



LAND ADJACENT TO WEST COAST MAINLINE, GREAT STRICKLAND, PENRITH

CUMBRIA

**Archaeological Desk-
Based Assessment,
Visual Inspection
and Evaluation**



Oxford Archaeology North

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SUMMARY

Following a proposal by Network Rail (West Coast) for the erection of an autotransformer (Planning Application Number 3/04/0812) on land adjacent to the West Coast Mainline, Great Strickland (NY 55010 22750), Cumbria County Council Historic Environment Service (CCCHES) were consulted by Eden District Council regarding the application. In response, CCCHES issued a brief for a programme of archaeological work, specifying a rapid desk-based assessment, visual inspection, metal detector survey and an evaluation. Upon acceptance of a project design formulated to meet the CCCHES brief, Oxford Archaeology North (OA North) were commissioned by Network Rail (West Coast) to undertake the programme of work.

The desk-based assessment, comprising a search of both published and unpublished records held by the Cumbria Historic Environment Record (CHER), Kendal, the Cumbria County Record Office, Kendal, and the archives and library held at OA North, was undertaken in May 2005 and identified 18 sites of archaeological interest within the 500m radius of the study area. Sites **01-15** were recorded on the CHER and three sites (Sites **16-18**) were identified through map regression analysis. These sites included a Bronze Age cairn that contained 13 cremations (Site **01**); a cropmark of possible Romano-British/Iron Age origin (Site **02**); two hoards of Roman coins (Sites **04** and **15**), along with two further findspots associated with Site **15**: a bracelet (site **13**) and a mount (Site **14**). Other sites included two hazard areas, one for the Village of Great Strickland (Site **10**), and one for a possible medieval settlement south of Hackthorpe Hall (Site **03**); a tile works and associated tramway (Site **05**); two quarries (Sites **08** and **11**); a mill (Site **09**); a road (Site **16**); a well (Site **17**); a guide post (Site **18**); an undated potential settlement (Site **06**); and two undated lynchets (Sites **07** and **12**).

The visual inspection, carried out in June 2005, added one further site to the gazetteer, Site **19**, a series of linear earthworks, and established the survival of road Site **16**, at least in part, to the north of the proposed development. The Metal Detector Survey, also undertaken in June 2005, recovered three metal objects, two bolts and a possible plough fragment, all from the topsoil and none of any significance.

The significance criteria detailed in PPG 16 (DoE 1990) were employed during the assessment to analyse the sites identified, with the result that three sites were considered to be of regional significance, comprising Bronze Age cremation cemetery (Site **01**) and both Roman hoards (Sites **04** and **15**). The remainder of the sites were considered to be of local significance. Site **19** (Linear earthworks) was identified as being potentially impacted upon by the access track for the proposed development.

The evaluation, conducted in June 2005, comprised the excavation of five trenches. Trenches 1-4, within the area of the proposed development revealed no features of archaeological interest. Trench 5 was excavated in the area of the access track in order to investigate the linear earthworks of Site **19**. These earthworks consisted of a mound, barely perceptible in section and approximately 1m in width, and an associated ditch (**05**), found to measure 3.5m in width and 0.3m in depth.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Network Rail (West Coast) for commissioning the project. Thanks are also due to Jo Mackintosh at the Cumbria CHER, and all the staff of the County Record Office in Kendal for their assistance with this project.

The desk-based assessment and walk-over survey was undertaken by Kathryn Blythe. The evaluation was carried out by Kathryn Blythe, Steve Clarke, David Tonks and Pascal Eloy, who also undertook the metal detector survey. The report was prepared by Kathryn Blythe, who also produced the illustrations. The project was managed by Alison Plummer, who also edited the report together with Alan Lupton.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 Network Rail (West Coast) have proposed the erection of an autotransformer (Planning Application Number 3/04/0812) on land adjacent to the West Coast Mainline, Great Strickland (NY 55010 22750). Cumbria County Council Historic Environment Service (CCCHES) issued a brief (*Appendix 1*) for a programme of archaeological works to be undertaken, prior to the development. This programme specified a desk-based assessment of the development area and its immediate environs, a visual inspection of the site and a metal detector survey prior evaluation trenching. Following acceptance of a project design (*Appendix 2*) to meet the CCCHES brief, Oxford Archaeology North (OA North) were commissioned by Network Rail (West Coast) to undertake the programme of archaeological work.
- 1.1.2 This report sets out the results of the desk-based assessment, visual inspection, metal detector survey and evaluation in the form of a short document, outlining the findings, followed by a statement of the archaeological potential and significance, and an assessment of the impact of the proposed development. The significance criteria detailed in PPG 16 (DoE 1990) was employed during the assessment.

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 A project design (*Appendix 2*) was submitted by OA North in response to the brief issued by CCCHES (*Appendix 1*). The project design was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

2.2 DESK-BASED ASSESSMENT

- 2.2.1 Several sources of information were consulted, in accordance with the project design. The study area consisted of a radius of 500m around the proposed development area. The more general area around the study area was also briefly examined to provide an historical and archaeological background. The sites identified during the desk-based assessment, map regression and visual inspection are collated in the gazetteer (*Section 4*). The results were then analysed using the set of significance criteria detailed in PPG 16 (DoE 1990), used to assess the importance of ancient monuments.
- 2.2.2 ***Cumbria Historic Environment Record (CHER)***: the Historic Environment Record for Cumbria, held in Kendal, was consulted. This consists of a list of known archaeological sites within the county, and is maintained by Cumbria County Council Historic Environment Service.
- 2.2.3 ***County Record Office (CRO), Kendal***: the county record office in Kendal holds the majority of original documents and maps for the study area. It was visited primarily to consult early maps of the area, which can provide details of the development of the landscape.
- 2.2.4 ***Oxford Archaeology North***: OA North has an extensive archive of secondary sources relevant to the study area, as well as numerous unpublished client reports on work carried out both as OA North and in its former guise of Lancaster University Archaeological Unit (LUAU). These were consulted where necessary.

2.3 VISUAL INSPECTION

- 2.3.1 A visual inspection was carried out across the area of the proposed development and along the associated access track in order to relate the existing landscape to sites identified by the desk based assessment, to note any further areas of potential archaeological interest and to identify those areas selected for placement of evaluation trenches.

2.4 METAL DETECTOR SURVEY

- 2.4.1 The area of the proposed development (81.7m x 17.68m) was divided into 2m transects and metal detected for ferrous and non-ferrous metals. The location of finds recovered from the survey was recorded using GPS equipment.

2.5 EVALUATION

- 2.5.1 Four trenches, measuring a total of 93m in length were located within the area of the proposed development and one trench measuring 15.7m in length was located in the area of the proposed access track. These trenches were excavated by a mechanical excavator fitted with a toothless ditching bucket (1.7m wide), to the level of the natural subsoil. The trenches were then cleaned by hand, and any potential features of archaeological interest were excavated. The trenches were recorded using *pro-forma* context sheets and Trench Record Sheets. Photographs of the trenches and any identified archaeological features were taken using both monochrome and colour slide film. The trenches were located using GPS equipment, which is accurate to +/- 0.25m.

2.6 ARCHIVE

- 2.6.1 A full professional archive has been compiled in accordance with the project design (*Appendix 2*), and in accordance with current IFA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited in the County Record Office in Kendal on completion of the project.

3. BACKGROUND

3.1 LOCATION, TOPOGRAPHY AND GEOLOGY

- 3.1.1 The proposed development consists of a rectangular plot (81.7m x 17.68m), immediately west of the Mainline, for the erection of an autotransformer, and a new access track (313m in length and 6m in width) aligned approximately north-east/south-west, linking the autotransformer to the main road (Fig 2). The study area focused on the land within a 500m radius of the centre (NY 55010 22750) of the proposed development.
- 3.1.2 The proposed development (Fig 1) lies in a narrow tract (c300m wide) of land bounded by the M6 motorway to the west and the West Coast Mainline to the east, both aligned approximately north/south. Approximately 50m to the east of the railway is the River Leith, also aligned north/south at this point. The river forms the boundary between the parishes of Great Strickland on its east side and Lowther on its west. The site is, therefore, within the parish of Lowther, and is approximately equidistant between the villages of Great Strickland to the east and Hackthorpe to the north-west. Lowther parish is within the former county of Westmorland, and is approximately five miles south of Penrith.
- 3.1.3 The proposed development site lies on a relatively flat area of land, at approximately 200m AOD, beneath a steep slope which rises up from east to west at the west side of the field (Fig 2). The field is bounded to the west and north by a hawthorn hedge, and to the south and east (alongside the railway) by wire fences. The proposed access track is situated to the south of the site, at the north end of a large field. The land here slopes quite steeply down from west to east. Both fields are used for pasture.
- 3.1.4 The solid geology consists of rocks of the Lower Carboniferous age, with extensive limestone scars, and wide areas of limestone pavement. The overlying geology consists of boulder clay deposited at the end of the last ice age (Countryside Commission 1998).

3.2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

- 3.2.1 **Prehistoric Period:** the proposed development site lies c8km south-west of the confluence of the Rivers Eden and Eamont, where an area of fertile agricultural land contains one of the most significant clusters of prehistoric archaeological sites in Cumbria (LUAU 1997c, 7). Several Bronze Age monuments demonstrate activity of this period around the present village of Hackthorpe, immediately to the north-west of the development area. Within the study area, a burial cairn (Site 01) was excavated in the nineteenth century, and thirteen cremations, an inhumation in a cist, and several flint artefacts were found. Two cropmarks, possibly representing barrows, have been identified on aerial photographs (at NY 55000 22000), while elsewhere a pair of round cairns are known at Round Hill (NY 54100 21900; CHER 5375). A

pair of standing stones with associated round cairn located at Crooklands (NY 53140 25930), c3km to the north of the development site, also date to this period.

- 3.2.2 The earliest recognised settlement remains in the locality are of Iron Age date and include the multi-vallate Castlesteads hillfort, which lies 3km north-west of Hackthorpe (NY 5183 2520; CHER 2900; SAM 23677). Cropmarks considered reminiscent of Iron Age or Romano-British settlements have also been identified on aerial photographs of the area, including CHER 2840 (NY 54600 23400), which lies c835m north-west of the proposed development, and Site **02**, which lies c300m to the north-west of the proposed development.
- 3.2.3 **Roman:** the gently undulating ground between the upper Eden Valley and the Lake District has one of the greatest densities of surviving Romano-British settlement remains in the North West, giving rise to the suggestion that a more intensive use of the landscape was achieved in the Roman period than in later times (LUAU 1997a, 22). A Romano-British enclosed settlement, from which second century pottery has been excavated, is known at Yanwath Wood (NY 5193 2598; CHER 2899), c4km north-west of the development area. A second settlement, dated to the Romano-British on typological grounds, has been identified at Greatholme Plantation, 2km west of the development area and, again, survives in earthwork form (NY 52858 23128; LUAU 1997a; LUAU 1997b, 18). An earthwork rectilinear enclosure at Round Hill (CHER 4200), 1km south of Hackthorpe, has been attributed to the Romano-British period, and, as noted above, two other enclosures (one of which is Site **02**), potentially indicative of settlements, have been considered to be either of Iron Age or Romano-British date.
- 3.2.4 Finds of the period have also been made in two locations. A hoard of *aes* coins of late Roman date (Site **15**), a late Roman annular bracelet (Site **13**), and a *pelta* mount (Site **14**) were found in the same field at Hackthorpe. The grid reference provided by the CHER indicates a find spot 300m south-west of the village, but it is unclear whether it was intended to refer to this spot, or to the 1km grid square NY 54 23 (c 223m to the north of the proposed development). A hoard of 88 coins derives from a field c300m south-west of the proposed development (Site **04**, which includes coins dating from the second to fourth centuries found as casual finds in the same area).
- 3.2.5 **Early medieval:** the archaeological evidence for the post-Roman centuries in the North West is sparse, particularly compared with that from many other parts of England. Until recently, excavated settlement evidence from eastern Cumbria was confined to the proposed monastic site of Dacre, near Pooley Bridge, where sixth to eleventh century remains were found (Newman and Leech forthcoming), although there are indications that Penrith may have developed from a pre-Conquest nucleus around St Andrew's Church (Newman *et al* 2000; Winchester 1987, 124). However, the presence of these two high status centres implies the existence of well-established agricultural hinterlands, and ephemeral traces of rural settlements are now being found for the first time. Over the last decade, evidence for timber buildings, probably pre-dating AD 800, has been found at Fremington (Oliver *et al* 1996, 127-169) and

Whinfell Forest (Heawood and Howard-Davis 2002), both lying *c* 4km north of Hackthorpe in the parish of Brougham, and at Shap, some 8km south of Hackthorpe (*ibid*). Artefactual evidence from these sites has been limited, as is often the case in this period, but has included loom weights (Fremington and Shap) and pottery (Fremington).

- 3.2.6 Finds of stone sculpture in the parish of Lowther provide evidence for Northumbrian influence in the local area during the eighth and ninth centuries, followed by Scandinavian influence during the tenth century. Two cross-shafts of later eighth- to early ninth-century date were formerly present inside Lowther Castle, and may have originated from nearby St Michael's Church (LUAU 1997a, 23; Bailey and Cramp 1988, 127-129); they suggest the presence of a contemporary church or monastic institution, with access to an agricultural surplus. Three rather later Anglo-Scandinavian hog-back stones are still present within the church porch (Bailey and Cramp 1988, 130-1), and imply some degree of Scandinavian influence by the late tenth or early eleventh century.
- 3.2.7 **Medieval:** historical evidence demonstrates that there was a medieval settlement at Hackthorpe (a township within Lowther parish) which may plausibly be related to the modern village site. A manor at Hackthorpe is known to have been in the possession of Sir Thomas de Strickland in 1361, because in that year he obtained a royal licence to empark his woods in that township and elsewhere, in return for services in the French wars (Bulmer 1885, 345). The Strickland family held the manor until its purchase by the Lowthers in 1535 (*ibid*), but no documents relating to their tenure are listed in the catalogue of Sizergh manuscripts held by the CRO (Kendal).
- 3.2.8 A variety of medieval remains are known elsewhere within the study area. A second potential medieval village site (Site **03**) has been identified *c*250m west of the proposed development. Earthwork ridge and furrow and a trackway, both attributed to the medieval period, have been identified *c*1.2km to the north-west of the proposed development (CHER 6212), and additional earthwork ridge and furrow of medieval character has been noted *c*1.1km to the north of the proposed development. Ridge and furrow cultivation features of unknown date have also been identified *c*940m north of the proposed development (CHER 6211). The village of Great Strickland *c*600m to the east of the proposed development also appears to be a shrunken medieval village with surviving ridge and furrow and strip enclosures (Site **10**). The strip fields on the west side of the village can be seen today to extend almost as far as the River Leith, which formed the boundary between the parishes of Great Strickland and Lowther. However, the presence of two areas of lynchets (Sites **07** and **12**) on the slopes to the immediate west of the river would appear to demonstrate that this area has also been used as agricultural land
- 3.2.9 Together, the surviving earthwork ridge and furrow remains, and the pattern of field boundaries visible on nineteenth century and modern maps, suggest that in the medieval period, Hackthorpe and Great Strickland were surrounded by open fields, which were used for arable agriculture. However, the use of the

two fields within the proposed development area at this time remains uncertain as they are not within the immediate vicinity of either of the villages.

- 3.2.10 A medieval deer park is known to the south-west of Hackthorpe (c950m to the west of the proposed development (LUAU 1997b, 15-16 and Fig 4, OA North 2005), Until c1350, the seat of the Lowther family seems likely to have been a ringwork at Castlesteads (NY 51880 24140), some 2.6km north-west of Hackthorpe, before moving to a peel tower on a site later occupied by Lowther Castle (LUAU 1997a, 23). Settlement remains to the east and south-east of Castlesteads appear to represent the medieval village of Lowther, pulled down by Sir John Lowther in 1682 (*ibid*). It is evident that the land surrounding this settlement, as at Hackthorpe, was for the most part subject to arable farming.
- 3.2.11 **Post-medieval:** the Westmorland Hearth Tax return for 1674 provides the first indication of the size of post-medieval Hackthorpe. The occupiers of 17 properties are referred to, of whom 15 had one hearth, one had two hearths, and one had six hearths (Cumbria Family History Society 2000). The latter incumbent apparently resided at Hackthorpe Hall, which stands 200m south-east of Hackthorpe village. The hall, an early seventeenth century farmhouse built for Sir Christopher Lowther, underwent alteration in the mid-seventeenth century (OA North 2005).
- 3.2.12 Post-medieval settlement evidence recorded in the CHER is confined to the model village at Lowther, located about 2km to the north-west of the proposed development area. It was built for Sir James Lowther between 1765 and 1773 by Robert Adam, but never completed. Industry and quarrying are represented within the study area by two quarries (Sites **08** and **11**), a tile works and associated tramway (Site **05**), and a mill (Site **09**).

3.3 MAP REGRESSION ANALYSIS

- 3.3.1 **Jeffrey's Map of Westmorland, 1770 (Fig 3):** Jeffrey's map shows the villages of Hackthorpe and Great Strickland connected by a road (Site **16**) running from the southern end of Hackthorpe and crossing the River Leith. The scale is such that individual fields are not shown.
- 3.3.2 **Greenwood 1824:** Greenwood's map shows the villages of Hackthorpe and Great Strickland connected by the same road (Site **16**). Hackthorpe Hall is marked adjacent to the western end of the road. Woods are shown to the north of the road (Site **16**) in a narrow band on the east side of the River Leith, and also to the south of the road, where it crosses the river extending as far west as the main road (the present day A6). These woods are not named, and individual fields in the open areas are not marked.
- 3.3.3 **Hodgson 1828 (Fig 4):** Hodgson's map shows the villages of Hackthorpe and Great Strickland connected by the same road (Site **16**) and Hackthorpe Hall is marked adjacent to the western end of the road. Unnamed woods are shown as on Greenwood's map, but with the addition of a narrow band of woods to the west of the river, on the north side of the road. A mill (Strickland Mill, Site **09**) is shown on the east side of the river to the south of Great Strickland. The

scale is such that no detail of the mill is shown, and individual fields are not marked.

- 3.3.4 ***Tithe 1837:*** unfortunately, the tithe map of 1837 (Apportionment of the rent charge in lieu of tithes in the Parish of Lowther, CRO (Kendal)) could not be examined as it is currently undergoing restoration. However, utilising the description from previous work (OA North 2002) it has been noted that the disposition of buildings within Hackthorpe appears to be substantially the same as that shown by modern mapping. The field boundaries to the south-west of Hackthorpe appear to correlate exactly with their modern counterparts, though to the north-east of the A6, narrow strip fields aligned north-east/south-west and north-west/south-east have been amalgamated into much larger fields. The narrow fields depicted on the 1837 map appear to demonstrate the enclosure of small groups of strips within the former town fields to either side of the main street.
- 3.3.5 ***Ordnance Survey 6" 1 mile 1859 first edition (Fig 5):*** the most marked change on this map is the presence of the Lancaster and Carlisle Railway. The railway is aligned approximately north/south through the study area, on the west side of the River Leith. The railway has cut through the wood, now named as Hag Wood. On the east side of the railway Strickland Mill (Site **09**) is shown in more detail than on Hodgson's map; two sluices are marked, and the mill race between them is labelled as such.
- 3.3.6 The other major change depicted on this map is the absence of the road (Site **16**) connecting Hackthorpe with Great Strickland. A track between two fields is marked extending north-eastwards from Hackthorpe Hall. However, at the north-east boundary of the two fields the track stops and turns to extend a short way both to the north-west and the south-east before stopping completely. This may be the remnants of the road, presumably rendered useless by the railway.
- 3.3.7 A road or track can be seen extending south-eastwards from the A6, two fields south of the track extending from Hackthorpe Hall. The road or track extends through Hag Wood running south, then east, to pass under the railway, this route is still used a link road between Hackthorpe and Great Strickland.
- 3.3.8 Where the track forks off the main road a guide post is marked (Site **18**), and a mile post is also marked to the immediate south of this. A further track branches off from this taking a more direct south-easterly route and merging with the road or track just before it goes under the railway. Only one road is shown on the east side of the railway. Hag Well (Site **17**) is shown on the east side of the wood, to the north of the road.
- 3.3.9 West of the main road, adjacent to the south end of Hag Wood a collection of buildings labelled as 'Tile Works' (Site **05**) are shown with a tramway extending westwards from the works.
- 3.3.10 The fields around the proposed development area are shown for the first time on this map. These are a small triangular field to the immediate west of the railway, within which the current development area lies and, to the west of the

development area, a larger field, extending between the main road and the aforementioned triangular field next to railway. The southern boundary of the larger field, which runs just north of the route of the proposed access track, demarcated the north extent of Hag Wood, possibly indicating that part of the proposed development was under woodland, if only for a short time, in the nineteenth century.

- 3.3.11 **Ordnance Survey 25" 1 mile 1898 and 6" 1 mile 1899 second edition:** the most marked change on this map is the absence of Hag Wood. The road that ran through it is now more clearly marked as the route between Hackthorpe and Great Strickland (it is labelled as 'Public Road' on the OS 25" 1 mile map), and the track that branches off this road is now marked as a footpath. The guide post (Site **18**) at the junction of this road with the main road is still shown and the milepost to the south of it is now marked as a milestone. The Railway is now marked 'L & N W R' (London and North Western Railway), as well as Lancaster and Carlisle.
- 3.3.12 The tileworks (Site **05**) is shown as one building, but not labelled, and the route of the tramway is marked with a dashed line but also not labelled, suggesting that these two features had gone out of use. New additions to the map are the quarry (Site **11**), marked as 'Old Quarries' and the cairn (Site **01**) marked as 'Tumulus (site of)'.
- 3.3.13 **Ordnance Survey 25" 1 mile 1916 and 6" 1 mile 1920 third edition (Fig 6):** this map is quite similar to the OS second edition, with the only new addition being a quarry (Site **08**) shown to the east of Strickland Mill (Site **09**). The milestone to the south of the guide post (Site **18**) is now marked as a milepost again. The area to the north of the route of the tramway (Site **05**) (shown as a dashed line) is now shown as being more wooded.
- 3.3.14 **Ordnance Survey 1:10,560 1957 Provisional Edition:** the most significant change on this map is the presence of the M6 motorway, which runs approximately north/south, parallel with, and c300m to the west of, the railway. The motorway runs under the A6 just to the south-east of Hackthorpe Hall, and an embankment is shown on the east side of the A6 at this point, where the road to Great Strickland branches off it. The guide post and milepost (Site **18**), which were in this area, are not shown and presumably were destroyed by the construction of the motorway. The other sites are not affected, although the tileworks (Site **05**) and the route of the tramway (bisected by the M6) are not shown at all on this map.
- 3.3.15 The west side of the southern field in which the proposed development is located has been encroached upon by the embankment, however, its other boundaries, and those of the smaller northern field remain unchanged between their first appearance on the first edition map and the present day.

3.4 ARCHAEOLOGICAL INTERVENTIONS

- 3.4.1 Antiquarian excavations are known within the study area, including the nineteenth century investigation and removal of the Bronze Age tumulus (Site

01), which revealed pottery, thirteen cremations, and other human remains (Collingwood 1926). Within the village of Hackthorpe, recent work comprising an evaluation (OA North 2002) and subsequent open-area excavation (CFA 2003) confirmed that Hackthorpe was a shrunken medieval village, with the shrinkage probably occurring some time prior to the fifteenth century.

3.5 VISUAL INSPECTION

- 3.5.1 The Visual Inspection added one new site (Site **19**, Plate 2) to the Gazetteer. It should be noted that these earthworks have been recorded before as part of Site **06**. However, they are quite distinct from the latter site, which lie about 200m to the south and, therefore, a new number has been assigned to this site.
- 3.5.2 This site comprised a prominent linear bank, approximately 210m in length and 1m in width, and several smaller possible stretches of bank to the south, all on the same west-south-west/east-north-east alignment (Fig 2). The main continuous stretch of bank had a ditch on its northern side and was constructed approximately on the line of a contour, with the ground sloping down to the south of the feature. The earthwork runs the length of the field in which the access track is to be located. Site **19** is likely to be the northern boundary of Hag Wood (Hodgson 1828, Fig 4 and Ordnance Survey 1859, Fig 5), with the lower banks perhaps representing terracing within the wood.
- 3.5.3 The visual inspection also confirmed the presence of Site **16**, to the north of the proposed development. This consisted of a raised area of ground aligned north-west/south-east at the north end of the field in which the proposed development area is to be located (some 65m to the north of the proposed development area). The position of this earthwork matched the position of the former road ascertained through the map regression analysis and, therefore, it seems highly likely that this is the remnant of the former road.

4. GAZETTEER OF SITES

Site number 01
Site name Hackthorpe Burial Cairn
NGR NY 54800 23150
Site type Burial Cairn
Period Bronze Age
CHER No 2874
Sources CHER; Collingwood 1926
Description Tumulus, removed in the nineteenth century. Composed of soil, amongst which were bones and charcoal. Soil covered a stone circle with a radius of 10m. An inverted urn containing a cremation, and 12 other cremations, were found, four of which were in a pit. The lower tier of a cist at the centre of the circle contained human bones. Flint flakes and artefacts were found with some of the cremations
Assessment The site lies to the north of the proposed development and will not be affected by it.

Site number 02
Site name Hackthorpe Settlement
NGR NY 54800 22900
Site type Settlement -cropmarks
Period Iron Age/Romano-British
CHER No 2841
Sources CHER; Aerial photos ref: CCC 1668,7 and MU CS 35,26
Description Cropmarks relating to a possible settlement.
Assessment The site lies to the immediate north of the proposed development and may be affected by it.

Site number 03
Site name Hazard Area for Hackthorpe Hall
NGR NY 54560 22500
Site type Hazard Area
Period Medieval
CHER No 6750
Sources CHER
Description Hazard Area for Hackthorpe Hall (possible village site)
Assessment The site lies to the west of the proposed development and will not be affected by it.

Site number 04
Site name Coin Hoard, Great Strickland
NGR NY 54800 22400
Site type Findspot
Period Romano-British
CHER No 16871
Sources Shotter 1991; 1992
Description A hoard of 88 radiates found in a field near Great Strickland. There was no sign of a container but some of the coins carry a deposit which might be the remains of a leather purse. The coins are in moderate condition, but some are very poor local copies. Included in the hoard is a relatively rare issue of the Gallic Usurper, Laelian. As well as the hoard, the area has yielded a number of casual finds including a very worn coin, probably of Trajan, dating from AD 103-117, a very worn *sestertius* from AD 170-180, the Emperor Lucilla, inscribed with: (obv) 'LVCILLA AVG [VSTA]'; (rev) '[PIETAS] S C'. Two *Radiates*, one of Gallienus (AD 259-268) and the other of Tetricus I (AD 271-3). Finally, dating from AD 321, from the Emperor Constantine I, a coin inscribed with: (obv) 'CONSTANTINVS AVG'; (rev) 'BEATE TRANQVILLITAS VOTIS XX PTR' (Shotter). A further damaged *radiate* copy of

Tetricus II has come to light, (obv) C PIV ESV TETRICVS CAES, (rev) AVGG (Shotter 1992), bringing the total of coins for that emperor to nine.

Assessment The site lies to the west of the proposed development and will not be affected by it.

Site number 05
Site name Hackthorpe Tile Works, Lowther
NGR NY 54770 22065
Site type Tile woks and Tramway
Period Post-medieval
CHER No 15452
Sources OS first edition 6" Sheet VIII; OS Second Edition 25" Sheet VIII.9
Description Hackthorpe tilery was destroyed by the M6 motorway south of Hackthorpe. A tramway ran to the west, stopping abruptly near Bessy Gill and the Thrimby parish boundary at NGR 354185 522025 (only visible on the OS first edition 6"). A pond was located near the works at one corner of a walled enclosure, NGR 354790 522120.

Assessment The site lies to the south west of the proposed development and will not be affected by it.

Site number 06
Site name Hackthorpe Settlement, Lowther
NGR NY 54900 22100
Site type Earthwork - settlement
Period Unknown
CHER No 2831
Sources CHER; Aerial photos ref: CCC 1668, 8-12; CCC1702, 8; CCC 2467,5-6 and CLAU (Shell 30); visual inspection
Description Earthworks which may indicate a possible settlement. However some of these may be the results of quarrying, and the construction of the railway. There is an opening on the north-east side, and a track leading down towards the valley bottom. The linear bank (see Site 19) perhaps relates to the old turnpike road. A similar bank survives at NY 5565 1862 (CHER 14580)

Assessment The earthworks lie to the south of the proposed development, and will not be affected by it.

Site number 07
Site name Great Strickland Lynchets
NGR NY 55200 22400
Site type Lynchet
Period Unknown
CHER No 2830
Sources CHER
Description Readily visible lynchets.

Assessment The lynchets lie to the south-east of the proposed development and will not be affected by it.

Site number 08
Site name Strickland Mill Quarry, Great Strickland
NGR NY 55240 22440
Site type Quarry
Period Post-medieval
CHER No 15497
Sources OS Second Edition 25" sheet 8/9; OS 1:10,000 sheet NY52SE
Description Strickland Mill Quarry is not named as such on the map, but probably has been a quarry

Assessment The site lies to the east of the proposed development and will not be affected by it.

Site number 09
Site name Strickland Mill, Great Strickland
NGR NY 55180 22465
Site type Watermill
Period Post -medieval
CHER No 15501
Sources OS first edition 6" Sheet 8; OS Second Edition 25" Sheet 8/9; OS 1:10,000 Sheet NY52SE
Description Strickland Mill is first mentioned in documents from 1234. The Mill Race begins at the weir at NY 5523-2219. There are sluices at NY 5524-2223 and NY 5520-2245
Assessment The site lies to the south-east of the proposed development and will not be affected by it.

Site number 10
Site name Hazard Area for Great Strickland Village
NGR NY 56000 23000
Site type Shrunken Village - earthwork
Period Medieval
CHER No 6726
Sources CHER; aerial photos ref: CCC 2824,5; CCC 2825, 28-33; and MU CS 98A, 18
Description Hazard area for Great Strickland Medieval village. Strip enclosures, enclosures and ridge and furrow are also visible on aerial photo CCC 2824,5 and 2825, 28-33
Assessment The site lies to the east of the proposed development and will not be affected by it

Site number 11
Site name Oaklands Quarries, Great Strickland
NGR NY 55590 22870
Site type Quarry
Period Post-medieval
CHER No 15498
Sources OS first edition 6" sheet VIII; OS Second Edition 25" sheet VIII/9
Description Oaklands quarries lie beside a track leading from Townhead, Great Strickland to Oak Gill Wood. NY 5547-2288 (c0.02Ha, OS First and Second Editions); NY 5538-2304 – NY 5542-2297 (c 0.12Ha, OS Second and 1:10,000 Editions)
Assessment The site lies to the north-east of the proposed development, and will not be affected by it.

Site number 12
Site name Great Strickland, Town Head Lynchets
NGR NY 55100 22900
Site type Lynchet
Period Unknown
CHER No 13764
Sources CHER
Description Banks and Lynchets shown on aerial photos.
Assessment The site lies to the north-east of the proposed development and will not be affected by it.

Site number 13
Site name Annular Bracelet
NGR NY 54000 23000
Site type Findspot
Period Roman
CHER No 19659
Sources CHER; Richardson 1998, 20

Description	An annular bracelet (now sprung apart) of a simple undecorated type dating to the third or fourth century AD was found in same field as two other Romano-British finds (see CHER Nos 19660 & 19674). This bracelet and CHER No 19660 may well have formed part of the coin hoard (CHER No 19674). Plain annular bracelets have been recovered from a number of Romano-British sites, including Colchester, Winchester and South Shields.
Assessment	The site lies to the north of the proposed development and will not be affected by it.

Site number	14
Site name	Pelta Mount
NGR	NY 54000 23000
Site type	Findspot
Period	Roman
CHER No	19660
Sources	CHER; Richardson 1998, 20
Description	A circular mount with open-work pelta motifs found in the same area as the coin hoard (CHER No. 19674) and the bracelet (CHER No. 19659). Two circular sectioned attachment shanks project from the rear with the circular heads still intact. Pelta mounts such as this one have a wide distribution and were used for either decorating leather harness or personal equipment. There is a close parallel for the Hackthorpe mount from South Shields.
Assessment	The site lies to the north of the proposed development and will not be affected by it.

Site number	15
Site name	Coin Hoard
NGR	NY 54000 23000
Site type	Findspot
Period	Roman
CHER No	19674
Sources	CHER; Richardson 1998, 24; Shotter 1994, 291-2
Description	A hoard of <i>aes</i> coins of late Roman date was found at Hackthorpe by a metal detector-operator in 1992. A few Romano-British pottery sherds and metal items of varying date were also found in the vicinity, (including CHER Nos 19659 & 19660).
Assessment	The site lies to the north of the proposed development and will not be affected by it.

Site number	16
Site name	Great Strickland – Hackthorpe, road
NGR	NY 54879 22971
Site type	Road
Period	Post-medieval
CHER No	-
Sources	Jeffrey's map of Westmorland 1770; Hodgson's map 1824; Greenwood's map 1828; OS first edition 6" sheet VIII; visual inspection
Description	A road shown on Jeffrey's map of Westmorland 1770, Hodgson's map of 1824, and Greenwood's map of 1828 linking Hackthorpe to Great Strickland from the south end of Hackthorpe village adjacent to Hackthorpe Hall. The road extends over the River Leith and into Great Strickland. The scale and accuracy of the maps on which it is depicted is such that the exact course that the road took is unclear. However, by the time of the first edition Ordnance Survey map in 1859, which depicts the Lancaster and Carlisle Railway, the road has gone, replaced by a road further south cutting through Hag wood. It is possible that the road may have extended into the north of the field of the proposed development, and may be one of the cropmarks seen on the aerial photograph MU CS 35, 26. A feature which may be the road, aligned north-west/south-east was noted during the visual inspection of the field in which the proposed development was to be located.
Assessment	The site lies to the immediate north of the proposed development and will not be affected by it.

Site number	17
Site name	Hag Well.
NGR	NY 55093 22491
Site type	Well
Period	Post-medieval
CHER No	-
Sources	Ordnance Survey first edition 6" 1 mile (1859)
Description	Hag Well, marked at the east extent of Hag Wood, to the west of the River Leith.
Assessment	The site lies to the south east of the proposed development and will not be affected by it.

Site number	18
Site name	Guide Post (Shap to Penrith Road)
NGR	NY 54800 22512
Site type	Guide Post
Period	Post-medieval
CHER No	-
Sources	Ordnance Survey first edition 6" 1 mile (1859)
Description	Guide Post, marked on the first edition Ordnance Survey map, a mile post is marked to the immediate south of this adjacent to a note which reads 'Shap 5 Penrith 5 ½'. Both of these features were destroyed by the construction of the M6 motorway.
Assessment	The site lies to the west of the proposed development and will not be affected by it.

Site number	19
Site name	Linear earthworks
NGR	NY 54947 22547
Site type	Earthworks
Period	Unknown
CHER No	-
Sources	Aerial Photos CCC 2467,5: CCC 2467,6
Description	A prominent linear bank aligned west-south-west/east-north-east, with an associated ditch on its north side. Smaller banks appear to be present downslope to the south of this. The bank is approximately 1m wide and up to 0.4m high, and the ditch is approximately 1m-1.5m wide, and is visible as a slight dip running parallel with the bank. This linear bank is thought to be the same as that mentioned in the CHER entry for Site 06 . However, the two sites are quite distinct with Site 19 located 200m to the north of the northern limit of the hazard area for Site 06 .
Assessment	The site lies in the area of the proposed access track and will be affected by it.

5. SIGNIFICANCE OF THE REMAINS

5.1 INTRODUCTION

5.1.1 The CHER provided evidence of 15 sites within the study area (Sites **01-15**) to which can be added three sites identified during the map regression analysis (Sites **16-18**) and a further site from the visual inspection (Site **19**).

5.1.2 None of the sites identified within the 500m study area were scheduled Ancient Monuments, and there were no listed buildings.

Period	No of sites	Sites
Neolithic	0	-
Bronze Age	1	Hackthorpe Burial Cairn (Site 01)
Iron Age/ Romano-British	1	Hackthorpe settlement (Site 02)
Roman	4	Coin Hoard, Great Strickland (Site 04), Annular Bracelet (Site 13), Pelta Mount (Site 14), Coin Hoard (Site 15)
Medieval	2	Hazard area for Hackthorpe Hall (Site 03), Hazard area for Great Strickland village (Site 10)
Post-medieval	7	Hackthorpe Tile Works, Lowther (Site 05), Strickland Mill Quarry, Great Strickland (Site 08), Strickland Mill, Great Strickland (Site 09), Oaklands Quarries, Great Strickland (Site 11), Great Strickland-Hackthorpe, road (Site 16), Hag Well (Site 17), Guide Post (Shap to Penrith Road) (Site 18)
Unknown	3	Hackthorpe settlement, Lowther (Site 06), Great Strickland Lynchets (Site 07), Great Strickland, Town Head Lynchets (Site 12), Linear earthworks (Site 19)

Table 1: Number of sites by period

5.2 CRITERIA

5.2.1 There are a number of different methodologies used to assess the archaeological significance of sites; that to be used here is the ‘Secretary of State’s criteria for scheduling ancient monuments’ which is included as Annex 4 of PPG 16 (DoE 1990). The sites previously listed (*Section 4*, above) were each considered using the criteria, with the results below.

5.2.2 **Period:** the study area comprises sites spanning the Bronze Age to the post-medieval periods, including several sites that are characteristic for their particular period. The Bronze Age burial cairn (Site **01**) characterises the

- burial practices of that period. Equally, the potential Iron Age/Romano-British settlement (Site **02**) and Medieval settlement (Site **03**) characterise settlement practices for these periods. These sites lie to the north and west of the proposed development area and therefore will not be affected by it.
- 5.2.3 **Rarity:** the coin hoard (Site **15**) is considered to be of at least regional rarity as it is the only hoard in the North-West that terminates in the early 350s; it is also rare to find a hoard with such a high proportion of coins of Magnentius (AD 350-353 - Shotter 1994, 291). The metalwork (Sites **13** and **14**) associated with the hoard is locally rare. The other coin hoard (Site **04**) can also be considered to be at least regionally rare, due to the inclusion within the hoard of an issue of the Gallic Usurper, Laelian (AD 269). Considering the concentration of burials within it, the burial cairn (Site **01**) could be considered to be regionally significant.
- 5.2.4 Other sites within the study area are more commonplace. It is not possible to gauge the rarity of the possible settlement and earthworks (Sites **06** and **19**) of unknown date, although such features seem quite common in the area on the basis of several other earthworks and/or cropmark sites of Romano-British and/or Medieval date in the area. The potentially Iron Age/Romano-British settlement (Site **02**) cannot therefore be considered rare as it appears to be one of several potential sites in the locality. The other sites within the study area are also more commonplace. These comprise post-medieval industrial and/or agricultural sites (Sites **05**, **08**, **09**, and **11**) and two agricultural sites of unknown date (Sites **07** and **12**).
- 5.2.5 **Documentation:** although the post-medieval sites in the study area (See Table 1, above) are covered by documentary sources (predominantly the cartographic sources), these sites were not considered to be sufficiently enhanced by this documentation to state that this added to their significance.
- 5.2.6 **Group Value:** the burial cairn (Site **01**) gains significance when considered with the other Bronze Age features in the area (*Section 3.2.1*, above). The medieval sites (Sites **03** and **10**) gain a degree of significance when considered together, as do the Roman sites (Sites **02**, **04**, **13**, **14** and **15**). There is, however, little to be gained from grouping together Sites **05-09**, **11-12** and **16-19**, although the Hackthorpe Tilery (Site **05**), the Strickland Mill Quarry (Site **08**) and the Strickland Mill (Site **09**) do at least indicate the post-medieval industrial development of the area.
- 5.2.7 **Survival/Condition:** the burial cairn (Site **01**) was removed in the nineteenth century. The two coin hoards and associated metal finds (Sites **04**, **13**, **14** and **15**) survive in museums. The tileworks (site **05**) and the guidepost and milestone (Site **18**) were destroyed by the construction of the M6 motorway. The other post-medieval sites (Sites **08**, **09**, **11** and **17**) all survive fairly well, and are named on the current OS 1:10,000 map (Site **08** is not named as a quarry, but an earthwork is indicated at this point). Great Strickland village (Site **10**) survives well, and is protected by being within a hazard area. The fact that most of the cropmark and earthworks sites (Sites **02**, **03**, **06**, **07** and **12**) were visible from aerial photographs illustrates their survival, at least when the photographs were taken. Site **19** was identified as part of the visual

inspection, and survives well. The survival of Site **16**, the former road between Hackthorpe and Great Strickland, was unknown prior to the visual inspection, and was only added to the gazetteer after examining early maps of the area. However, a raised linear feature which could well be the road was noted as part of the visual inspection and, therefore, it would seem to survive at least in this area.

5.2.8 **Fragility/Vulnerability:** the most vulnerable sites are probably the sites of cropmarks and earthworks (Sites **02, 03, 06, 07, 08, 10, 11, 12 16** and **19**), which are potentially at danger from agricultural activity. Of these, only Site **19** is potentially threatened by the proposed development and, therefore, could be considered to be significant on the grounds of its vulnerability.

5.2.9 **Diversity:** within the study area sites relating to burial practice (Site **01**), settlement (Sites **02, 03, 06** and **10**), agriculture (Sites **07** and **12**) and industry (Sites **05, 08, 09** and **11**) have been identified. Of these sites, the most diverse are the burial cairn (Site **01**), although this has already been removed, and the settlement sites (Sites **02, 03, 06** and **10**). Site **10** is a hazard area assigned to the village of Great Strickland, incorporating all archaeological aspects of the village from standing buildings to field systems and earthworks. The other sites (Sites **02, 06** and **03**) refer to earthworks and/or cropmarks which may relate to settlement sites. In addition, Site **19** is an earthwork, which may or may not be related to Site **06**, and has an unknown function.

5.2.10 **Potential:** the archaeological potential for the study area lies mainly in its cropmark and earthwork sites (Sites **02, 03, 06, 07, 12** and **19**). The potential of Site **02**, thought to be Romano-British in date is highlighted by the four Roman findspots in the vicinity (Sites **04, 13, 14** and **15**).

5.3 SIGNIFICANCE

5.3.1 Sites within the study area score highly in the criteria of period, rarity and survival/condition, with Sites **01, 04** and **15** being considered regionally rare.

5.3.2 **Proposed development and access track:** there were no sites within the proposed development area, but Site **19** is located in the area of the proposed access track and is highly likely to be impacted upon by its construction.

6. RESULTS

6.1 METAL DETECTOR SURVEY

6.1.1 The area of the proposed development was divided into 2m transects and metal-detected for ferrous and non-ferrous metals, leading to the discovery of only three relatively modern finds from the area. These were two bolts (possibly relating to the railway) and part of a plough. The location of the finds was recorded using GPS equipment.

6.2 EVALUATION

6.2.1 **Introduction:** in total, five trenches (Fig 7) were excavated, four in the area of the proposed development, and one in the area of the access track. The trenches varied between 15.7m and 26m in length, and between 0.25 and 0.3m in depth; they were all 1.7m in width and, with the exception of Trench 5, which was aligned north-west/south-east, were aligned approximately north/south.

6.2.2 The topsoil in the trenches was a mid-brownish-red clay/sand with moderate inclusions of small to medium stones. The natural geology was a slightly redder clay/sand with moderate inclusions of small to large sub-rounded stones.

6.2.3 **Trenches 1-4 (Plate 1):** these trenches were excavated in the area of the proposed development (for trench descriptions see *Appendix 3*). No features were observed in Trenches 1 and 2. A small, probably natural, feature was excavated in Trench 3 (cut **03**, fill **04**). This was roughly circular in shape, 0.65m in diameter and 0.18m deep. It was filled with a mid-grey-brown silty-clay. The irregular nature of the feature was indicative of it being a small tree-bole or animal burrow. One field drain was observed towards the south end of Trench 4; this consisted of fragments of a red ceramic pipe on an east/west alignment.

6.2.4 **Trench 5:** this trench was targeted in the area where the access track was to cut through Site **19**. Site **19** comprises a linear bank aligned approximately east-north-east/west-south-west with a ditch on its north side. Its preservation varies, and it is most prominent at the west end of the field, whereas in the area where it is to be crossed by the access track, the bank appears much reduced. It seems likely that this area has been used by farm vehicles over a long period of time, which has resulted in its slow erosion.

6.2.5 The excavation of the trench revealed that, at this point, the bank was a barely perceptible rise in the ground surface demarcated by a layer of heavily compacted clay/sand with frequent inclusions of small-medium stones. The bank was approximately 1m in width, and the stony deposit 0.05-0.1m thick. The boundary between the remnants of the bank material and the underlying natural was extremely diffuse.

- 6.2.6 The ditch is visible as a clear slope on the north side of the bank, and measured 3.5m in width. Excavation of a slot through the ditch in Trench 5 (Plates 3 and 4; Fig 8) revealed it to be 0.4m in depth, with a fairly gently sloped edge on its northern side, and a steeper edge on its south (bank) side. Beneath the topsoil, which was slumped into the top of the feature, was a stony fill (**06**). This appeared to have tipped in from both edges, and probably represented the gradual erosion of bank material into the ditch on the south side, and the natural infilling of the ditch on the north side from the ground which slopes above it to the north. Several of the larger stones may have been deliberately thrown into the ditch as clearance from the field. A patchy layer of compacted clay was visible in places at the boundary between **06** and the topsoil.
- 6.2.7 At the base of the ditch were four large stones (measuring up to 0.7m x 0.5m x 0.5m) which could not be moved by hand and were thought to be part of the natural geology. Following the recording of the ditch slot, these stones were removed by machine, and were confirmed to be embedded in the natural and. No dating evidence was recovered from the bank or the ditch.

7. IMPACT AND CONCLUSIONS

7.1 CONCLUSIONS

- 7.1.1 The desk-based assessment highlighted the presence of features from the Bronze Age to the Post-medieval period. The features were related to burial practice, settlement, agriculture and industry, with several of the sites comprising earthworks of unknown date and/or function. This indicated quite a high potential for the discovery of new sites within the proposed development area.
- 7.1.2 Five evaluation trenches were consequently excavated, four in the area of the proposed development, in which no features of archaeological significance were found, and one in the area of the access track, which targeted Site **19**, identified during the visual inspection.
- 7.1.3 Site **19** comprised a bank with associated ditch on its north side. Although it is not possible to confirm or refute a relationship between the earthworks of Site **19** and those of nearby Site **06**, map regression analysis (Hodgson 1828, Fig 4 and Ordnance Survey first edition 1859; Fig 5) shows that a wood, 'Hag Wood', used to extend approximately as far north as the location of Site **19**, and followed a similar northward curve. The Site **19** earthwork may, therefore, represent the former boundary between the wood, and the field to the north. The ground here slopes up to the north, and, therefore, it seems probable that the ditch drained the field, and helped to keep the water from draining into the wood. Further banks to the south of this (within the area of the former wood) may represent areas of terracing.

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9. ILLUSTRATIONS

FIGURES

Figure 1: Site Location Map

Figure 2: Plan of Gazetteer sites

Figure 3: Extract from Jeffreys Map of Westmorland, 1770

Figure 4: Extract from Hodgson's Map, 1828

Figure 5: Extract from Ordnance Survey Map 1859 first edition 6": 1 mile

Figure 6: Extract from Ordnance Survey Map 1920 third edition 6": 1 mile

Figure 7: Trench location plan

Figure 8: Plan of Trench 5 and east-facing section of ditch **05**

PLATES

Plate 1: Trench 4, looking north

Plate 2: Site **19**, looking north-east

Plate 3: East-facing section through ditch **05**

Plate 4: Trench 5, looking south

APPENDIX 1: PROJECT BRIEF

APPENDIX 2: PROJECT DESIGN

1. INTRODUCTION

1.2 PROJECT BACKGROUND

1.2.1 Network Rail (North West) (hereafter the 'client') has requested that Oxford Archaeology North (OA North) submit proposals for an archaeological investigation at land adjacent to West Coast Mainline, Great Strickland, Penrith, Cumbria (centred NY 5501 2275). Cumbria County Council Archaeology Service (CCCAS) has been consulted by Eden District Council regarding a planning application for the erection of an autotransformer (Planning Application Number 3/04/0812). In response to this CCCAS have issued a brief requesting a desk-based assessment and visual inspection, followed by an evaluation as the first phase of work. Due to the site being within an area of high archaeological potential, adjacent to a cropmark of possible prehistoric origin (SMR No 2841), a Bronze Age burial site that contained thirteen cremations (SMR No 2874) and a hoard of Roman coins (SMR No 16871), the impact of the proposed development on any archaeological remains is required prior to any development on site. This project design has been prepared in accordance with the CCCAS brief.

1.2 OXFORD ARCHAEOLOGY NORTH

1.2.1 OA North has considerable experience of the assessment of sites of all periods, having undertaken a great number of small and large-scale projects during the past 23 years. Such projects have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. In recent years OA North also has extensive experience of archaeological work in Northern England.

1.2.2 OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is **an Institute of Field Archaeologists (IFA) registered organisation, registration number 17**, and all its members of staff operate subject to the IFA Code of Conduct.

2 OBJECTIVES

2.1 The assessment aims to evaluate archaeological deposits in order to determine their extent, nature and significance of any archaeological remains that may be threatened by the proposed development. To this end, the following programme has been designed, in accordance with the brief issued by CCCAS, to provide a desk-based assessment, rapid identification survey and evaluation. The results will provide information as to whether further investigation is required prior to the development taking place. The required stages to achieve these ends are as follows:

2.2 **Desk-Based Assessment:** to provide an assessment of the site and its archaeological potential.

2.3 **Visual Inspection:** to undertake a site inspection to relate the desk-based assessment findings and identify areas for evaluation.

2.4 **Archaeological Evaluation:** to implement a programme of trial trenching examining 5% of the study area.

2.5 **Report and Archive:** a written report will assess the significance of the data generated by this programme within a local and regional context. It will present the desk-based study, and evaluation and would make an assessment of the archaeological potential of the area, and would make recommendations for further work.

3. METHOD STATEMENT

3.1 RAPID DESK-BASED ASSESSMENT

3.1.1 The following will be undertaken as appropriate, depending on the availability of source material. The level of such work will be dictated by the time scale of the project.

3.1.2 **Documentary and Cartographic Material:** this work will include collation and assessment of the Cumbria Sites and Monuments Record (SMR), as well as appropriate sections of County histories, early maps, and such primary documentation (tithe and estate plans etc.) as may be reasonably available. Particular emphasis will be upon the early cartographic evidence which has the potential to inform the post-medieval occupation and land-use of the area.

3.1.3 **Map Regression Analysis:** available cartographic sources will be consulted in an attempt to trace the development of the landscape back to the earliest available cartographic source. This will provide information on additional sites not included in the SMR, as well as ascertaining potentially any areas of more recent development.

3.1.4 **Aerial Photography:** a brief survey of the extant air photographic cover will be undertaken. The SMR will be consulted for aerial photography.

3.1.5 **Physical Environment:** a rapid desk-based compilation of geological (both solid and drift), pedological, topographical and palaeoenvironmental information will be undertaken. It will be based on published geological mapping and any local geological surveys in the possession of the County Council or the Client. This will not only set the archaeological features in context but also serves to provide predictive data, that will increase the efficiency of the field inspection..

3.2 VISUAL INSPECTION

3.2.1 A visual inspection of the site will be undertaken to;

- (i) relate the existing landscape to any research findings and note any features of potential archaeological interest;
- (ii) identify any areas of potentially significant disturbance to surviving archaeological remains;
- (iii) identify any hazards and constraints to undertaking further archaeological work on site, i.e. evaluation trenching (including the siting of live services and Tree Preservation Orders).

3.3 EVALUATION

3.3.1 **Metal Detector Survey:** prior to the evaluation trenching taking place the study area will be walked in systematic transects by an experienced metal detectorist. The location of any artefacts recovered will be marked with a surveyors arrow of the equivalent and the position of the find surveyed in (on plan or as grid co-ordinates where appropriate). This will enable a distribution plan to be produced. The contractor will be made aware of the markers and requested not to disturb them until a record of the location is made. A distinction will be made between ferrous and non-ferrous materials.

- 3.3.2 The programme of trial trenching will establish the presence or absence of any previously unsuspected archaeological deposits and, if established, will then test their date, nature, depth and quality of preservation. In this way, it will adequately sample the threatened available area.
- 3.3.3 **Trenches:** the evaluation is required to examine a minimum of 5% of the total study area, which is approximately 3225m². Therefore, this requires the excavation of 161m², which equates to the excavation of probably 4 trenches all measuring 1.7m in width (the width of a typical excavator bucket) and approximately 23m in length or the equivalent. The exact locations of these trenches will be determined by the desk-based assessment and visual inspection.
- 3.3.4 **Methodology:** the topsoil will be removed by machine (fitted with a toothless ditching bucket) under archaeological supervision to the surface of the first significant archaeological deposit. This deposit will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features. All features of archaeological interest must be investigated and recorded unless otherwise agreed by CCCAS. The trenches will not be excavated deeper than 1.20m to accommodate health and safety constraints; any requirements to excavate below this depth will involve recosting.
- 3.3.5 All trenches will be excavated in a stratigraphical manner, whether by machine or by hand. Trenches will be located by use of GPS equipment which is accurate to +/- 0.25m, altitude information will be established with respect to Ordnance Survey Datum.
- 3.3.6 Any investigation of intact archaeological deposits will be exclusively manual. Selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal. It is hoped that in terms of the vertical stratigraphy, maximum information retrieval will be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features, which appear worthy of preservation *in situ*.
- 3.3.7 All information identified in the course of the site works will be recorded stratigraphically, using a system, adapted from that used by Centre for Archaeology Service of English Heritage, with sufficient pictorial record (plans, sections, colour slides and monochrome contacts) to identify and illustrate individual features. Primary records will be available for inspection at all times.
- 3.3.8 Results of all field investigations will be recorded on *pro forma* context sheets. The site archive will include both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20 and 1:10). All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.
- 3.3.9 **Environmental Sampling:** environmental samples (bulk samples of 30 litres volume, to be sub-sampled at a later stage) will be collected from stratified undisturbed deposits and will particularly target negative features (gullies, pits and ditches). An assessment of the environmental potential of the site will be undertaken through the examination of suitable deposits by the in-house palaeoecological specialist, who will examine the potential for further analysis. The assessment would include soil pollen analysis and the retrieval of charred plant macrofossils and land molluscs from former dry-land palaeosols and cut features. In addition, the samples would be assessed for plant macrofossils, insect, molluscs

and pollen from waterlogged deposits. The costs for the palaeoecological assessment are defined as a contingency and will only be called into effect if good deposits are identified and will be subject to the agreement of CCCAS and the client.

- 3.3.10 Advice will also be sought as to whether a soil micromorphological study or any other analytical techniques will enhance the understanding of the site formation processes, including the amount of truncation to buried deposits and the preservation of deposits within negative features. Should this be required the costs for analysis have been provided as a contingency.
- 3.3.11 **Faunal remains:** if there is found to be the potential for discovery of bones of fish and small mammals a sieving programme will be carried out. These will be assessed as appropriate by OA north's specialist in faunal remains, and subject to the results, there may be a requirement for more detailed analysis. A contingency has been included for the assessment of such faunal remains for analysis.
- 3.3.12 **Human Remains:** any human remains uncovered will be left *in situ*, covered and protected. No further investigation will continue beyond that required to establish the date and character of the burial. CCCAS and the local Coroner will be informed immediately. If removal is essential the exhumation of any funerary remains will require the provision of a Home Office license, under section 25 of the Burial Act of 1857. An application will be made by OA North for the study area on discovery of any such remains and the removal will be carried out with due care and sensitivity under the environmental health regulations. Any necessity for the recording and removal of burials will be subject to a separate costing and a contingency has been provided.
- 3.3.13 **Treatment of finds:** all finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds*, 1998 (new edition) and the recipient museum's guidelines.
- 3.3.14 **Treasure:** any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft.
- 3.3.15 All identified finds and artefacts will be retained, although certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained on advice from the recipient museum's archive curator.
- 3.3.16 **Contingency plan:** a contingency costing may also be employed for unseen delays caused by prolonged periods of bad weather, vandalism, discovery of unforeseen complex deposits and/or artefacts which require specialist removal, use of shoring to excavate important features close to the excavation sections etc. This has been included in the Costings document and would be in agreement with the client.
- 3.3.17 The evaluation will provide a predictive model of surviving archaeological remains detailing zones of relative importance against known development proposals. In this way, an impact assessment will also be provided.
- 3.3.18 **Access:** liaison for basic site access will be undertaken through the client.

- 3.3.19 **Reinstatement:** the ground will be back filled so that the topsoil is laid on the top, and the ground will be roughly graded with the machine. Should there be a requirement by the client other than that stated this will involve recosting.
- 3.3.20 **Fencing/hoarding requirements:** it is assumed that the client will arrange for the site to be protected from public access. However, if this is not possible it is the client's responsibility to inform OA North prior to commencement of site works. Should Heras fencing or similar be required this will be costed as a variation.
- 3.4 **ARCHIVE/REPORT**
- 3.3.1 **Report:** one bound and one unbound copy of a written synthetic report will be submitted to the client, and a further three copies submitted to the Cumbria SMR within eight weeks of completion. The report will include;
- (i) a site location plan related to the national grid;
 - (ii) a front cover to include the planning application number and the NGR;
 - (iii) the dates on which the fieldwork was undertaken;
 - (iv) a concise, non-technical summary of the results;
 - (v) an explanation to any agreed variations to the brief, including any justification for any analyses not undertaken;
 - (vi) a description of the methodology employed, work undertaken and results obtained;
 - (vii) plans and sections at an appropriate scale showing the location and position of deposits and finds located;
 - (viii) a list of and dates for any finds recovered and a description and interpretation of the deposits identified;
 - (ix) a description of any environmental or other specialist work undertaken and the results obtained;
 - (x) recommendations concerning any subsequent mitigation strategies and/or further archaeological work following the results of the field evaluation will **not** be included, although this may be outlined to CCCAS in a separate communication;
 - (xi) a copy of this project design, and indications of any agreed departure from that design;
 - (xii) the report will also include a complete bibliography of sources from which data has been derived.
- 3.3.2 This report will be in the same basic format as this project design; a copy of the report can be provided on CD, if required.
- 3.3.3 **Archive:** the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive will include summary processing and analysis of all features, finds, or palaeoenvironmental data recovered during fieldwork, which will be catalogued by context.
- 3.3.4 The deposition of a properly ordered and indexed project archive in an appropriate repository is essential and archive will be provided in the English Heritage Centre for Archaeology

format and a synthesis will be submitted to the Cumbria SMR (the index to the archive and a copy of the report). OA North practice is to deposit the original record archive of projects with the appropriate County Record Office.

- 3.3.5 All artefacts will be processed to MAP2 standards and will be assessed by our in-house finds specialists. The deposition and disposal of any artefacts recovered in the evaluation will be agreed with the legal owner and an appropriate recipient museum. CCCAS will be notified of the arrangements made.
- 3.3.6 The Arts and Humanities Data Service (AHDS) online database project *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.
- 3.3.7 **Confidentiality:** all internal reports to the client are designed as documents for the specific use of the Client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.

4. HEALTH AND SAFETY

- 4.1 OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). A written risk assessment will be undertaken in advance of project commencement and copies will be made available on request to all interested parties.
- 4.2 Full regard will, of course, be given to all constraints (services etc) during the watching brief as well as to all Health and Safety considerations. OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. As a matter of course the Unit uses a U-Scan device prior to any excavation to test for services, however, this is only an approximate location tool.

5 PROJECT MONITORING

- 5.1 Whilst the work is undertaken for the client, the County Archaeologist will be kept fully informed of the work and its results and will be notified a week in advance of the commencement of the fieldwork. Any proposed changes to the project design will be agreed with CCCAS in consultation with the client.

6 WORK TIMETABLE

- 6.1 **Desk-based assessment:** approximately five days will be required for this element.
- 6.2 **Visual Inspection:** approximately one day will be required to complete this element, which would be undertaken with the desk-based assessment.
- 6.3 **Evaluation Trenching:** approximately three days will be required to complete this element. A trench location plan will be drawn up following the results of the desk-based assessment, to be agreed by CCCAS.
- 6.4 **Archive/Report:** the report and archive will be produced following the completion of all the fieldwork. The final report could be completed and forwarded by 24th December 2004 providing the above timetable is followed, and the archive deposited within six months.
- 6.5 OA North would require a formal written agreement 5 days to one week before commencement in order to notify CCCAS and schedule the work as above.

7 STAFFING

- 7.1 The project will be under the direct management of **Alison Plummer BSc (Hons)** (OA North senior project manager) to whom all correspondence should be addressed.
- 7.2 All elements of the assessment will be supervised by either an OA North project officer or supervisor experienced in this type of project. Due to scheduling requirements it is not possible to provide these details at the present time. All OA North project officers and supervisors are experienced field archaeologists capable of carrying out projects of all sizes.
- 7.3 Assessment of the finds from the evaluation will be undertaken by OA North's in-house finds specialist **Sean McPhilips** or **Jo Dawson** (OA North project supervisors). Both Sean and Jo act as OA North's in-house finds specialists and together they have an extensive knowledge of all finds of all periods from archaeological sites in northern England.
- 7.4 Assessment of any palaeoenvironmental samples will be undertaken by or under the auspices of **Elizabeth Huckerby MSc** (OA North project officer). Elizabeth has extensive knowledge of the palaeoecology of the North West through her work on the English Heritage-funded North West Wetlands Survey.

8 INSURANCE

- 8.1 OA North has a professional indemnity cover to a value of £2,000,000; proof of which can be supplied as required.

REFERENCES

English Heritage, 1991 *Management of Archaeological Projects*, second edition, London

UKIC, 1990 *Guidelines for the Preparation of Archives for Long-Term Storage*, London

UKIC, 1998 *First Aid for Finds*, London

APPENDIX 3: TRENCH DESCRIPTIONS

Trench 1:

Length x width	Depth	Alignment	Features
22m x 1.7m	0.25m	North/south	None.

Trench 2:

Length x width	Depth	Alignment	Features
26m x 1.7m	0.2m	North/south	None.

Trench 3:

Length x width	Depth	Alignment	Features
22m x 1.7m	0.25m	North/south	One small possible tree bole (Contexts 03 and 04).

Trench 4:

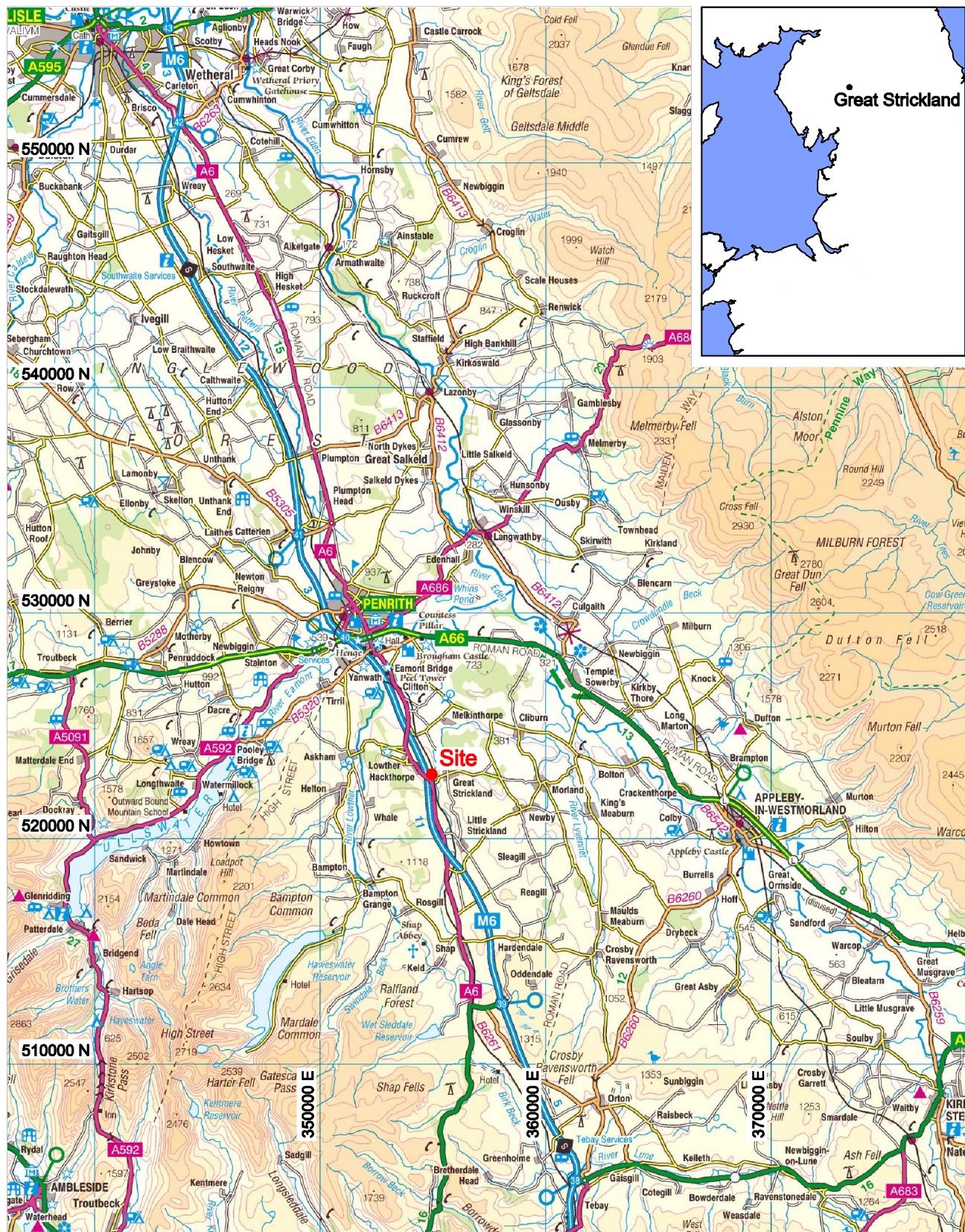
Length x width	Depth	Alignment	Features
23m x 1.7m	0.25m	North/south	Fragments of a ceramic land drain, aligned approximately east/west found at the south end of the trench.

Trench 5:

Length x width	Depth	Alignment	Features
15.7m x 1.7m	0.3m	North-north-east/south-south-west	East-south-east/west-north-west-aligned ditch (05) and associated bank to south.

APPENDIX 4: CONTEXT LIST

Context	Description
01	Topsoil in Trenches 1-4. A mid-brownish-red slightly clayey-sand with occasional small stones.
02	A mid-reddish-brown sandy clay, with occasional small to medium stones. Quite varied in sand and clay content.
03	Irregular cut for small natural feature
04	Fill of 03 . A mid-greyish-brown silty clay. Maximum 0.18m in depth.
05	Cut for ditch which runs parallel with, and to the immediate north of, a linear bank aligned east-south-east/west-north-west
06	Fill of ditch 05



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0 2500 5000
 metres



Figure 1: Site Location Map

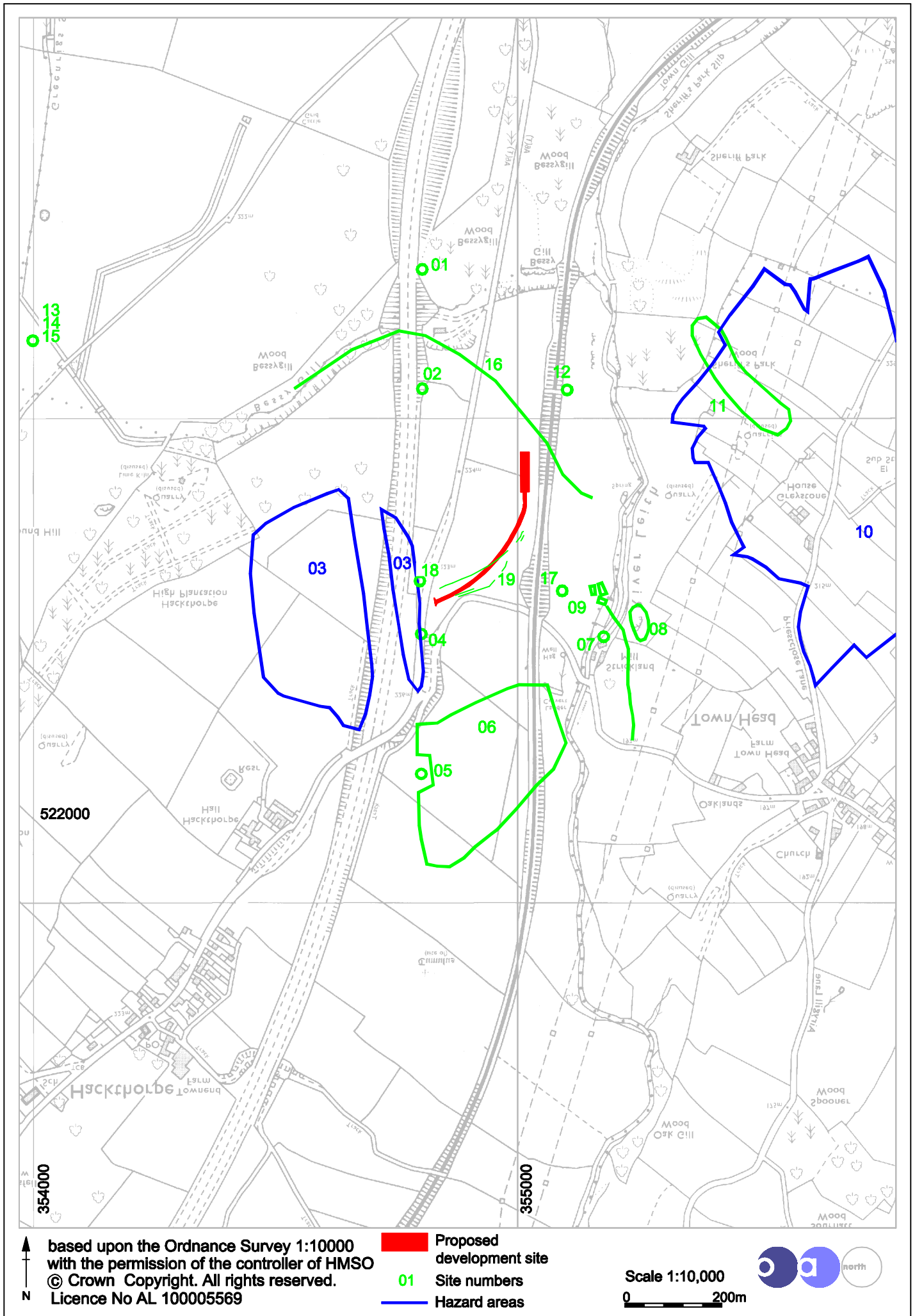
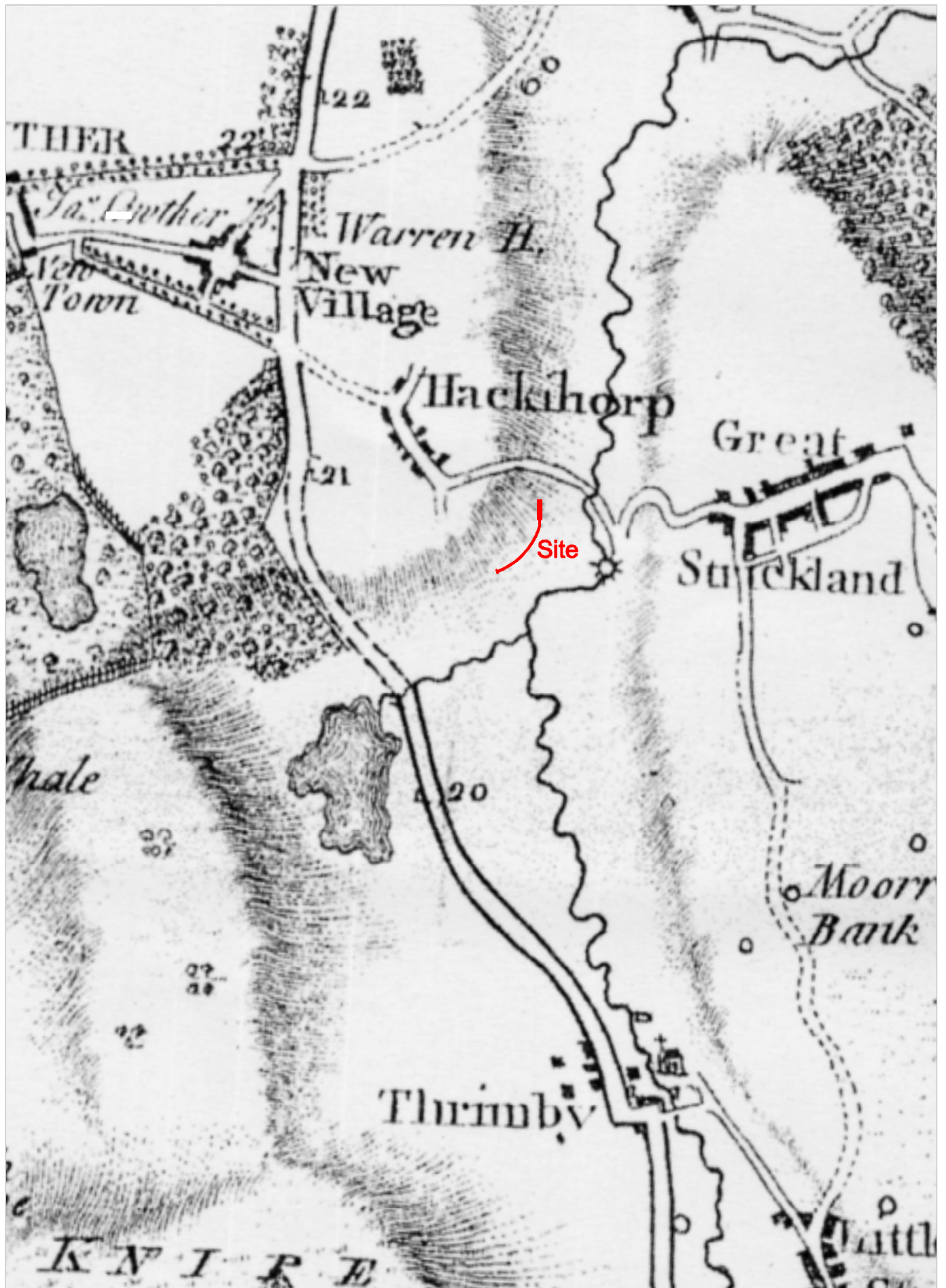


Figure 2: Plan of gazetteer sites



Not to Scale



Figure 3: Extract from Jeffrey's Map of Westmorland, 1770



Not to Scale



Figure 4: Extract from Hodgson's Map, 1828

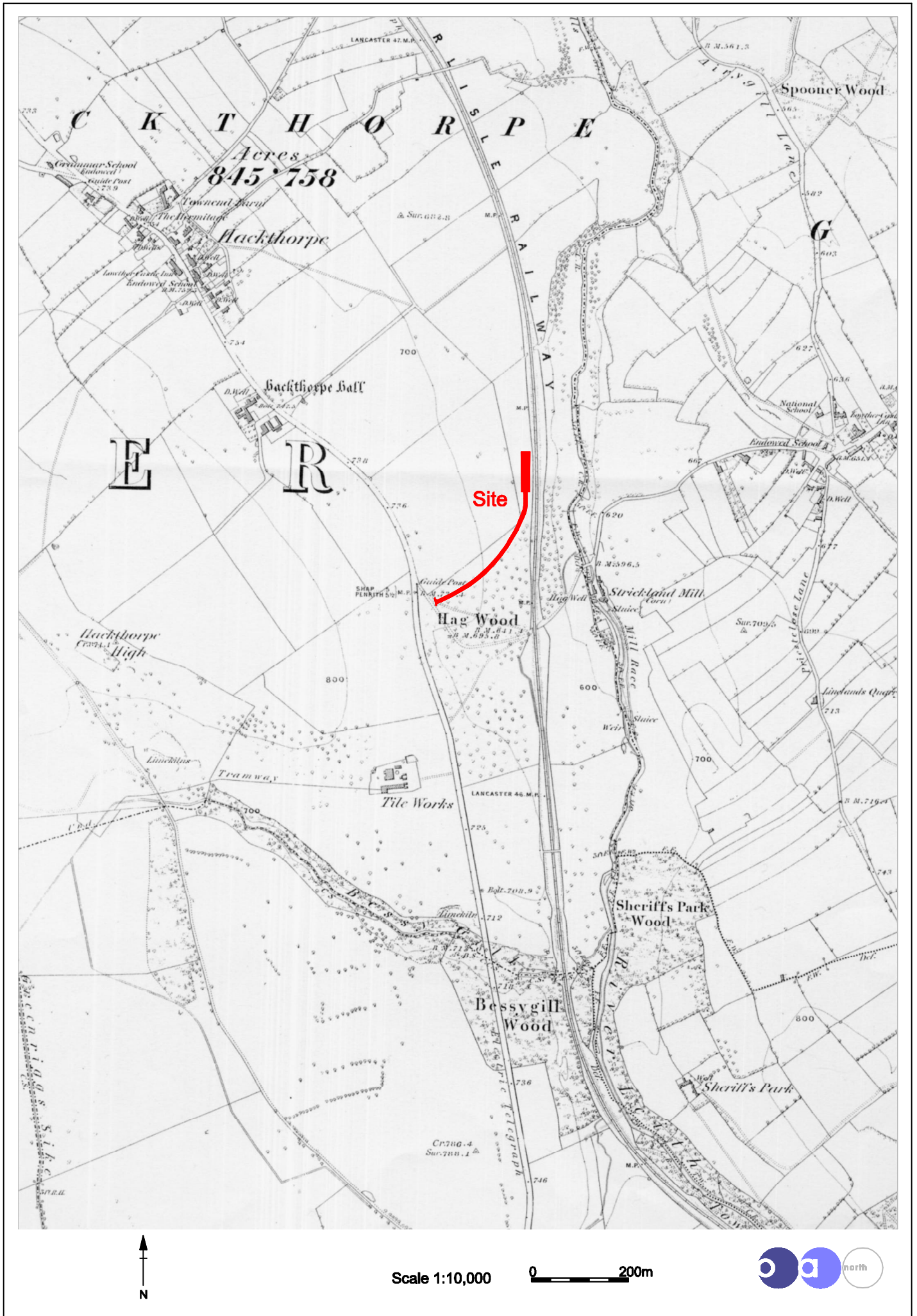


Figure 5: Extract from Ordnance Survey Map 1859 first edition 6" : 1 mile

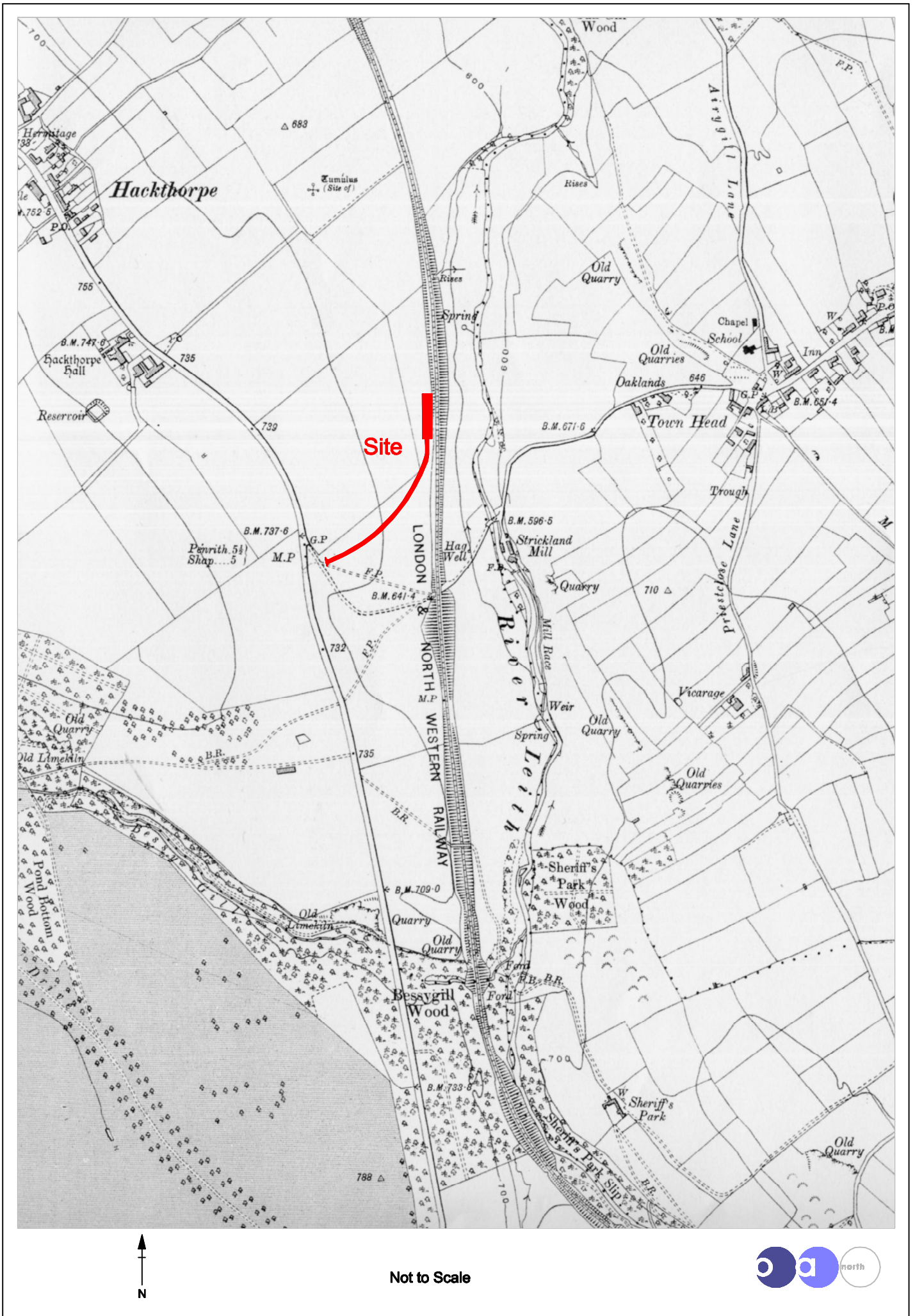
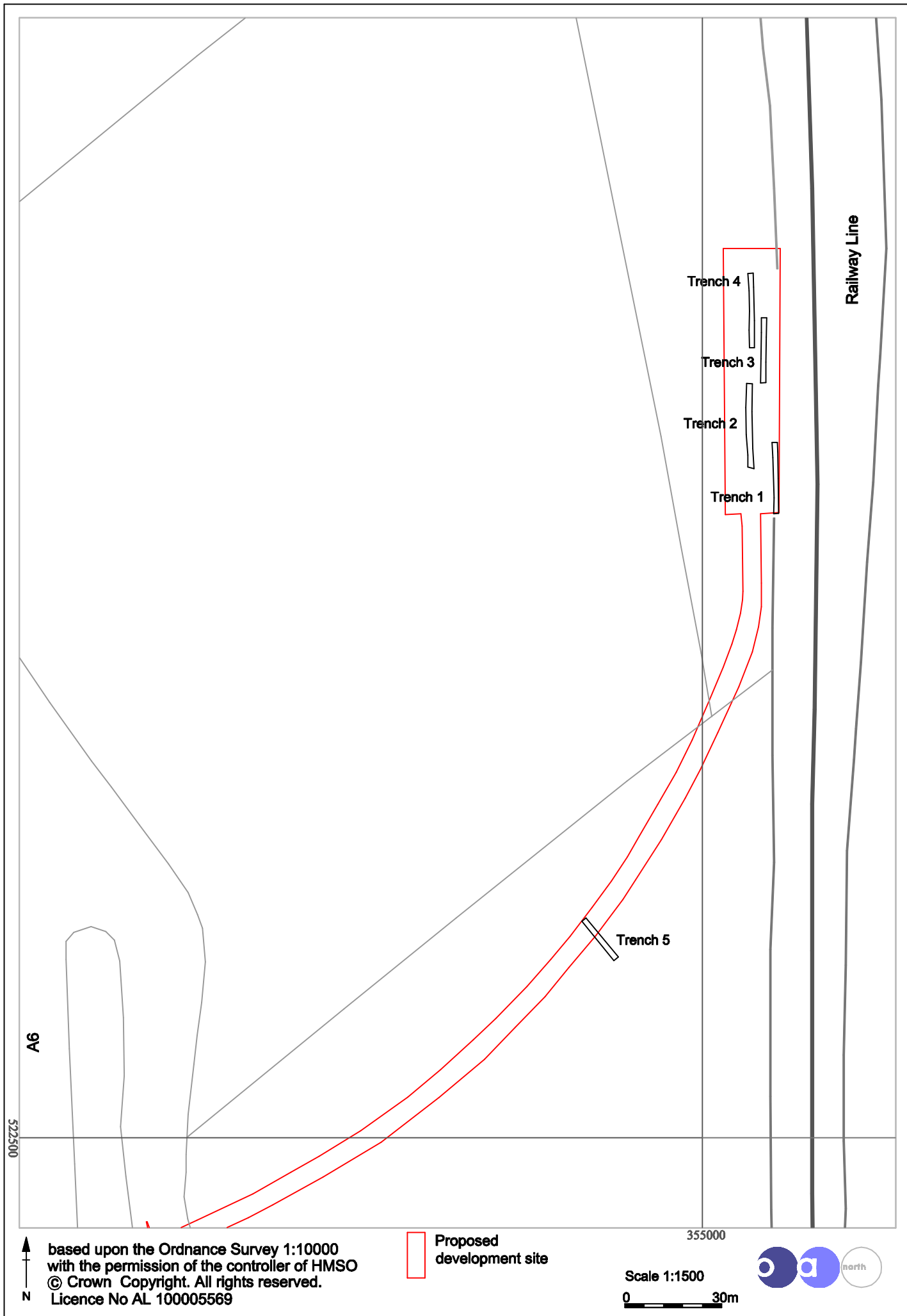


Figure 6: Extract from Ordnance Survey Map 1920 third edition 6" : 1 mile



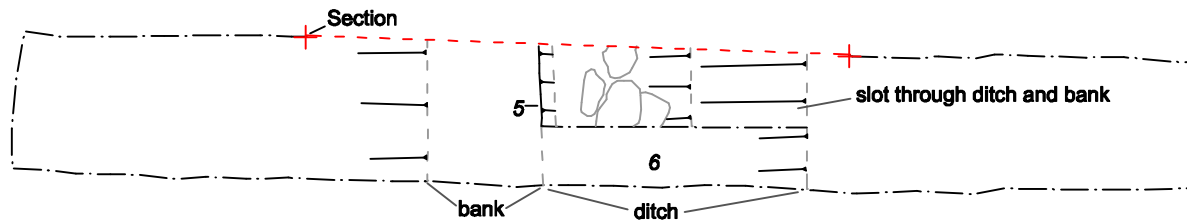
based upon the Ordnance Survey 1:10000
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Proposed
 development site

Scale 1:1500
 0 30m



Figure 7: Trench location plan



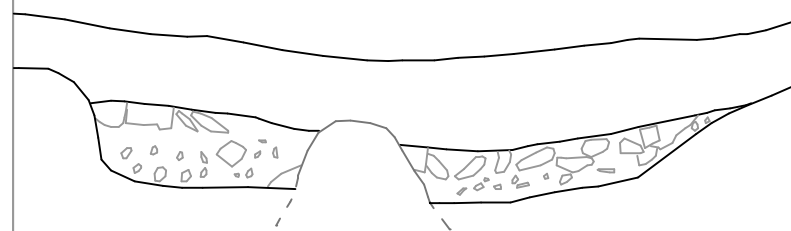
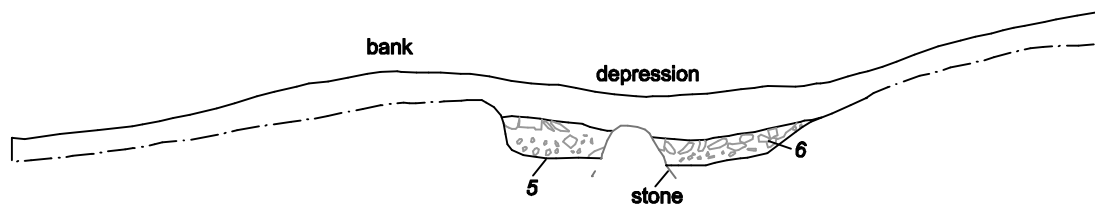
0 2.5m Scale 1:100

plan of trench 5



SSE

NNW



0 1m Scale 1:50

section through ditch 5

ditch detail (not to scale)



Figure 8: Plan of trench 5 and east-facing section of ditch 05



Plate 1: Trench 4, looking north



Plate 2: Site 19, looking north-east



Plate 3: East facing section through ditch 05



Plate 4: Trench 5, looking South