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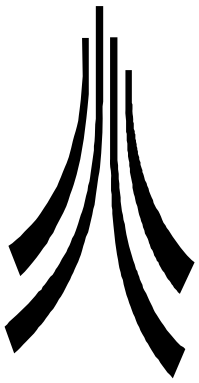

June 1995

LOW HOUSES WINDFARM SITE

Cumbria

Archaeological Assessment

commissioned and funded by:

Dulas Environmental

LOW HOUSES WIND FARM SITE

Cumbria

Archaeological Assessment

Checked by Project Manager. ..... Date
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Special thanks must go to Mr W. Bell, Mr A. Smith, and Mr P. Fletcher, the present landowners, who allowed access onto the study area.

The fieldwork was carried out by Jamie Quartermaine and Ian Price. The desk based work and report writing was undertaken by Jamie Quartermaine and Richard Newman. The plans were draughted by Richard Danks and Nick Hair.

EXECUTIVE SUMMARY

The Lancaster University Archaeological Unit (LUAU) at the request of Dulas Environmental undertook a rapid identification archaeological assessment at Low Houses in the parish of Nether Denton in May 1995, in advance of a proposed windfarm development.

The assessment comprised a desk top search of existing records of archaeological sites in the area, an appraisal of relevant published, manuscript and photographic documentation. It also comprised a rapid identification survey of the study area, which consists of 0.9 sqkm of unimproved fell. Satellite Global Positioning Survey (GPS) techniques were used to locate the monuments accurately. A summary gazetteer of archaeological sites was compiled, including assessments and recommendations for future strategies.

The conclusion of the report is that while the record search and rapid identification survey have revealed many sites of interest, most of them can be avoided by some relocation of the proposed turbines.

The most significant monuments identified during the survey of Low Houses are four potential Bronze Age cairns, evidence of relict field systems, and extensive areas of limestone quarry working. Watching briefs during the construction of the turbines will be necessary to identify any buried features or archaeological stratigraphy.

1. INTRODUCTION

The Lancaster University Archaeological Unit has carried out an initial investigation of the proposed wind farm site at Low Houses, near Brampton, Cumbria at the request of Dulas Environmental Limited.

The purpose of the investigation is to advise on the location and significance of archaeological sites within the extent of the proposed wind farm and to assess the impact of development. This report may then be used to make recommendations for the management of the site.

The Low Houses study area lies 7km east of Brampton *c*1km to the south of the A69 trunk road and comprises 0.9 sqkm of unimproved fell and pasture land.

The initial assessment consisted of a search of existing records held by the Cumbria Sites and Monuments Record. An overall view of the area was gained from a survey of relevant published and unpublished sources. The examination of aerial photographs was found to be of lesser value because the available photography was taken from too great a height. The results of the field reconnaissance were integrated with the sites already on record**.** Each site thus identified was assessed for archaeological potential, and recommendations for future management were based on this assessment.

As well as assessing the direct impact of the proposals on the Low Houses site, the impact of the proposed development upon the Hadrians Wall, World Heritage site, was also considered. A detailed study of the effect on the historic landscape is contained in the landscape assessment report, this present report does not consider the the wall in its landscape context.

Following a rapid documentary survey, fieldwork was carried out between 9th and 12th May, results were then collated and this report prepared.

2. METHODOLOGY

2.1 Project Design

The work was carried out in accordance with the project design outlined in the proposals submitted by LUAU to National Wind Power in February 1995 (Appendix 1)

The project design provided for a concise survey of recorded and published sources of information, preceding a rapid field scan. The collation of material gathered from all sources resulted in the compilation of a summary gazetteer of archaeological sites. The sites were evaluated in their historical and topographical context, and a strategy defined for each site on the basis of archaeological potential and anticipated disturbance by turbine construction.

The documentary research pertaining to the area was given a generous margin, up to 3 km around the study area, to allow for a greater understanding of the historical background. However, the field survey was limited to the study areas defined by Dulas Environmental. The full extent of the study area was examined by ground reconnaissance.

2.2 Documentary Sources

The limits of the documentary research area, for the purpose of this report, are taken to be the parish of Nether Denton for the Low Houses study area.

The first stage in the investigation was to collate the list of sites from the Cumbria SMR, which provided a brief archaeological and historical profile of the area in question.

The basis of the survey was a study of published works on county and local topography and history, together with maps ranging from the 1st editions of OS mapping (1865) through to modern editions. The maps demonstrate that for the most part the land use of the study areas has not changed significantly, since the mid nineteenth century. However, the adjacent land around Low Houses has been affected by limestone quarrying. The sources used in this assessment are listed in the bibliography at the end of this report.

Examination of other primary documentation is not considered appropriate to the scope of an initial investigation. However, examination at a later stage of tithe, and enclosure awards and parish records, held by the County Record Office, in Carlisle, may reveal additional sources that are pertinent to the study.

In conjunction with the documentary sources, the availability of aerial photographs was assessed. Unfortunately both areas are within airspace hazard areas (D510/5.5) associated with the Spadeadam weapons range, which restricts civil low and medium altitude flying. There is therefore no availability of oblique photography. There were no pertinent Vertical Air Photographs within regional libraries.

A desk based compilation of geological (both solid and drift), pedological and topographical information was undertaken to provide contextual information relevant to the archaeological study.

2.3 Field Survey

The fieldwork was limited to a rapid field scan, of the study area lasting two days. A list of landowners and tenants was supplied by Dulas Environmental and all were approached by LUAU as a courtesy prior to fieldwork.

The rapid field scan involved a Level 1 survey defined by LUAU, but based on guidelines produced by the RCHM (E) (appendix 2); this provides for the recording of a brief written description, including at least an eight figure National Grid Reference, which will be plotted onto a 1:10,000 based Ordnance Survey map. This involved the systematic surface examination of the study areas by field walking, the widths of the transects being varied to maximise surface examination in areas of greatest archaeological potential. In areas of streams gullies, peat exposures, and crags where there are minimal peat deposits, the transects were reduced to 20m width; across the areas of undisturbed deep peat the traverse widths were expanded to between 50m and 70m.

2.3.1 Site Location

The sites were all located by satellite Global Positioning System (GPS) which enables accurate, fast location, particularly in areas remote from OS depicted topographic detail. The GPS system uses electronic distance measurement along radio frequencies to satellites to enable a positional fix in latitude and longitude which can then be converted mathematically to Ordnance Survey national grid. Because of programmed errors within the transmitted signals from the satellites the nominal accuracy at a single receiver is +- 100m. However, by comparing the positional fix between GPS receivers at a known control station and a remote location it is possible to correct out the errors and obtain more acceptable accuracies of between +- 0.5m and 2m at the remote location. The data from both GPS receivers was independently logged and then subsequently superimposed in a post-processing stage to adjust out the errors. The base station was situated at LUAU headquarters in Lancaster.

The sites were described onto a portable tape recorder for subsequent transcription onto a computer database in the office. The more significant sites were photographed, where conditions allowed, but there was no intention at this stage to record the sites in further detail.

2.4 Gazetteer of sites

A gazetteer of 18 sites was compiled for the Low Houses survey area. The sites in the gazetteer are identified by name, ascribed site number, and SMR reference where applicable. Locations are given as either ten or eight figure grid references for the centre of the monument, dependent on its size. A summary description of the site is derived from fieldwork and published sources. Each site has been assessed for its archaeological potential and recommendations are made for any further recording required.

Plots at 1:10,000 show the location of all sites in the gazetteer.

Sites from Low Houses are numbered with the prefix LH.

3. TOPOGRAPHICAL AND HISTORICAL CONTEXTS

3.1 Geology

The solid geology of the low Houses study area is uniform Carboniferous limestone, but is overlain by cambic stagnogleys.

3.2 Topography

The survey area was situated on the north facing slope of a ridge, which rose to a height of 254m at Hayhouse Rigg in the south. It occupies the land between the modern A69 to the north and the hamlet of Greenside to the south. The land is registered as grade five agricultural land and is put over to pasture. Several limestone quarries lie within the area, the largest of which Silver Top Quarry lies just south of the study area. A large forest is situated on Hart Hill directly east of the study area.

3.3 Archaeological Background

There appears to have been little documented research into the environs surrounding the study area and the evidence for features of archaeological interest is slight. The reputed site of a Roman encampment was recorded immediately to the west of the survey area at Carnetly, however this has been reinterpreted as an area of disused quarries. Another site, a house to the south-east of the survey at Moss Hill, was recorded as containing, within a structural wall, two 'perfect sculptured stones of Silvanus and Janus', although there whereabouts is now unknown (Rome Hall 1883, 480).

Hadrian's Wall is situated to the north of the study area, with the pre-Hadrianic fort, associated with the Stanegate road below the church at Nether Denton. The close proximity of the Hadrianic frontier to the study area may indicate the potential for archaeological remains from the Roman period being present within it. The study area is within the medieval Barony of Gilsland, of which Denton is a manor. The estate descended to the earls of Carlisle, who are known to have been early exploiters of mineral resources.

Historically the surrounding area has been widely exploited and mined, with the farm to the west of Greenside Farm called Coalfell Farm on the first edition 1868 Ordnance Survey map. Further to the east of the study area, and recorded on the Ordnance Survey map, were a series of coal shafts and a large coal pit at Roachburn. Subsequently the area to the south west of the study area has been quarried for limestone as at Silvertop Quarry and adjacent to Carnetley Farm.

4. ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

4.1 Documentary Evidence

The Cumbria SMR was interrogated and it identified one site within the study area. This consisted of a disused quarry (SMR No 10151) and was also observed during the field inspection (see gazetteer site 9).

The documentary search has highlighted the archaeological potential of the area around the site, but has produced very little evidence of antiquity within the extent of the survey area. It has, however, identified, on place name evidence, the existence of coal exploitation.

The prime reason for the documentary shortfall in this area, is that relatively little archaeological investigation has been undertaken around Low Houses.

4.2 Field Survey

All of the following sites were primarily identified as a result of the field survey. They have been classified according to their relative archaeological importance. A grade 1 monument is of National Importance, a grade 2 monument is of regional importance and a grade 3 monument is of local importance.

4.2.1 Range of Site Types

Site Type	Site Numbers	Grade
Limestone Quarry	LH1, 4, 8, 9, 10	3
Ridge and Furrow	LH2, 15	3
Small Cairn	LH5, 11	3
Mineral Extraction Site	LH7	3
Field Boundaries	LH3, 6, 14, 18	3
Large Cairn	LH16, 17	2
Well	LH12	3
Rectilinear Structure	LH13	3

Possibly the most significant sites on Low Houses are the two possible cairns, LH16 and LH 17, which are prominent, large in diameter and located on high points. They are potentially Bronze Age funerary monuments, but their function and nature would have to be confirmed by further investigation.

Three small cairns (LH5 & 11) were identified within the extent of the survey area, two of which (LH5) were on the summit of the hill at the western end of the survey area and are spatially associated with the large possible funerary cairns (LH16 & 17). The association of four cairns within a restricted locality, and on a notable high point reinforces the likelyhood that they are funerary mounds.

Adjacent to cairn LH17 are the banks of a relict field system (LH18), overlain by modern field boundaries. The visible element of this is within the Greenside survey area, but it underlies the field wall at the western edge of the Low Houses survey area and potentially extends up to a junction with boundary LH6. Boundary LH6 has a similar form to that of LH 18 and is similarly overlain by a modern field wall. These two relict field boundaries are approximately perpendicular with respect to each other and may be contemporary elements of a relict field system. Part of the boundary may be respected by a modern stone wall north from LH 18 to intersect with LH6.

The eastern end of bank LH6 is associated with similar divergent banks which cut through an area of ridge and furrow (LH2), corrugations of the ground surface caused by past ploughing practices. An off shoot from one of these banks defines the western edge of a further area of ridge and furrow (LH15). A further bank (LH14) extends directly out of one of the ridges of LH2. This relict field system is of medieval or post-medieval date, but in this locality is more likely to be possibly later rather than earlier. The ridges are quite straight which can be an indication of post medieval farming.

At the base of a steep scarp slope is a small, substantially decayed, rectilinear structure (LH 13). Only two sides of the structure survive as surface evidence and its condition would suggest that it is of moderate antiquity. Adjacent is a small, shallow well (LH 12) which exploits a natural spring. Despite the obvious spatial association there is no evidence of a direct relationship between the well and the structure.

The most substantial features identified from within the study area are the numerous limestone quarries (LH1, 4, 8, 9, 10), which vary in size from the small (LH10) to the moderate sized (LH4). With the exception of a possible kiln within LH4, there is little evidence of lime working in the vicinity of the quarrying.

The character of the Hayhouse Rigg varies substantially from that of the adjacent Greentarn Rigg. The former for the most part is a relict agricultural landscape, while the latter has a landscape predominated by coal extraction. The presence of limestone quarries within the Hayhouse Rigg area demonstrates the geological differences between the two areas which is primary cause for the differences in land use.

There is a substantial variance in the density of the archaeology across the site. Most of the monuments are within the formerly enclosed land on the western side of the study area, whereas the eastern section of the study area has very few monuments, the notable exception being a limestone quarry. The northern part of this eastern section was partially obscured by thick matt grass vegetation which did tend to obscure the surface evidence. However, the negative results from the southern part would appear to confirm the low archaeological density on the eastern side of the study area. The variance is likely to reflect the greater levels of agricultural activity within the former enclosed land on the western side of the study area.

4.3 Archaeological Implications

Field survey revealed 18 archaeological sites within the study area, all of these with the exception of LH9 are concentrated within the western part of the site (see figure 2). With the present layout of the proposed wind turbines several areas of conflict exist. According to the proposed layout of 19th June turbines 1, 2, 3 and 4 are positioned on or in proximity to archaeological monuments.

Turbine 1 is situated on the hill summit close to potential Bronze Age cairns LH5, LH16, and LH17, and is also positioned near to quarry LH4 and relict field boundaries LH18. Turbines 2 & 3 are positioned adjacent to relict field boundary LH3. Turbine 4 is situated within relict field system LH15.

The excavation of trenches for power cables may have a direct impact upon the archaeological monuments and the correlation between proposed power lines and the archaeology should be investigated.

4.4 Hadrians Wall

As a World Heritage Site, Hadrians Wall is one of the most important archaeological monuments in Britain. The Wall was built as the northern frontier to the Roman province of Brittania in the years following AD 122. It formed a continuous barrier stretching from the Solway Firth to the North Sea. Along its length were forts, fortlets (known as milecastles) and turrets. The Wall was not a closed frontier but passage was allowed through it at the fortlets. Generally the Hadrians Wall frontier consisted of a ditch on the north side of the Wall, and separated from it by a flat area about 6m wide known as the berm, with to the south of the Wall an earthwork known as the Vallum. This was a flat bottomed ditch with banks on either side, built as a later modification to Hadrians Wall. The wall itself was either built of turf or stone; in the section near the proposed windfarm it was originally built of turf. From the east up to turret 54a (near Howgill) it was replaced quite quickly by a stone wall (Breeze & Dobson 1976, 52) part of which survives in places between there and Birdoswald.

The Hadrians Wall military zone, an area of varying width straddling the Wall constitutes the World Heritage Site. As a World Heritage Site the impact of the proposed windfarm on the setting of the Wall must be considered, even though the windfarm does not affect the Wall directly, being situated at a distance of about four kms from the nearest point of the Wall and just to the south of the World Heritage Site. The setting of a World Heritage Site is considered to be affected if a development is visible either to or from the site. Overall the windfarm will not adversely affect the views of the Wall, since to have it in the foreground would place the observer at such a distance that the Wall ceases to be a notable feature in the landscape without telescopic assistance. The windfarm, however, would be visible from the Wall. At the major archaeological site and visitor attraction of Birdoswald fort, the windfarm will not be visible from the archaeological remains but will be visible from the picnic area. The windfarm will be more or less visible along the length of the Wall from Birdoswald fort to Banks turret (52a), a popular tourist spot as a result of its car park and its views from the Wall. To the west of Banks turret the views of the windfarm would become more intermittent.

In total the windfarm will be a prominent feature of the view from Hadrian's Wall for a length of about six miles, stretching from the fort of Biroswald to the fort of Castlesteads. From Birdoswald to Banks turret the Wall is fairly extant with much upstanding masonry and the vallum being clearly visible as an earthwork. To the west of Banks turret, particularly beyond milecastle 54, the Wall survives much less well with little in the way of visible remains. This six mile section of the Wall contains six milecastles and ten turrets as well as the two forts. It is a stretch which contains some of the best evidence for the turf wall, particularly around Appletree, one of the best surviving turrets on the wall, 52a, and one of the better preserved forts, Birdoswald.

The windfarm will have an impact on the setting of Hadrians Wall, particularly from Banks turret. The windfarm will have a greater visual impact on the observer following the Wall than the pylons and power lines that already feature on the skyline because the turbines have a more substantial profile than pylons, they are invariably painted white and are solid unlike the pylon lattice work The movement of the blades may also attract the observers attention. An assessment of the severity of this impact on the archaeological setting can only be derived by evaluating the nature and significance of the constituent historic landscape. This is done in the landscape assessment report.

5. MITIGATION PROPOSALS

It is strongly recommended that, as the first option, the monuments identified by the present rapid identification survey should be preserved *in-situ*. The code of conduct for the Institute of Field Archaeologists states that members should seek to achieve as the first option, the preservation of archaeology *in situ*, and only if this is neither possible or practical then is it appropriate in some cases to undertake further work to mitigate the effect of development.

The various management prescriptions are outlined below.

5.1 Avoidance

The size of the area, coupled with a relatively low density turbine distribution provides for a considerable latitude in the siting of individual turbines and roads. It is therefore considered that the most expedient and economic conservation option for the archaeology of the area is avoidance. For the most part the sites are individual entities and are not elements within an integral agricultural complex, therefore avoidance of the individual monument is an adequate solution. In these instances turbine and road construction should be at least 50m away from the centre of an identified monument to ensure that both the monument and its topographic context are undisturbed; exclusion zones are shown on the attached mapping by dashed lines. With settlement groups or archaeological landscapes each individual monument is only one element of an interrelated complex, and any construction within the group will damage the contextual and topographic relationships that define the broad archaeological landscape. It is therefore necessary that each monument group is treated as a whole rather than a collection of independent entities; an exclusion area around each complex is shown on the attached site mapping (figure 2).

5.2 Evaluation

For some sites avoidance can be the only option. At Low Houses, however, if it proves impossible to avoid archaeological features adequately, it may be necessary to undertake further evaluation works to establish the need for mitigation recording. If further evaluation is required this should be conducted in sufficient time to allow for final recording of the sites of particular significance prior to construction.

A second stage of evaluation should include the work outlined below.

5.2.1 Topographical Survey

Certain sites, if affected by construction, should be surveyed in detail, to create a record of their current extent and features. Such survey aids the interpretation of sites, and also the location of any trial trenches that may be deemed advisable as a result of this stage of evaluation.

5.2.2 Photographic Record

A detailed photographic survey is an economic means of providing a permanent record of an extensive and apparently homogenous archaeological feature.

5.2.3 Trial Excavation

Where the results of field validation and topographical survey warrant further investigation, then a programme of trial excavation may be necessary to establish the nature, extent, date and detailed character of the sites in question. It is possible that this work may demonstrate the need for further recording and should be discussed with the county archaeological curator.

5.3 Watching Brief

Whilst in an upland area such as the one represented at Low Houses, much of the archaeological resource of the area will be visible in the form of upstanding earthworks, it is entirely possible that some sites or elements of the buried archaeological landscape remain buried and invisible. As such any earth movement should be monitored by an archaeologist. It is therefore recommended that the wind farm construction contractors should include in their provisions for an archaeological inspector to be present during the construction of the turbines, roads and power cable trenches. Provision should be made for the archaeological investigation of any remains noted.

5.4 Specific Recommendations

The most significant conflict between the archaeology and the proposed turbine locations is that between the group of possible Bronze Age cairns (LH5, LH16 and LH17) and turbine 1. Without further intrusive evaluation it is not possible to confirm that these monuments date to the prehistoric period; however, the surface evidence would suggest that these monuments have sufficient archaeological potential to warrant the relocation of the turbine to the north of the monument group.

The proposed positions of turbines 2 and 3 overlie relict field boundary LH3, however if the location of these turbines were adjusted slightly this feature would no longer be under threat by the scheme. Turbine 4 is situated within relict field system LH15, and a slight relocation of this structure to the south would avoid damaging the archaeological landscape.

6. GAZETTEER OF SITES

6.1 LOW HOUSES

Site No: **LH1**
Site Name: Havock Head, Denton
SMR No: NY 5918661335
Site Type: Limestone Quarry
Source: Surface Survey
Period: Post Medieval
Date: 5/1995
Dimensions: 25m x 13m
Description:
A small quarry set into a scarp slope of a low flat topped hillock. There are only limited quantities of spoil associated with the depression and it is evident that the extraction process involved total removal of the stone. The geology of the area is limestone and the quarry was for the extraction of stone, either for lime working or building materials. There is no evidence of a lime kiln in the immediate vicinity. The depth of the kiln is only about 3m at its maximum.

Site No: **LH2**
Site Name: Hayhouse Rigg, Denton
SMR No: NY 5931161260
Site Type: Ridge and Furrow/Field System
Source: Surface Survey
Period: Medieval/Post Medieval
Date: 5/1995
Dimensions: 100m x 60m
Description:
An area of ill-defined and disturbed ridge and furrow with 3m width (furrow to furrow). It has been overlain / cut by a series of across slope field boundaries (LH6). It has also been disturbed by subsequent drainage activity. The ridge and furrow extends up the gentle slope of the main ridge and also across a small gully to the north. There is little evidence of ridge and furrow on the other sides of modern fence lines. This probably reflects truncation of the ridge and furrow by land improvement on the southern and eastern sides of these fences. Bank LH14 extends out from the line of one of these ridges.

Site No: **LH3**
Site Name: Hayhouse Rigg, Denton
SMR No: NY 5884061216 NY 5901860939
Site Type: Field Boundary
Source: Surface Survey
Period: Medieval/ Post-Medieval
Date: 5/1995
Dimensions: 350m x 2m
Description:
A long bank and ditch field boundary extending around the summit of the Hayhouse Rigg hill. The form of the boundary changes along its length; at its north-western end it has the form of a simple ditch, but the central and southern sections comprise a bank and ditch (the

ditch is on the eastern sides). There is no evidence of a continuation beyond a dry-stone wall at its southern terminus. The north-western terminal stops short of a merging with bank LH6, and there is no direct evidence of a relationship. However, the form of the boundary is comparable with that of the LH6 and LH17 boundaries.

Site No: **LH4**
Site Name: Hayhouse Rigg, Denton
SMR No: NY 5890061138
Site Type: Limestone Quarry/Possible Kiln
Source: Surface Survey
Period: Post-medieval
Date: 5/1995
Dimensions: 80m x 35m x 3m
Description:
An expansive quarry across the scarp slope and summit of the Hayhouse Rigg hill. The shape and extents of the quarry are very irregular. Some of the extractive areas are very deep (up to 3m depth) while others are relatively shallow. There is a limited amount of spoil associated with the extraction pits, but the great majority of the stone material has been removed from site. There is a main quarry aperture extending out from the northern, downslope side of the quarry. Set into the southern side of the quarry are the relict dry-stone remains of a small structure. This is possibly the extant elements of a small former kiln. The geology of the quarry area is limestone and the purpose of the extraction was probably for lime working, however there is no evidence of a lime kiln in the immediate vicinity.

Site No: **LH5**
Site Name: Hayhouse Rigg, Denton
NGR : Cairn A: NY 58857, 61119
Cairn B: NY 58853, 61138
Site Type: Cairn
Source: Surface Survey
Period: Bronze Age ?
Date: 5/1995
Dimensions: Cairn A: 6m x 4.50m x 0.40m
Cairn B: 3m x 2m x 0.20m
Description:
Two small cairns on the summit of the Hayhouse Rigg hill.
Cairn A: A man-made round cairn with an arc section set out from the eastern side. It has a regular rounded profile and very well-defined edges. It has only occasional medium stones protruding from turf. It is prominent and has a height of about 0.40m.

Cairn B: A smaller, oval shaped cairn adjacent to cairn A. It has a regular shape and well-defined edges but is not as prominent.

The cairns are in the proximity of possible prehistoric cairns LH 16 & LH 17 and by association there is a possibility that these are also prehistoric.

Site No: **LH6**
Site Name: Hayhouse Rigg, Denton
NGR : NY 58735, 61221 NY 59332, 61293

Site Type: Relict Field Boundaries
Source: Surface Survey
Period: Post Medieval
Date: 5/1995
Dimensions: 2m x 80m, 2m x 480m
Description:

A series of relict field boundaries extending across the slope (east/west). One extends around a small hillock and another extends up to a modern field wall at the west end. The dry-stone wall overlies this field boundary and also that of LH17 and there is a possibility that field banks LH6 and LH17 were part of a contemporary field system. The banks are up to 2m wide and have a slight ditch on the northern side. The boundaries overlie ridge and furrow LH2.

Site No: **LH7**
Site Name: Hayhouse Rigg, Denton
NGR : NY 59089, 60928
Site Type: Mineral Extraction Site
Source: Surface Survey
Period: Post Medieval ?
Date: 5/1995
Dimensions: 8m x 7m
Description:

A small hollow with an associated mound of spoil on the northern up-slope side. The hollow is fairly shallow and represents a minimal level of extraction. Limestone was not quarried from this feature and it may represent an exploration working for coal.

Site No: **LH8**
Site Name: Hayhouse Rigg, Denton
NGR : NY 59136, 60972
Site Type: Limestone Quarry
Source: Surface Survey
Period: Post Medieval
Date: 5/1995
Dimensions: 45m x 25m x 3.50m
Description:

A moderately sized limestone quarry. There are relatively few spoil mounds associated with the quarry pits and it is evident that the majority of this material was removed from the site. Access to the site was from the downslope southern side of the quarry. There is a considerable amount of exposed limestone in the quarry sides. There is no evidence of a limekiln within the immediate vicinity of the quarry.

Site No: **LH9**
SMR No: 10151
Site Name: Greentarn Rigg, Denton
SMR No : NY 60350, 61024
Site Type: Limestone Quarry
Source: Surface Survey
Period: Post Medieval
Date: 5/1995
Dimensions: 45m x 20m x 3m

Description:
A sub-triangular shaped limestone quarry. It is relatively deep and there are only occasional spoil mounds associated with the workings. It is evident that there was comprehensive removal of material from the site.

Site No: **LH10**
Site Name: Hayhouse Rigg, Denton
SMR No : NY 59477 61261
Site Type: Limestone Quarries
Source: Surface Survey
Period: Post Medieval
Date: 5/1995
Dimensions: 65m x 9m x 3.50m
Description:
A line of quarries on the side of a steep scarp slope. Despite the considerable depth of the workings (up to 3.50m deep) these do not represent significant volumes of extracted stone. The exposed rock is limestone. There are few spoil heaps associated with the workings, and the majority of the material was evidently removed from the site.

Site No: **LH11**
Site Name: Hayhouse Rigg, Denton
SMR No: : NY 59370, 61225
Site Type: Clearance Cairn
Source: Surface Survey
Period: Bronze Age ?
Date: 5/1995
Dimensions: 3m x 2.50m x 0.25m
Description:
A small sub-rectangular shaped clearance cairn located at the base of a steep scarp slope. The cairn is formed out of field stone, of irregular size, and there are few surface stones within the vicinity. There is limited turf cover around the perimeter stones, but further west the stones are not earth fast.

Site No: **LH12**
Site Name: Hayhouse Rigg, Denton
SMR No : NY 59522, 61299
Site Type: Stone lined well
Source: Surface Survey
Period: Medieval/Post Medieval
Date: 5/1995
Dimensions: 0.90m x 1.20m
Description:
A small circular stone lined well situated at the base of a steep scarp slope. The well is 0.90m in diameter and 1.20m deep and contains fresh water. It is presently partially capped by a former gate post, and there is a limited amount of stone collapse into it. The well was clearly constructed on a spring line, and its purpose was to provide water for livestock.

Site No: **LH13**
Site Name: Low Houses, Denton
SMR No: NY 59486, 61289

Site Type: Rectilinear Structure ?
Source: Surface Survey
Period: Medieval/Post Medieval
Date: 5/1995
Dimensions: 3m x 1.20m x 0.60m
Description:
Small section of L-shaped in plan earth fast wall with some tumble. The stones used in the construction of the wall footings were worn and measured less than 0.30m in diameter. It would appear to be the decayed remains of a small rectilinear structure, possibly a bield.

Site No: **LH14**
Site Name: Hayhouse Rigg, Denton
SMR NO: : NY 59335, 61217 NY 59344, 61174
Site Type: Relict Field Boundary
Source: Surface Survey
Period: Medieval/Post Medieval
Date: 5/1995
Dimensions: 45m x 2m
Description:
A bank and ditch extending out from an area of ridge and furrow. The ditch is shallow, ill-defined and is located on the west side of the bank. There is some possible very faint ridge and furrow located on the western side of the bank.

Site No: **LH15**
Site Name: Hayhouse Rigg, Denton
SMR No: NY 89226, 61151
Site Type: Ridge and furrow
Source: Surface Survey
Period: Medieval/Post Medieval
Date: 5/1995
Dimensions: 50m x 40m
Description:
A small area of 3m wide ridge and furrow orientated down-slope between a modern fence line and a bank extending out from the LH6 field boundaries. It is possibly the same system of ridge and furrow as LH2, the connection however has probably been lost by land improvement to the south and east of the modern fence. Boundaries and ridge and furrow are clearly truncated by the fence line which would appear to define the edge of the improvement.

The bank defining the south and the east of the ridge and furrow is similar in form to those of LH6 and LH2 and it extends out from LH6.

Site No: **LH16**
Site Name: Hayhouse Rigg, Denton
SMR No: NY 5888561086
Site Type: Round Cairn ?
Source: Surface survey
Period: Bronze Age ?
Date: 6/1994 and 5/1995
Dimensions: height 0.75m

Description:
A large, flat topped, circular feature at the summit of Hayhouse Rigg, and underlying in part an anemometer and the modern field boundary. The mound is completely turf covered, with no construction material visible within it. The profile and the regularity of plan indicate this as an archaeological feature. It was very similar to site LH 17 to the west, although much more prominent, with the mound standing to a height of *c* 1.00m on the north-western side. It was much affected by burrowing and further disturbance. It is threatened by the construction of Turbine 1 to the west.

Site No: **LH17**
Site Name: Hayhouse Rigg, Denton
SMR No: NY 58777, 61105
Site Type: Round Cairn ?
Source: Surface Survey
Period: Bronze Age ?
Date: 6/1994 and 5/1995
Dimensions: 13.00m x 13.00m x 0.45m
Description:
A flat topped circular mound which appeared to be constructed from blocks of stone. It was situated on a flat area of ground on a gentle west facing slope and to the immediate west of the summit of Hayhouse Rigg. It underlies the modern east-west field boundary and was to the west of site LH16. Inspection of the mound revealed that it was constructed from upstanding stones within an earth matrix, indicating that it was an archaeological, as opposed to a natural, feature. This feature is possibly a prehistoric round cairn or filled in ring cairn.

Site No: **LH18**
Site Name: Greenside Rigg, Denton
SMR No: NY 58766110 - 58796097
Site Type: Field Boundaries
Source: Surface Survey
Period: Unknown
Date: 6/1994
Dimensions: 140m x 2.50m x 1.00m
Description:
A pair of substantial banks constructed from orange colluvial silt. The north-south aligned bank is joined half way along its length on its eastern side by the east-west aligned bank, forming a T junction. The east-west bank pre-dates the existing north-east - south-west aligned field wall. The northern extent of the north-south field boundary underlies the later field wall, which changes its alignment to a north-south axis. At its southern extent, the north-south boundary turned westwards and terminated after 10m into an area of mire. Both banks were breached by modern hollow ways. It is likely that these features are the relict remains of former field boundaries.

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APPENDIX 1 - Project Design

APPENDIX 2 LUAU Survey Levels

ILLUSTRATIONS

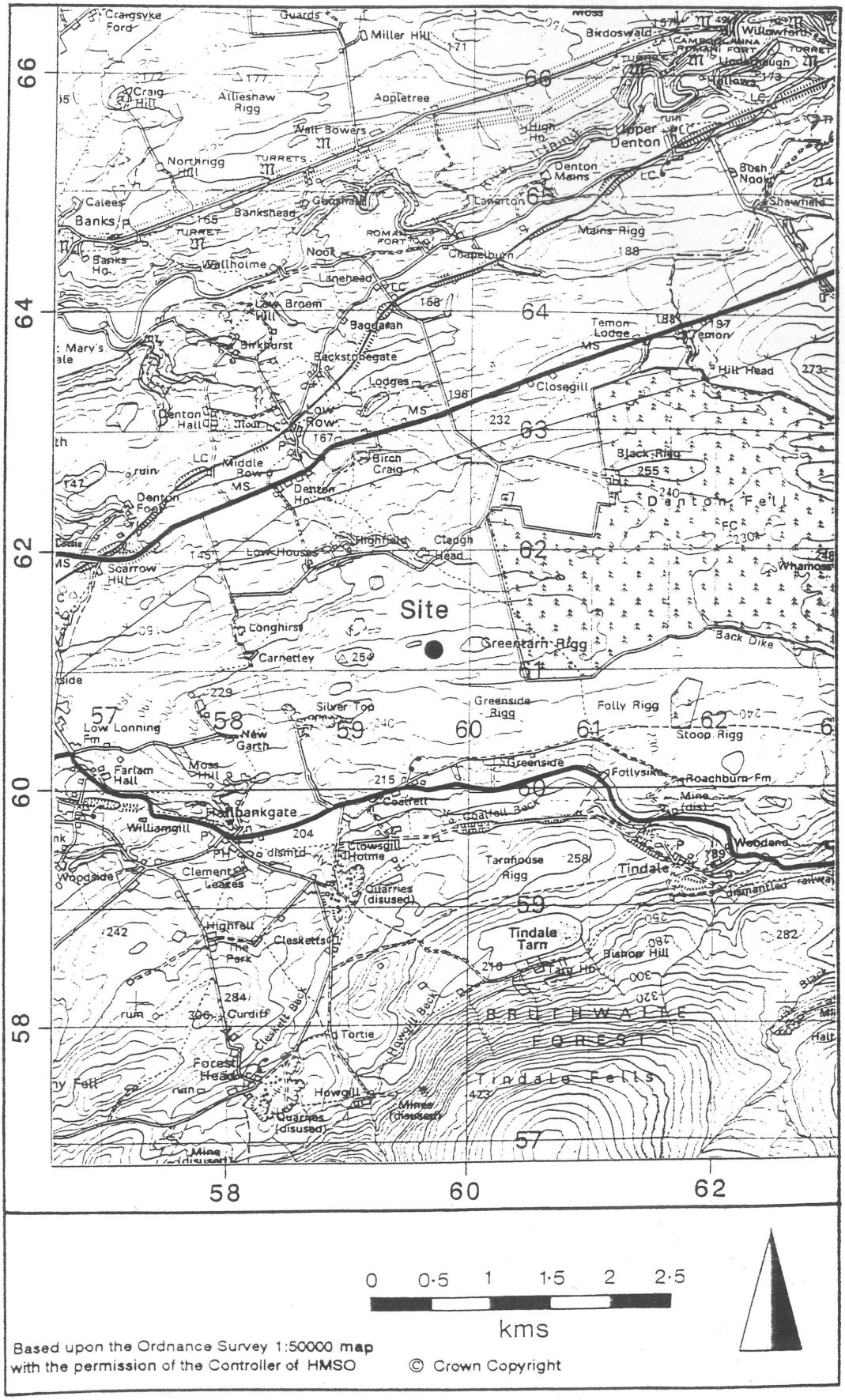
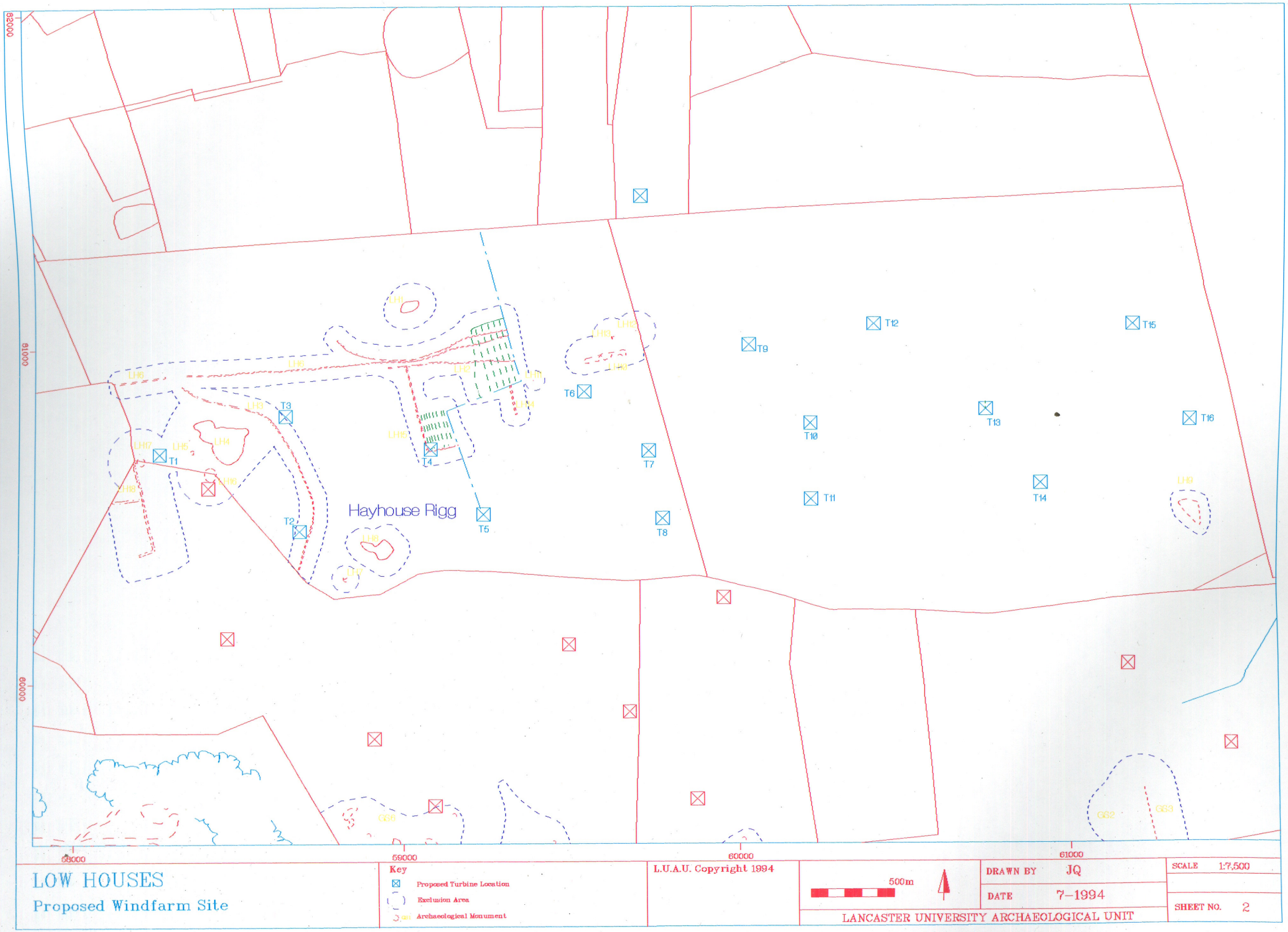


Fig.1 Site location map



LOW HOUSES

Proposed Windfarm Site

Key

- Proposed Turbine Location
- Exclusion Area
- Archaeological Monument

500m

DRAWN BY JQ

DATE 7-1994

SCALE 1:7,500

SHEET NO. 2

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