



# **HORNBY VILLAGE INSTITUTE, HORNBY, LANCASHIRE**

## **Palaeoenvironmental Report**



**Oxford Archaeology North**

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**Harrison Pitt Architects**

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## SUMMARY

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Following the submission by Harrison Pitt Architects of a planning application (reference 1/03/00781/FUL) to redevelop the existing building of Hornby Village Institute, Main Road, Hornby, Lancashire (SD 58556 68296), Lancashire County Archaeology Service (LCAS) issued a formal brief recommending that an archaeological watching brief be conducted during any associated groundworks. Following submission and approval of a project design, Oxford Archaeology North (OA North) was commissioned to undertake the watching brief. This was undertaken in two phases between 15<sup>th</sup> and 23<sup>rd</sup> June 2005 and 18<sup>th</sup> and 25<sup>th</sup> July 2005 during the excavation of wall footings and an elevator shaft (OA North 2005). During these works, a possible medieval plough soil, layer **104**, was revealed in the garden area to the south of the existing building, from which a number of bulk samples for general biological assessment were taken.

Following the assessment for charred and waterlogged plant remains from plough soil **104**, in consultation with LCAS, recommendations were made for full palaeoenvironmental analysis of the material from this context. Very little palaeoenvironmental work has been undertaken on material from the Lune valley and there is a similar lack of medieval/post-medieval records from the North West in general; it was, therefore, felt that the further analysis of the plant remains would significantly add to our understanding of the past ecology and economy of the area.

The charred remains from plough soil **104** indicated that oats were being cultivated and processed locally and, alongside heathland taxa, secondary products were possibly used for flooring or bedding, waste from which could have been added to the plough soil as fertiliser. In addition, the abundant weed seeds of taxa associated with damp/wet ground and scrub indicate that the area was at times waterlogged, with some element of waste/rough ground. Overall, the evidence provided by the plant remains from Hornby Village Institute is not dissimilar to that from the other medieval assemblages from the North West, limited in number though they are.

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## ACKNOWLEDGEMENTS

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OA North would like to Harrison Pitt Architects for commissioning the project and Doug Moir and Peter Iles of LCAS for their advice. Denise Druce carried out the palaeoenvironmental analysis with assistance from Sandra Bonsall, and wrote the report with advice from Elizabeth Huckerby. Emily Mercer managed the project and Stephen Rowland edited the report.

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## 1. INTRODUCTION

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### 1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Following the submission by Harrison Pitt Architects of a planning application (reference 1/03/00781/FUL) to redevelop the existing building of Hornby Village Institute, Main Road, Hornby, Lancashire (SD 58556 68296; Fig 1), Lancashire County Archaeology Service (LCAS) issued a formal specification recommending that an archaeological watching brief be conducted during any associated groundworks. Following submission and approval of a project design to meet the requirements of the LCAS specification, Oxford Archaeology North (OA North) was commissioned to undertake the watching brief. This was undertaken in two phases between 15<sup>th</sup> and 23<sup>rd</sup> June 2005 and 18<sup>th</sup> and 25<sup>th</sup> July 2005 during the excavation of wall footings and an elevator shaft (OA North 2005). During these works, a possible medieval plough soil, layer **104**, was revealed in the garden area to the south of the existing building. Plough soil **104** contained finds dating from the twelfth century to the post-medieval period, including a number of sherds of medieval pottery; a number of bulk samples for general biological assessment were taken from this layer.
- 1.1.2 Following the assessment for charred and waterlogged plant remains of a 10 litre sample taken from plough soil **104**, recommendations were made for full palaeobotanical analysis of this context. As there is very little environmental evidence for the Lune valley and a lack of medieval and post-medieval records from the North West in general, it was felt that the further analysis of the plant remains would significantly add to our understanding of the local ecology and economy of the area. This report sets out the results of the palaeoenvironmental analysis in the form of a short document.

### 1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

- 1.2.1 Hornby Village Institute, comprising a two-storey nineteenth-century structure extended to the rear in the twentieth century, lies on the eastern side of Main Road, Hornby, Lancashire, just south of the River Wenning (Fig 1). The underlying geology of the Bowland fringe is mainly Millstone grit, overlain by a complex of unconsolidated glacial deposits comprising mainly thick tills but with extensive areas of sand and gravel left by glacial melt water (Countryside Commission 1998, 91-96). The pedology in the vicinity of the site comprises Cambic stagnonley soils of the Brickfield 2 series (Soil Survey of England and Wales 1983).

### 1.3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 1.3.1 *Prehistoric and Roman period:* although such remains are known from the wider area, including the route of a Roman road that passes through Hornby between the forts at Lancaster and Burrow (Shotton and White 1995, 59-60), there is scant evidence from Hornby itself. Such remains as there are were found during an archaeological evaluation on nearby Priory Farm and consist

of a small assemblage of worked flint and chert, of tentative late Mesolithic/early Neolithic date, and two heavily-abraded joining sherds of Roman pottery (OA North 2002a).

- 1.3.2 **Medieval period:** two fragments of Anglian crosses in the churchyard of the later medieval St Margaret's church are thought to derive from the site of the twelfth-century St Wilfred's Premonstratensian priory, and may indicate a re-foundation of an earlier Anglian monastery (Collingwood 1927). The borough of Hornby was founded some time after 1279 when the Nevilles built a castle, a chapel, a market place, a tollbooth, and a grammar school (White 1996). It seems likely that a number of burgage plots were laid out at a similar time, the pattern of which may still be preserved within the modern townscape to the south of the Wenning. The Village Institute falls within such a burgage plot. In 1319 the borough had more than 47 burgesses, but the town did not flourish, and by the later medieval period was in decay (White 1996). Possible elements of the medieval settlement were revealed at Strands Farm, to the south of the Village Institute, when two twelfth- to fourteenth-century north/south-aligned ditches, thought to be rear boundaries of burgage plots that had fronted what is now Station Road, were identified (OA North 2002b; 2003). Further work on the site identified a late medieval (fifteenth and sixteenth centuries) pit and an extensive plough soil horizon (OA North 2003).
- 1.3.3 **Post-medieval period:** in the late sixteenth century, a comprehensive survey was undertaken by the Hornby Castle Estates, which documented the landholdings within the estate (Chippendale 1939). The pattern of settlement has remained relatively unchanged until the present day. The establishment of Hornby Village Institute itself dates to the nineteenth century, with extensive renovations occurring in the late twentieth century.

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## 2. METHODOLOGY

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### 2.1 LABORATORY PROCEDURE

- 2.1.1 As recommended in the watching brief report (OA North 2005) following the assessment of 10 litres of a 30 litre bulk sample, full analysis of the charred and waterlogged plant remains was carried out on the entire sample of material from plough soil **104**. Following standard practice, this material was gently washed down and desegregated by hand, and the light fraction (flot) collected on 250 micron mesh and air-dried. The flot was then graded through a series of stacked sieves with 2mm, 500 micron and 250 micron mesh sizes, and scanned with a Leica MZ6 stereo microscope. Plant material was recorded and identified with the aid of the OA North reference collection; botanical nomenclature follows Stace (1997) and the results are presented in *Appendix I*. Charred remains were quantified as actual counts in order to compare the quantity of cereal grains, cereal chaff and weed seeds, and to assess the stage of crop processing the assemblage represents. The waterlogged seeds and other remains, such as charcoal fragments, heather leaves/stems, coal and industrial waste, were quantified on a scale of 1-5, where 1 is rare and 5 is abundant (>100 items).

### 2.2 ARCHIVE

- 2.2.1 A full archive of the work undertaken has been produced to a professional standard in accordance with current English Heritage guidelines (English Heritage 1991). The archive will be deposited in the Lancashire County Record Office in Preston, and a copy of the report will be forwarded to the Lancashire Sites and Monuments Record.

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### 3. RESULTS

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#### 3.1 THE PALAEOENVIRONMENTAL RESULTS FROM CONTEXT 104 (APPENDIX I)

- 3.1.1 The sample contained fairly abundant cereal grains, which were dominated by *Avena* sp. (oat), with a couple of *Triticum* sp. (wheat) grains. Given the morphological overlap of the cultivated and wild variety of oat grains, no distinctions could be made on the basis of the grains themselves; however, the presence of a number of diagnostic *Avena sativa* (cultivated oat) floret bases amongst the chaff, suggests that the oat grains are likely to represent the cultivated variety. Other cereal chaff included abundant (>600) cereal awn fragments, of which >100 were positively identified as wild/cultivated oat. A couple of culm nodes and a single detached embryo were also identified.
- 3.1.2 Other charred remains of edible plants were limited in number but included thirteen semi-charred *Corylus avellana* (hazelnut) shell fragments and one or two fragments of *Pisim/Vicia faba*. (garden pea/broad bean). However, the sample contained an abundant and relatively diverse weed seed assemblage, the most dominant being *Chenopodium album* (fat-hen), *Juncus* sp. (rushes), *Chrysanthemum segetum* (corn marigold) and >4mm Poaceae (grass family). The latter possibly represent oat grains but without the required characteristics for positive identification. The presence of the typical arable weeds *Chrysanthemum segetum* and *Stellaria media* (common chickweed) alongside taxa indicative of waste/rough or arable ground, such as *Chenopodium album* and *Galeopsis* sp. (hemp-nettle), suggests that many of the weed seeds are likely to represent the remains of crop-processing waste. Additionally, the abundant *Juncus* sp. seeds, plus the presence of *Caltha palustris* (marsh-marigold), *Potamogeton* (pondweed), and *Carex* (sedge), suggests that at least some of the charred debris originated from damp/wet ground. Such remains could have entered the deposit through the spreading of remains from thatching/roofing, flooring materials, or from waste associated with clearance of damper areas.
- 3.1.3 A number of charred remains indicative of heathland were also present, including *Calluna vulgaris* (heather) leaves and stems, a *Pteridium* (bracken) leaf fragment, and abundant *Bryophyte* (moss) stems. Other abundant material included wood charcoal, coal, cinder/clinker and industrial waste (hammerscale and other metallic fragments).
- 3.1.4 The sample contained abundant waterlogged seeds, including *Chenopodium album*, *Juncus* sp., *Rubus fruticosus* (blackberry), *Sambucus nigra* (elderberry) and *Euphorbia helioscopia* (sun-spurge). A single *Vitis vinifera* (grape) pip and a possible *Avena* sp. grain were also present in an uncharred state. Although it is often difficult to distinguish between waterlogged and modern seeds, the nature of the assemblage, plus the riverside location of the site, means that the uncharred seeds may well be contemporary with the charred remains. However, the fact that many of the species represented have woody and decay-resistant seeds suggests that the assemblage may be biased and not wholly representative of the surroundings/economy of the site.

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## 4. DISCUSSION AND CONCLUSION

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### 4.1 DISCUSSION

- 4.1.1 The charred plant remains from plough soil **104** indicate that cultivated oat was likely to have been grown in the vicinity, with crop processing, as indicated by the abundant assemblage of oat awn fragments and crop weed seeds, undertaken on, or close, to the site. Although there is a possibility that some of the identified plant remains stem from later activity, high concentrations of oats, indicating local cultivation and production, are a common feature of those medieval contexts from the North West that have been studied (Huntley and Stallibrass 1995). A palaeobotanical assemblage dominated by oat and associated cereal chaff and weeds of cultivation was also found at a similar medieval burgage plot at Stricklandgate, Kendal (Huntley 1989), which was interpreted as straw or cereal processing debris that may have subsequently been used as animal bedding or chicken feed. It is possible that the oats at Hornby were being cultivated locally, perhaps within the rear burgage plot, given that they will grow on damper/poorer soils and require only a short growing season (Moffett 2006). The abundant charred seeds of plants of damp/wet ground, together with the presence of anaerobically-preserved material, suggest that conditions around the site were indeed waterlogged at times, most likely due to the close proximity of the river.
- 4.1.2 It is possible that some of these wet ground taxa, such as sedge and rush, may be the remains of thatching/roofing or of clearance waste, which was subsequently spread on the plot as fertiliser. Similarly, abundant heathland taxa are often found on medieval sites in the North (Hall and Huntley in prep), and may represent spent roofing or bedding, which was burnt for disposal and then either spread or blown over the plot. Alternatively, given that turbury rights were bestowed to some occupants of this area of the Lune Valley (Huckerby pers comm), the material may represent the remnants of burnt peat turves, which had been collected from the nearby uplands.
- 4.1.3 Although the waterlogged seeds may represent a slightly biased or preferentially preserved assemblage, those taxa present indicate that some areas on the site consisted of waste/rough ground with an elderberry and blackberry scrub. Such conditions may have developed as part of the burgage boundaries, but may perhaps pertain to a time when the burgage plot had gone out of use, or was not well-maintained,

### 4.2 CONCLUSION

- 4.2.1 The charred and waterlogged plant remains from the Hornby Village Institute have provided information on both the local economy and environment of the site. Although limited in extent, the data has added significantly to our understanding of the area during the medieval/post-medieval period.

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## APPENDIX 1: SUMMARY OF BOTANICAL REMAINS

	Context No	104
	Sample No	1
<b>Charred Cereal Grain</b>		
<i>Triticum</i> sp.	Wheat undiff.	2
<i>Avena</i> sp.	Oats	21
<i>Avena/Secale cereale</i>	Oats/Rye	1
<i>Cerealia</i> indet.	Indeterminate grains	14
	<b>Total Cereal Grain</b>	<b>38</b>
<i>Cerealia</i> indet. frag.		20
<b>Charred Cereal Chaff</b>		
<i>Avena sativa</i> floret base	Cultivated oat floret base	12
Awn frag- <i>Avena</i> sp.	Oat awn frag	>100
Awn frag- <i>Triticum</i> sp.	Wheat awn frag	8
Awn frag-indet		>500
Culm node		2
<b>Other Charred Edibles</b>		
<i>Corylus avellana</i> frag	Hazelnut shell frag	13
<i>Pisum</i> frag	Garden pea	1
<i>Pisum/Vicia faba</i> frag	Garden pea/broad bean	1
<b>Ruderals/Arable Weed Seeds</b>		
cf. <i>Urtica</i> sp.	Nettles	1
<i>Chenopodium album</i>	Fat-hen	11
<i>Stellaria media</i>	Common Chickweed	2
<i>Polygonum</i> sp.	Knotgrass	2
<i>Polygonum lapathifolia</i>	Pale Persicaria	1
Brassicaceae	Cabbage family	3
Fabaceae <2mm	Pea family	2
<i>Rumex acetosella</i>	Sheep's Sorrel	2
<i>Galeopsis</i> sp.	Hemp-nettle	1
cf. <i>Stachys</i> sp.	Woundworts	1
<i>Plantago lanceolata</i>	Ribwort Plantain	2
<i>Galium</i> sp.	Bedstraws	2
<i>Chrysanthemum segetum</i>	Corn Marigold	19
<i>Lapsana communis</i>	Nipplewort	4
Poaceae 2-4mm	Grass family	2
Poaceae >4mm	Grass family	28
Indeterminate		2
Unknown		6
<b>Damp/wet ground Seeds</b>		
<i>Caltha palustris</i>	Marsh-marigold	1
<i>Potamogeton</i>	Pondweeds	1
<i>Carex trigonous</i>	Sedges- three sided	1
<i>Juncus</i> sp.	Rushes	16
<b>Total Weed Seeds</b>		<b>125</b>
<i>Juncus</i> sp.	Rushes-seed head	1
<b>Other Remains*</b>		
Charcoal frag.		5
Charred indet buds		1
Charred Rosaceae thorns	Rose family	1
Charred <i>Calluna vulgaris</i> leaves	Heather	2
Charred <i>Calluna vulgaris</i> stem frag.	Heather	3
Charred <i>Pteridium</i> leaf frag.	Bracken	1
Charred <i>Bryophyte</i> stem frag.	Mosses	5
Charred rhizome/tubers		1
Industrial waste		5
Cinder/Clinker		5
Coal		5

	Context No	104
	Sample No	1
<b>Waterlogged Plant Remains*</b>		
<i>Urtica dioica</i>	Common Nettle	2
<i>Chenopodium album</i>	Fat-hen	3
<i>Calluna vulgaris</i> leaves	Heather	1
<i>Rubus fruticosus</i>	Blackberry	3
<i>Sambucus nigra</i>	Elderberry	3
<i>Euphorbia helioscopia</i>	Sun Spurge	1
<i>Vitis vinifera</i>	Grape	1
Lamiaceae	Dead-nettle family	1
<i>Juncus</i> sp.	Rushes	4
Poaceae >4mm	Large grass	1
Unknown remains		1

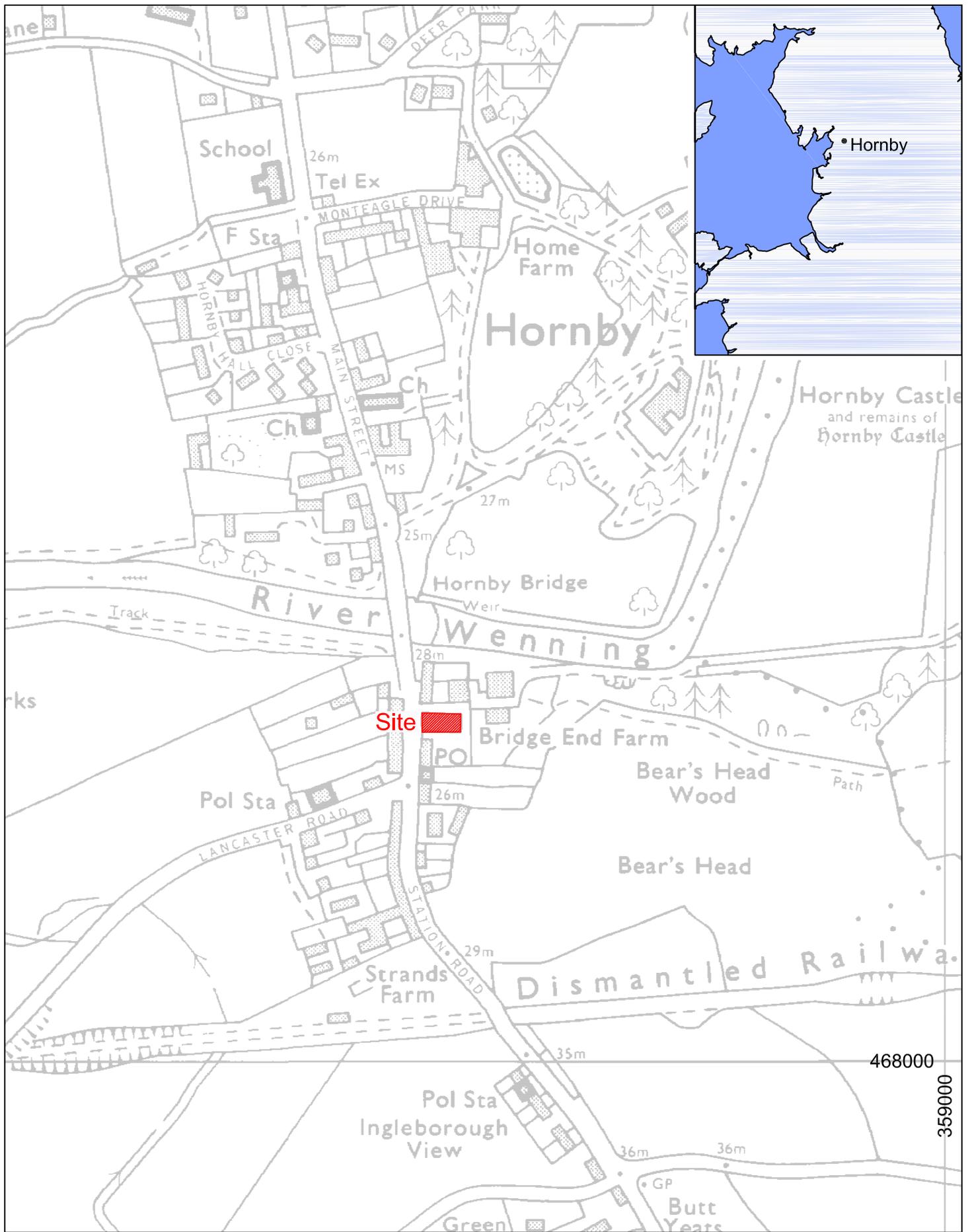
The Charred and Waterlogged Plant Remains from Hornby Village Institute, Context **104**. Figures given are actual counts except \* where numbers are scored on a scale of 1-5 where 1 is rare and 5 is abundant (>100 items). Remains are seeds unless stated otherwise.

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## ILLUSTRATIONS

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Figure 1: Site Location Map



based upon the Ordnance Survey 1:10000  
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Figure 1: Location Map

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**HORNBY VILLAGE INSTITUTE, HORNBY**


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<b>Record group</b>	<b>Contents</b>	<b>Comments</b>	<b>Box/File Number</b>
	<b>Introduction</b> Project Design		1
<b>A</b>	<b>Report</b> Final Report Palaeoenvironmental Report		1
<b>B</b>	<b>Primary Fieldwork Records</b> Watching Brief Records Context Records		1
<b>C</b>	<b>Primary Drawings</b> Developers Plans Annotated Maps Drawing Indices Plans/Sections		1
<b>D</b>	<b>Finds Compendium</b> Object Record Sheet		1
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