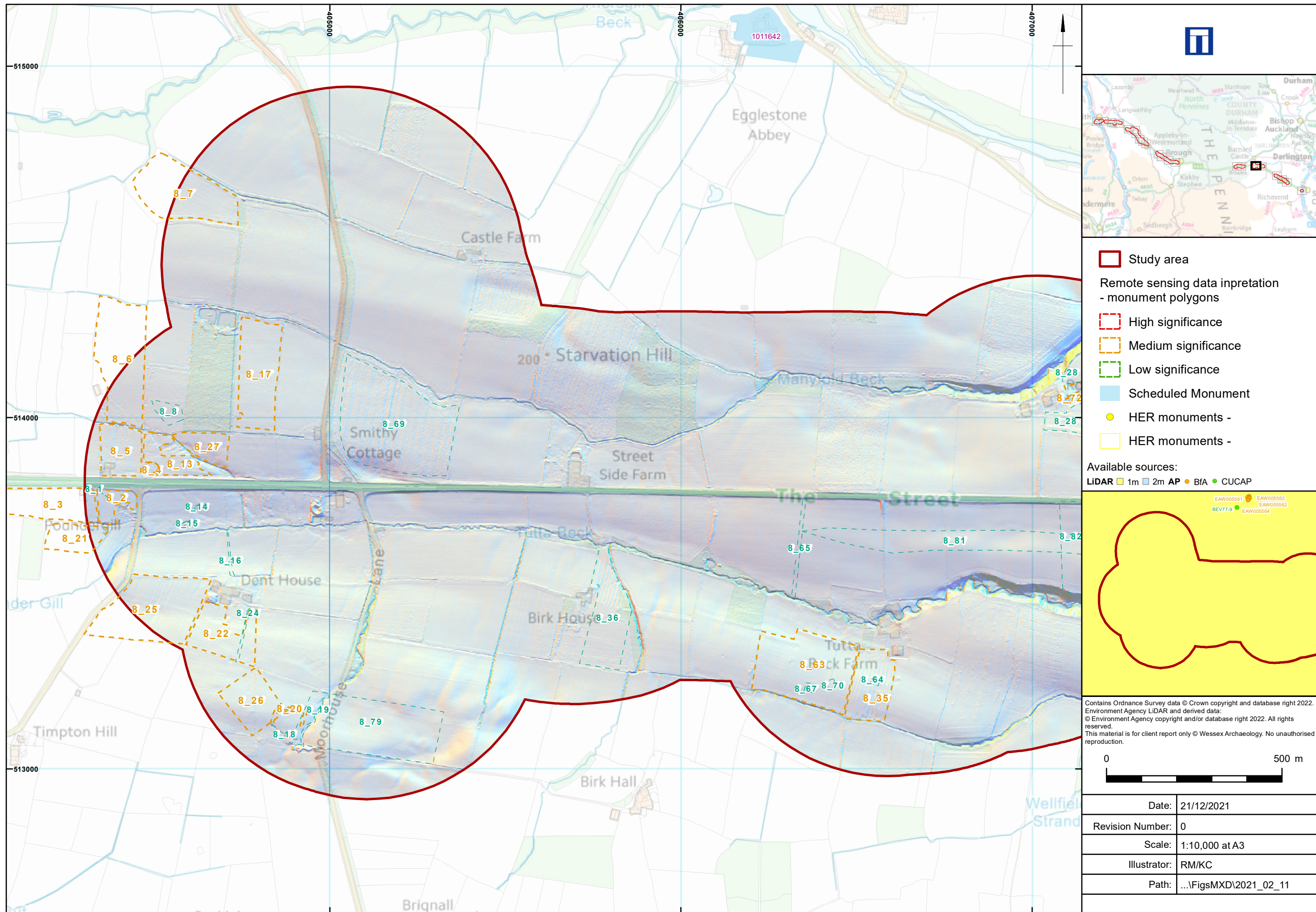
Bowes Bypass (A66/A67)

Figure 16



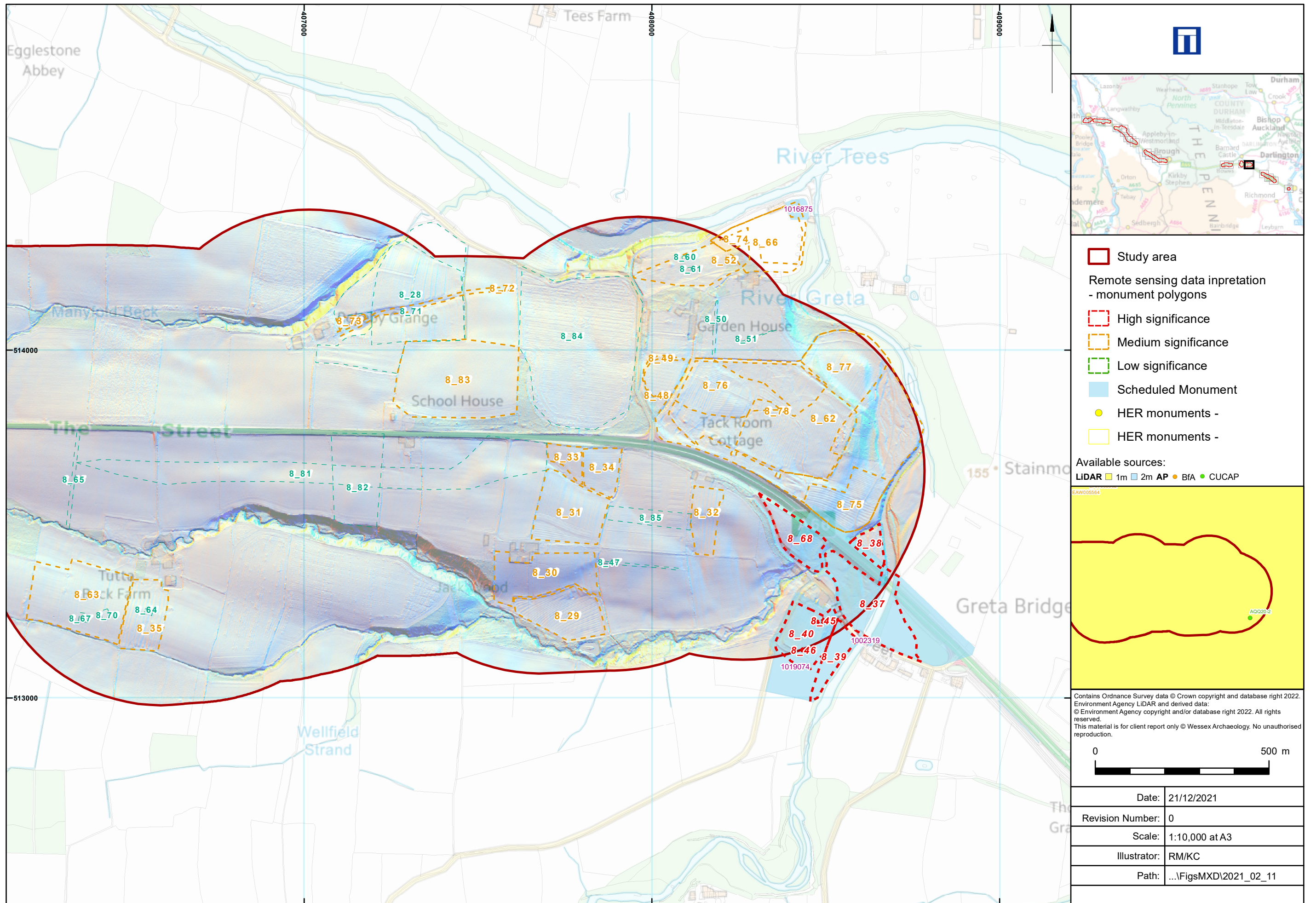
Boves Bypass (A66/A67)

Figure 17



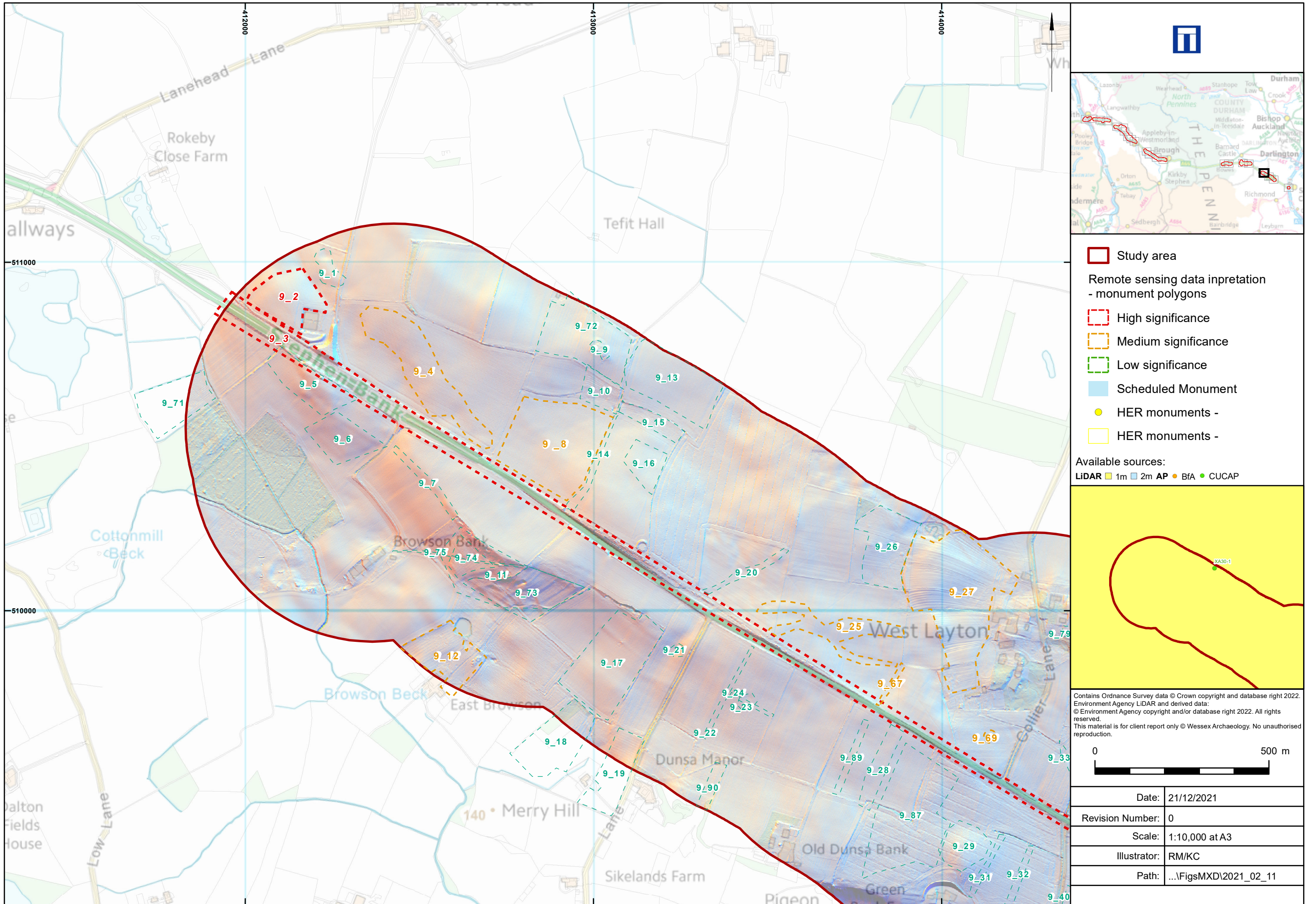
Cross Lanes to Rokeby

Figure 18



Cross Lanes to Rokeby

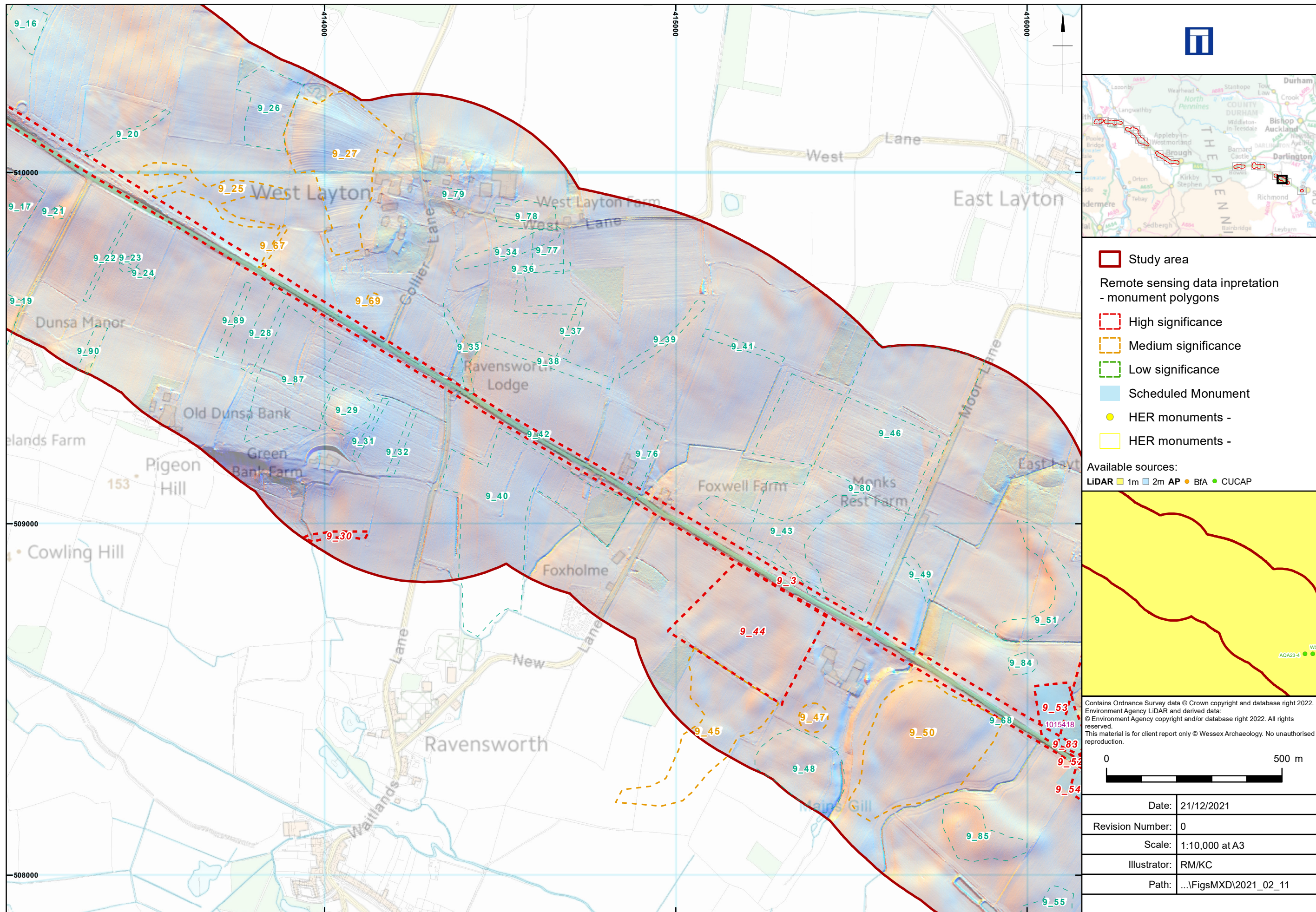
Figure 19



Stephen Bank to Carkin Moor

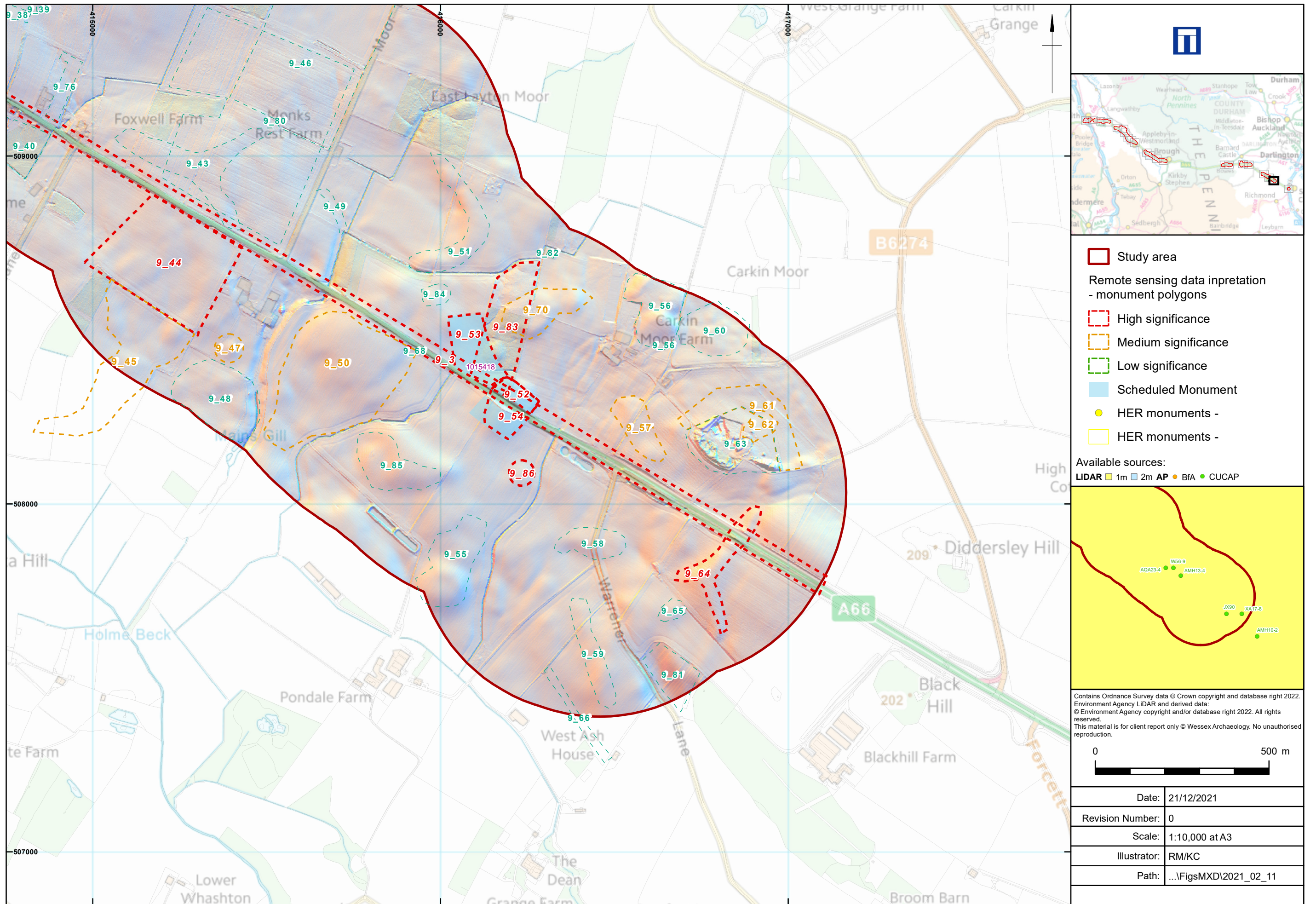
Figure 20





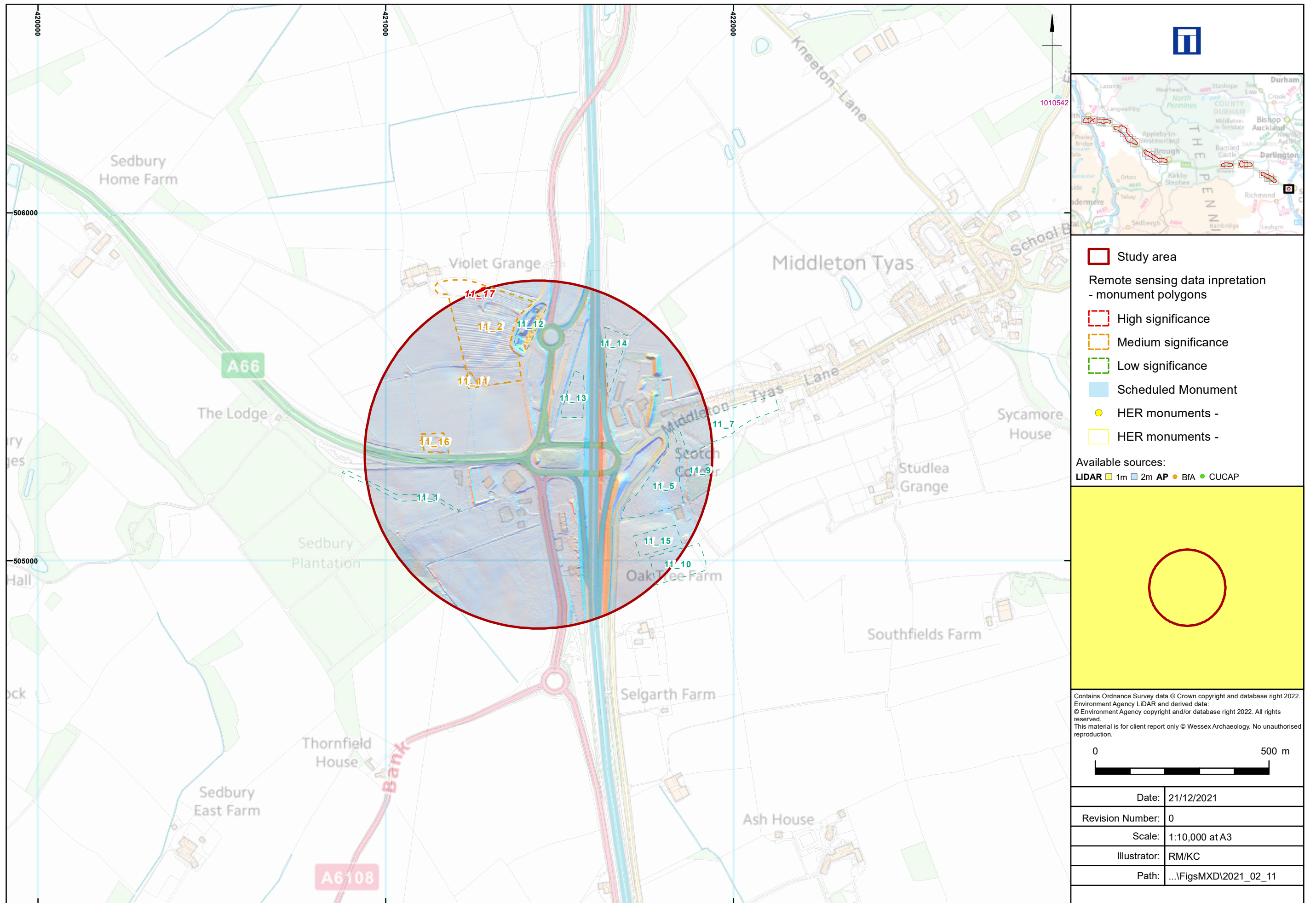
Stephen Bank to Carkin Moor

Figure 21



Stephen Bank to Carkin Moor

Figure 22



A(1)M Junction 53 Scotch Corner

Figure 23



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