



# **Thacka Beck Flood Alleviation Scheme, Penrith, Cumbria**

## **Archaeological Watching Brief**



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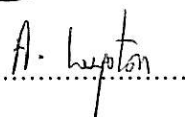
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## SUMMARY

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The Environment Agency proposes to undertake flood alleviation works to the north of Penrith, Cumbria, along the course of Thacka Beck, which runs between the Rivers Patteril and Eamont. In advance of these proposals, a programme of ground investigation (GI) work was undertaken in three areas: the location of a storage pond to the north-west of the town (NY 5078 3077); within the grounds of the Sandgate Mansion House to the east of the town (NY 5171 3024); and a garage site off Old London Road, to the south-east of the town (NY 5187 2990). Thacka Beck is a partially man-made watercourse, and has supplied the town with its main water supply for many centuries. Therefore, there is a high archaeological potential associated with the leat, together with possible early settlement activity in the town centre. Consequently, Halcrow UK commissioned Oxford Archaeology North (OA North) to undertake an archaeological watching brief during the GI works on behalf of their client, the Environment Agency.

The watching brief was undertaken by during November and December 2008. In total, ten machine-excavated trial pits were excavated (TP201-208 at the storage pond site, and TP301-302 at the garage site), and eleven hand-excavated trial holes (borehole inspection pits BH201-208 at the storage pond site, and window sampler probeholes WS201-203 at the Mansion House site). The trial pits were excavated to a maximum depth of either 1.65m (TP301-302) or 3.0m (TP201-208). The hand-excavated trial holes (BH201-208 and WS201-203) were excavated to a maximum depth of 1.3m.

While no features or structures of archaeological significance were observed during these works, some deposits of well preserved organic matter were recovered. From the storage pond site, in TP204, a sample was taken from organic matter observed at a depth below 1.65m (**103**), beneath a layer of river gravel or lacustrine inwash (**102**), and was seen to contain abundant *Scheuchzeria palustris* (Rannoch rush) rhizomes. The deposit is likely to have developed as a very wet flooding horizon, sealed possibly in the early Holocene when there was little or no vegetation cover. Alternatively, a period of possible forest clearance in the prehistoric period may have led to the exposure of the soils and the formation of hillwash, such as that found in peat deposits at Fenton Cottage and Stafford's Dike in Lancashire dated to the early Bronze Age. It was also found in association with the construction of Kate's Pad, a prehistoric trackway in Lancashire. It was not possible to date either deposit **102** or **103**. However, if the Rannoch rush is Bronze Age in date then it is of archaeological significance. If the rush is the only example of early Holocene deposits in Penrith and the surrounding area then it is both archaeologically and palaeoenvironmentally significant.

From the garage site, a large assemblage of plant remains, including corn marigold seeds blackberry and elderberry pips, were recorded at a depth of 1.42m BGL (**114**) in TP301, together with degraded bone and charcoal. This evidence suggests **114** is a possible occupation deposit but the date of this is unknown. At a similar depth to **114**, on the same site, was the probable ploughsoil **112** in TP302, from which a sample was taken that produced a charred *Avena* (oat) grain indicating archaeological activity. This ploughsoil can be dated to at least the late nineteenth or twentieth century from a fragment of pottery, which suggests that the area saw little development prior to the

construction of the garage. *Avena* (oat) grain was also observed in a sample taken from burnt deposit **108** in WS203 at the Mansion House site, at a depth of over 1m. Few other plant remains were noted, however, but the presence of grain is indicative of occupation in the area.

Ceramic fragments taken from the levelling layer **107** at the Mansion House site were dated to the late nineteenth century, together with some building materials and animal bone. This lay beneath the modern overburden and may be the remnants of other buildings demolished in the area. The finds, however, are of little archaeological significance.

Only two samples have potential for further analysis, the occupation deposit **114**, and the deposit containing the organic material **103**. However, it is recommended that, should the opportunity arise, duplicate environmental cores are taken of the preserved organic deposit **103**. If any subsequent development is likely to impact upon it, either by its destruction or by causing changes in its hydrology, then a suitable mitigation strategy to record and date the deposit further should be undertaken.

The small assemblages in the remaining environmental samples from the town excavations suggest that the deposits are associated with archaeological activity and that any extensive groundworks in these areas may benefit from further archaeological investigation.

## ACKNOWLEDGEMENTS

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The watching brief was undertaken by Pascal Eloy, who also wrote this report, and Ric Buckle. The environmental assessment was also undertaken by Sandra Bonsall and Elizabeth Huckerby. The finds were assessed by Chris Howard-Davis. The drawings were produced by Marie Rowland. The project was managed by Emily Mercer, who also edited the report.

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## 1. INTRODUCTION

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### 1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 A flood alleviation scheme is proposed in and around the town of Penrith, Cumbria, along the course of Thacka Beck. In advance of this, a programme of ground investigation (GI) work was undertaken in three areas: the site of a storage pond to the north-west of the town; the grounds of the Sandgate Mansion House to the east of the town; and a garage off Old London Road, to the south-east of the town (Fig 1). Thacka Beck is a partially man-made watercourse that connects the Rivers Petteril and Eamont, and has supplied the town with its main water supply for many centuries (OA North 2006). Therefore, there is a high archaeological potential associated with the leat.
- 1.1.2 Halcrow Group Ltd, on behalf of their client the Environment Agency, commissioned Oxford Archaeology North (OA North) to maintain a permanent presence archaeological watching brief during exploratory hole groundworks for the GI works, which will comprise the excavation of trial pits, boreholes and window sampler probeholes. The watching brief will be maintained during excavation to enable any archaeological remains disturbed during the groundworks to be recorded in mitigation of the exploratory works.
- 1.1.3 The archaeological monitoring was undertaken over 16 days between 17<sup>th</sup> November and 17<sup>th</sup> December 2008. This report sets out the results of the watching brief in the form of a short document.

### 1.2 LOCATION AND GEOLOGY

- 1.2.1 Penrith lies between the Rivers Eamont and Petteril, on the south-western edge of the Eden Valley. The three GI sites are situated either side of the town of Penrith. The storage pond site, by the Gilwilly Industrial Estate, lies within fields to the north-west of Penrith and is bounded to the south by the Thacka Beck and to the east by the West Coast Mainline (NY 5078 3077, Fig 1). The two remaining sites are to the east and south-east of the town; behind Mansion House in Sandgate, east of the medieval church of St Andrews (NY 5171 3024, Fig 1); and to the south of this is the garage site off Old London Road (NY 5187 2990, Fig 1).
- 1.2.2 The geology of the Penrith area comprises New Red Sandstone overlain by thick post-glacial deposits, characterised locally by drumlin swarms (Geological Survey of Great Britain 1978). However, the soils in the vicinity of the specific sites are classified only as urban by the Soil Survey (1983) and otherwise remain unclassified.

### 1.3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

- 1.3.1 **Introduction:** this section is intended only as a brief summary of the archaeological development of the Penrith area, with specific reference to the watching brief sites where possible, to provide a context to the results.
- 1.3.2 **Prehistoric Period (up to AD 43):** prehistoric remains are fairly evenly distributed in the area surrounding the core settlement of Penrith, with slightly larger numbers having been recorded to the west (Cumbria County Council 2002, Map C). No remains have yet been identified that are of a Palaeolithic or Mesolithic date (*op cit*, 28). However, Neolithic axes have been relatively common finds (*ibid*), and King Arthur's Round Table Henge, to the south-east of Penrith, is a monument of great importance (SM 23663), which is close to another, similarly-dated henge, that of Mayburgh (English Heritage 2006). King Arthur's Round Table is believed to date to the end of the Neolithic or the early Bronze Age (Burl 1979, 231), with the discovery of a bronze axe implying the use of the henge during the Bronze Age.
- 1.3.3 Many Bronze Age finds such as axes, spearheads, and knives, and monuments including standing stones, cairns, and cists, are also recorded (Cumbria County Council 2002, 28). A single Iron Age and Romano-British monument, near Sceugh Farm, to the north-east of Penrith, comprises a complex of enclosures and trackways (Lambert *et al* 1996, 17; Scheduled Monument 388). The prehistoric remains closest to the proposed development area are two poorly located finds - a Bronze Age cup and ring marked stone (Frodsham 1989, 16-7; Cumbria County Council 2002, 4), and battleaxes of uncertain prehistoric date (*ibid*; Cumberland Pacquet 1818). No prehistoric remains are recorded within any of the three groundwork sites.
- 1.3.4 **Roman Period (AD 43 - 410):** the line of a Roman road between Manchester and Carlisle lies to the east of Penrith, and passes through the Roman fort at Brougham, situated to the south-east of the town and positioned to guard the nearby crossing of the River Eamont (Allan 1994, 6; Shotter 1997, 35). A large cluster of Roman landscape elements, structures, and stray finds have been recorded in this area (Cumbria County Council 2002, 29, map D). Two unstratified and poorly-located Roman coins have been discovered within Penrith, but there is no firm evidence to suggest any significant Roman activity ever took place within the town and, certainly no evidence of settlement (Cumbria County Council 2002, 5). There is no record of Roman remains within any of the three watching brief sites.
- 1.3.5 **Early Medieval Period (AD 410 - 1066):** although there is no documentary evidence for settlement in Penrith prior to the twelfth century, it has been suggested that the street plan indicates pre-Norman settlement, with St Andrew's Church, to the west of the Mansion House watching brief site, at its centre (Winchester 1979, quoted in Cumbria County Council 2002, 6). A cross-shaft fragment, dated to the late eighth to early ninth century, was found built into the wall of Tynefield House in Penrith (Richardson 1998, 32). This is of considerable importance since it is the only artefact that pre-dates the Viking domination of Penrith during the early tenth century (*ibid*). There are significant tenth century monuments within St Andrew's



churchyard, and these have been scheduled (SM 23662), although they are not thought to be in their original locations (Anon 1947, 225). The monuments include the famous Giant's Thumb High Cross and Giant's Grave, the latter comprising two crosses and four hogback stones (*op cit*, 221, 225). There is no record of early medieval remains within any of the watching brief sites.

- 1.3.6 **Medieval Period (1066 - 1540):** as is perhaps to be expected, the surviving remains from the medieval period are high status buildings; St Andrew's Church, the earliest parts of which date to the twelfth and thirteenth centuries (Pevsner 1967, 173-4); Penrith Castle, dated to the fourteenth century; Hutton Hall (Anon 1947, 219), which dates to as early as the fourteenth or fifteenth century (Pevsner 1967, 176); and the Gloucester Arms, which was formerly known as Dockray Hall, that dates to the late fifteenth century (*op cit*, 177). A standing structure known as the Plague Stone is on a somewhat smaller scale, but performed an important function during the great plague in 1598, when it was used to transfer corn between the town and country people (DoE 1983, map 3 item 41). Specific below ground remains listed by the Historic Environment Record (HER) include the site of the late medieval friary founded in the late thirteenth century (Haswell 1903, 350; Moorhouse 1971, 137), and the site of the Old Grammar School, which was founded in the fourteenth century (Nicolson and Burn 1777, 410).
- 1.3.7 Thacka Beck is listed on the HER as a medieval earthwork, the course of the waterway running to the south of the storage pond area. It is believed to have been first constructed as a leat in 1300 to take water to Penrith from the River Patteril due to the town's wells being so polluted (Bowen 2005). The watercourse was canalised by a Victorian brick-built culvert as it entered the town.
- 1.3.8 **Post-Medieval to Modern Periods (1540 to date):** most of the post-medieval archaeological remains recorded on the HER in the immediate surroundings of the proposed development area are buildings. A silver groat of Elizabeth I (who was on the throne from 1558 to 1603) was recovered during the mid-nineteenth century (Carlisle Journal 1846), but no other post-medieval finds have been recorded. The buildings in central Penrith range from the sixteenth century Two Lions public house, originally built as a house for Gerard Lowther, through to the eighteenth century George Hotel, Mansion House, and Smith's grocers (Pevsner 1967, 177), the nineteenth century Old Grammar School (Ordnance Survey *c* 1865) and Clint Mill (Ordnance Survey 1925; Hopkins nd), and the twentieth century Regent Cinema (Ordnance Survey 1971).
- 1.3.9 **Previous archaeological interventions:** a watching brief of similar investigative work was undertaken along the course of Thacka Beck in the storage pond area in November 2005, to the east of the field (OA North 2006). Six test pits were excavated (TP101-106) but did not produce any significant archaeological horizons. Three abraded sherds of nineteenth century pottery within the lower horizon of Test Pits 102 and 104 may indicate that the area had previously been subjected to some degree of

disturbance, possibly relating to the construction of a nearby railway embankment.

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## 2. METHODOLOGY

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### 2.1 WATCHING BRIEF

- 2.1.1 A programme of field observation recorded accurately the location, extent and character of any surviving archaeological features and/or deposits exposed during the course of the excavation. The work comprised the systematic examination of all subsoil horizons exposed, and the recording of all archaeological features and horizons, and any artefacts, identified during observation.
- 2.1.2 All ground works on the site were conducted under constant archaeological supervision and comprised the hand excavation of the inspection pits for the boreholes and window sampler probeholes to a depth of 1.3m, and the machine excavation of trial pits to a maximum depth of 3m. All exposed soil horizons were examined and recorded, and spoil heaps were carefully checked for any unstratified finds.
- 2.1.3 A daily record of the nature, extent and depths of ground works was maintained throughout the duration of the project. All archaeological contexts were recorded on OA North's *pro-forma* sheets, using a system based on that of the English Heritage Centre for Archaeology. A monochrome and colour slide photographic record was maintained throughout and, where appropriate, scaled profiles were produced of archaeological features at a scale of 1:20.

### 2.2 FINDS

- 2.2.1 The finds' recovery and sampling programmes were carried out in accordance with best practice (following current Institute of Field Archaeologists guidelines). All artefacts recovered from the evaluation trenches were retained.

### 2.3 ENVIRONMENTAL ASSESSMENT

- 2.3.1 Seven bulk samples were taken from the three areas. The samples varied in volume from 1 to 10 litres (Table 1). These were processed for the assessment of charred and waterlogged plant remains.
- 2.3.2 The samples were hand-floated, the flot was then collected on a 250 micron mesh and air dried. The flot was scanned with a Leica MZ60 stereo microscope and the plant material was recorded and provisionally identified. The data are shown in Table 6. Botanical nomenclature follows Stace (1997). Plant remains were scored on a scale of abundance of 1-4, where 1 is rare (up to 5 items) and 4 is abundant (>100 items). The components of the matrix were also noted.

Context No	Sample No	Location	Deposit type	Sample processed (l)
<b>103</b>	100	Storage pond, TP204	Organic layer (2.5m depth)	10
<b>108</b>	2	WS203, Mansion House	Dark burnt deposit (1.2m depth)	4
<b>109</b>	3	WS203, Mansion House	Possible cess deposit (1.47m depth)	5
<b>110</b>	4	WS203, Mansion House	Pebble-rich clay. Possible early occupation layer (2.08m depth)	2
<b>111</b>	5	WS201, Mansion House	Brown soil	1
<b>112</b>	6	TP302, Garage	Mortar-rich organic soil (0.9m depth)	8
<b>114</b>	7	TP302, Garage	Sandy, pebble-rich deposit (1.42m depth)	8

Table 1: Details of samples

## 2.4 ARCHIVE

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

### 3. WATCHING BRIEF RESULTS

#### 3.1 INTRODUCTION

- 3.1.1 The trial pits were organised in two groups: the trial pits preceding boreholes (BH201-208, Fig 2) and the window sampler probeholes (WS201-203, Fig 3) were manually excavated to a maximum depth of 1.3m, after which further investigation was undertaken through drilling; and those excavated by machine (TP201-208 and TP301-302, Figs 2 and 4) to a maximum depth of 1.65m and 3.0m respectively. Deposits of topsoil, alluvial clay and gravel of varying thickness were encountered immediately above glacial till, which occurred at varying depths across the sites.
- 3.1.2 The window sampler probehole excavations at the Sandgate Mansion House site revealed relatively thick deposits of relict horticultural soils above natural deposits. Evidence of occupation, in the form of bone and charcoal, was recovered from the trial pits excavated at the Old London Road garage site. Samples were taken for assessment of their palaeoenvironmental potential, and are discussed in *Section 3.4*, below.
- 3.1.3 Each of the investigations is listed below in Tables 2-5, according to the nature of the excavation and the site. A list of contexts has been provided in *Appendix 2* and the finds listed in *Appendix 3*.

#### 3.2 RESULTS

- 3.2.1 The tables below shows the differing thickness of deposits encountered during the borehole, trial pit and window sampler probehole excavations across the three sites under investigation. The table also includes details of the character of the natural geology.

BH	APPROX. DEPTH	TOPSOIL (100)	REDEPOSITED CLAY	SANDY-GRAVEL
201	1.03m	0.4m	0.8m	1.03m
202	1.2m	0.15m	1.05m (101)	-
203	1.2m	0.27m	0.65m (101)	0.28m (105)
204	1.2m	0.25m	0.9m (101)	1.1m (102)
205	1.2m	0.25m	0.7m (101)	0.1m (102)
206	1.3m	0.27m	1.0m (101)	1.0m (102)
207	1.2m	0.27m	0.83m (101)	0.1m + (106)
208	1.3m	0.15m	1.05m	0.1m + (106)

Table 2: Storage pond site. Borehole information

TP	DIMENSIONS (M) (L x W x D)	DESCRIPTION	COMMENT
201	2.2 x 0.7 x 1.3	Topsoil ( <b>100</b> ) 0.2m; Orange-brown clay ( <b>101</b> ), with large to medium pebble inclusions 0.7m; Alluvial sediment ( <b>102</b> ), with large pebbles and glacial erratics (up to 0.34m x 0.45m x 0.4m) 0.8m	Unstable ground conditions and trench collapse prevented deeper excavation (Plate 1)
202	2.3 x 0.7 x 3.0	Topsoil ( <b>100</b> ) 0.26m; Orange-brown alluvial clay ( <b>101</b> ) with few gritty inclusions 1.0m; Darker pink-brown clay ( <b>104</b> ) 1.2m; Orange-brown pebble-rich (80%) deposit ( <b>105</b> ) 0.54m +	The local area of the TP was raised and so the clay was much deeper than other TPs
203	2.1 x 0.7 x 3.0	Topsoil ( <b>100</b> ) 0.34m; Orange-brown pebble-rich (90%) deposit ( <b>105</b> ) 0.7m; Blue-grey silty-clay ( <b>106</b> ) 1.4m +	As land rises the geology is believed to reflect a moraine. Deposit <b>106</b> represents waterlogged conditions
204	2.2 x 0.7 x 2.1	Topsoil ( <b>100</b> ) 0.15m; Orange-brown alluvial clay ( <b>101</b> ) with few gritty inclusions 0.7m; Alluvial sediment ( <b>102</b> ) 0.8m; Organic deposit ( <b>103</b> )	Deposit <b>103</b> only seen as extracted due to rapid flooding of groundwater into the TP (Plate 2)
205	2.2 x 0.72 x 0.7	Topsoil ( <b>100</b> ) 0.2m; Orange-brown alluvial clay ( <b>101</b> ) 0.5m;	Infilling with groundwater prevents deeper excavation beyond 0.7m
206	2.6 x 1.5 x 2.15	Topsoil ( <b>100</b> ) 0.2m; Orange-brown alluvial clay ( <b>101</b> ) 1.0m; Alluvial sediment ( <b>102</b> ) 0.65m +	Deposit <b>101</b> is traversed by a sandy linear (natural channel)
207	2.0 x 1.2 x 2.0	Topsoil ( <b>100</b> ) 0.22m; Orange-brown alluvial clay ( <b>101</b> ) 0.98m; Gravelly sediment ( <b>102</b> ) 0.8m +	-
208	2.0 x 1.2 x 2.0	Topsoil ( <b>100</b> ) 0.2m; Orange-brown alluvial clay ( <b>101</b> ) 1.0m; Gravelly sediment ( <b>102</b> ) 0.8m +	-

Table 3: Storage pond site. Trial pit information

TP	APPROX. DEPTH	DESCRIPTION	COMMENT
301	1.6m	Modern overburden 0.7m; Brown organic soil ( <i>113</i> ) 0.72m; Sandy deposit ( <i>114</i> ) 0.18m +	Deposit <i>114</i> contains bone and charcoal (Fig 6, Plate 5)
302	1.65m	Modern overburden 0.7m; Brown organic soil ( <i>112</i> ) 0.75m +	Deposit <i>112</i> contains degraded bone and charcoal (Fig 6, Plate 6)

Table 4: Old London Road garage site. Trial pit information

WS	APPROX. DEPTH	DESCRIPTION	COMMENT
201	1.16m	Modern overburden 0.51m; Mid brown organic soil ( <i>111</i> ), with some pebble inclusions and degraded bone 0.65m +	Deposit <i>111</i> appears to be thick layer of horticultural soil
202	-	-	Abandoned due to previously unknown services present
203	1.2m (cored to 2.8m)	Modern overburden 0.61m; Red sandstone rubble and silty-clay ( <i>107</i> ) 0.49m; Burnt deposit ( <i>108</i> ) 0.37m; Charcoal-rich deposit ( <i>109</i> ) 0.61m; Grey clay ( <i>110</i> ) 0.29m; Natural till geology 0.35m +	Initial 1.2m hand-excavated and drilled thereafter; information and sampling for environmental assessment taken from core (Fig 5, Plates 3 and 4)

Table 5: Sandgate Mansion House site. Window sampler information

### 3.3 FINDS

- 3.3.1 Seventeen fragments of artefacts or ecofacts were recovered during the investigation, from *107*, *108*, and *111*, from the Mansion House site and *112* and *114* from the garage site. The majority of the material recovered comprised animal bone (nine fragments), together with one fragment of clay tobacco pipe, one fragment of stone, and six fragments of pottery.
- 3.3.2 Although small, the pottery fragments were in good condition and unabraded, with five of the six coming from a single vessel retrieved from the levelling layer *107*, and although the surviving fragments are not particularly diagnostic of form or date, the vessel is most likely to be late nineteenth century or later in date. Similarly, the sixth fragment from the probable ploughsoil, *112*, in TP302, was from a small vessel in transfer-printed white earthenware, and is most likely to fall into the same date range.
- 3.3.3 The small fragment of clay tobacco pipe stem also from the levelling layer *107* in WS203 is post-medieval, but cannot be dated more closely. The fragment of

sandstone from the same layer cannot be further identified, but mortar adhering to its surface suggests a use in building.

- 3.3.4 The animal bone comprised small and abraded fragments that have not been identified to species. There was no obvious sign of butchery on any of the fragments, but their most obvious source is from domestic waste.

### 3.4 ENVIRONMENTAL ASSESSMENT RESULTS

- 3.4.1 A very small assemblage of plant remains was recorded in burnt deposit **108**, grey clay deposit **110**, and brown organic soils **111** and **112** (Table 6). In the charcoal-rich deposit **109** and the sandy deposit **114**, however, a larger assemblage of plant remains was recorded (Table 6), which included *Chrysanthemum segetum* (Corn marigold), *Sambucus nigra* (Elder), *Euphorbia helioscopia* (Sun spurge), *Chenopodium album* (Fat hen) and *Carex* (Sedge). The charcoal-rich deposit **109** also contained a fragment of charred *Corylus avellana* (Hazel) nutshell. The composition of **109** and **114** also included coal and clinker, and **112** and **114** contained bone.
- 3.4.2 Organic deposit **103** contained abundant *Scheuchzeria palustris* rhizomes, it also contained *Betula* (Birch) seeds, *Chara/Nitella* oospores, *Cristatella mucedo* statoblast charcoal and insect remains. *Chara/Nitella* are freshwater algae usually found in calcareous waters and *Cristatella mucedo* is a freshwater bryozoan or moss animal.

CONT NO	FLOT VOL (ml)	FLOT DESCRIPTION	PLANT REMAINS	POTENTIAL
<b>103</b>	600	Charcoal (2), Insect remains (3) <i>Cristatella mucedo</i> statoblast,	WPR (4) <i>Scheuchzeria palustris</i> rhizomes, <i>Betula</i> , <i>Chara/Nitella</i> oospores	Good
<b>108</b>	30	Clinker (3), coal (2), wood (1)	CPR (1) <i>Avena</i> WPR (1) <i>Sambucus nigra</i>	None
<b>109</b>	300	Coal (2), clinker (2), charcoal >4mm (2), vivianite	CPR (1) <i>Corylus avellana</i> WPR (2) <i>Carex trigonous</i> , <i>Rumex acetosella</i> , <i>Chenopodium album</i> , <i>Sambucus nigra</i> , <i>Euphorbia helioscopia</i> , <i>Fumaria</i>	Medium
<b>110</b>	25	Coal (2), wood (2), charcoal >4mm (2)	WPR (1) <i>Urtica dioica</i> , <i>Sambucus nigra</i> , <i>Chenopodium album</i> , <i>Polygonium</i>	None
<b>111</b>	15	Coal (2), charcoal >4mm (1), roots (1)	WPR (1) <i>Sambucus nigra</i> , <i>Chenopodium album</i>  CPR (1) heather leaves/stems	None

<b>112</b>	100	Clinker (3), coal (2), bone (1), charred monocot stems	CPR (1) <i>Avena</i> , WPR (1) <i>Sambucus nigra</i> , <i>Rubus fruticosus</i>	None
<b>114</b>	20	Coal (2), bone (2), clinker (3), wood (1), bone (1)	WPR (3) <i>Ranunculus repens</i> , <i>Ranunculus sardous</i> , <i>Carex trigonous</i> , <i>Sambucus nigra</i> , <i>Rubus fruticosus</i> , <i>Carex lenticular</i> , <i>Chrysanthemum segetum</i>	Good

Table 6: Assessment of charred and waterlogged plant remains (plants recorded on a scale of 1-4, where 1 is rare (up to 5 items) and 4 is abundant (>100 items). WPR = waterlogged plant remains, CPR = charred plant remains).



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## 4. CONCLUSIONS

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### 4.1 DISCUSSION

- 4.1.1 The watching brief maintained across the three sites around Penrith did not produce any archaeological features, but the relatively restrictive size of the investigations for archaeological purposes may have prevented the observation of such features. Nevertheless, evidence of deposits of archaeological potential were recovered from the two sites close to the town centre; from WS201 and WS203 at the Sandgate Mansion House site (Plates 3 and 4), and from TP301 and TP302 at the Old London Road garage site (Plates 5 and 6). These deposits were sampled and assessed for their palaeoenvironmental potential, together with a sample taken from TP204 at the storage pond site (Plate 2) to the north-east of Penrith.
- 4.1.2 The finds recovered during the investigation from the Mansion House site (Fig 3) included ceramic fragments from the late nineteenth century and some building materials and animal bone from the levelling layer **107**. This represented a mixed demolition layer, possibly of remnants of other buildings demolished in the area but is of relatively recent date and lay immediately beneath the modern overburden. Finds were also retrieved from the garage site (Fig 4), including a fragment of pottery from the late nineteenth or twentieth century situated in a probable ploughsoil that suggests little development prior to the construction of the garage. Some degraded animal bone was retrieved from both the Mansion House site and the garage site thought to be the result of domestic waste, although no butchery marks were present. The finds, however, are of little archaeological significance.
- 4.1.3 A large assemblage of plant remains, including corn marigold seeds blackberry and elderberry pips, was recorded in a sand- and pebble-rich layer **114** (depth of 1.42m BGL) in TP301 on the garage site (Figs 4 and 6, Plate 5). The degraded bone and charcoal present suggested a possible occupation layer, which was supported by an assemblage of plant remains normally associated with occupation. At a similar depth on the garage site, in TP302 (Figs 4 and 6), was the probable ploughsoil **112**, which may correlate with **114**. Within this, charred *Avena* (oat) grain was observed indicating archaeological activity.
- 4.1.4 *Avena* (oat) grain was also observed in the sample taken from the burnt deposit **108** in WS203 at the Mansion House site (Plates 3 and 4). Few other plant remains were noted, however, but it is indicative of some occupation in the area.
- 4.1.5 During excavation of TP204, on the storage pond site (Plate 2), organic material was observed at depth of over 1.65m, in deposit **103**, sealed by apparent glacial gravels **102**. This was seen to contain abundant *Scheuchzeria palustris* (Rannoch rush) rhizomes that are likely to have come from a natural deposit formed in a lake or mire, with calcareous groundwater (A Hall pers comm). The presence of the Rannoch rush rhizomes suggests that

the deposit is likely to have developed as a very wet flooding horizon, sealed by lacustrine inwash (seen as **102**) possibly in the early Holocene. It is possible that the inwash may have resulted from unstable soil conditions following the retreat of the ice after the last glaciation, when there was little or no vegetation cover.

- 4.1.6 Alternatively, a period of possible forest clearance in the prehistoric period may have led to the exposure of the soils and the formation of hillwash (A Hall pers comm). The Rannoch rush, although formerly more widespread, is now confined to two small areas in Scotland (Stace 1997). Evidence for its former, more extensive, distribution comes from peat deposits, such as those at Fenton Cottage and Stafford's Dike in the Fylde District of Lancashire, and dated to the early Bronze Age (Middleton *et al* 1995, 150). It was also found in probable association with the construction of Kate's Pad, a prehistoric trackway in Lancashire, (*op cit*, 160).
- 4.1.7 It was not possible to date either deposit **102** or **103**, but if the rush sample is contemporary with the Bronze Age samples its possible identification at Thacka Beck is therefore of archaeological significance. On the other hand, if the rush sample is the only example of early Holocene deposits in Penrith and the surrounding area then it is significant both archaeologically and environmentally.

## 4.2 ENVIRONMENTAL POTENTIAL AND RECOMMENDATIONS

- 4.2.1 Only two samples have potential for further analysis, the occupation deposit **114**, and the deposit containing the organic material **103**. However, it is recommended that, should the opportunity arise, duplicate environmental cores are taken of the preserved organic deposit **103**. If any subsequent development is likely to impact upon it, either by its destruction or by causing changes in its hydrology, then a suitable mitigation strategy to record and date the deposit further should be undertaken.
- 4.2.2 The small assemblages in the remaining environmental samples from the town excavations suggest that the deposits are associated with archaeological activity and that any extensive groundworks in these areas may benefit from further archaeological investigation.

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## ILLUSTRATIONS

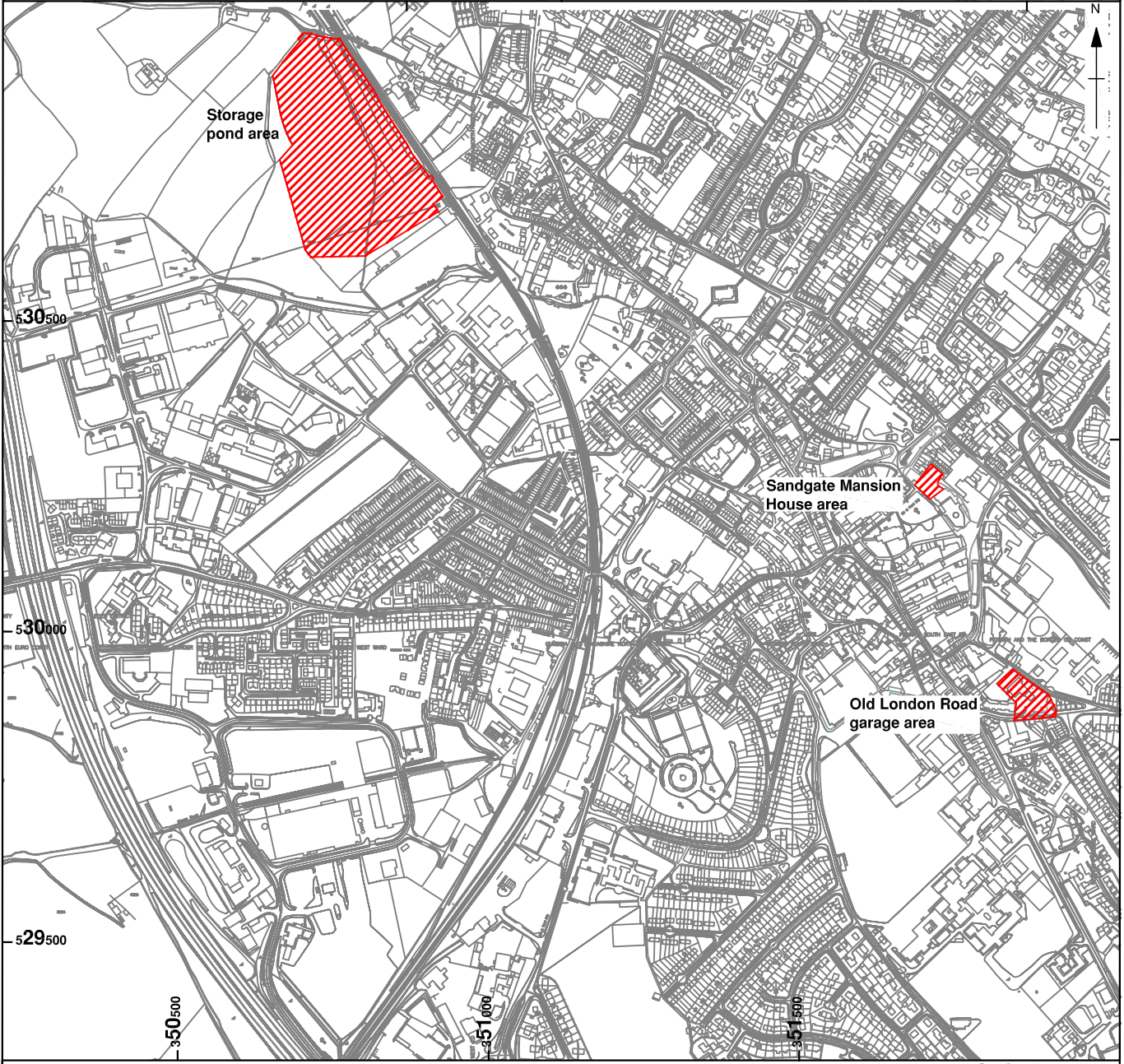
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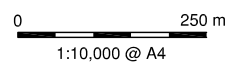
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EMPL10086\*MECR\*19.01.09

Figure 1: Site location



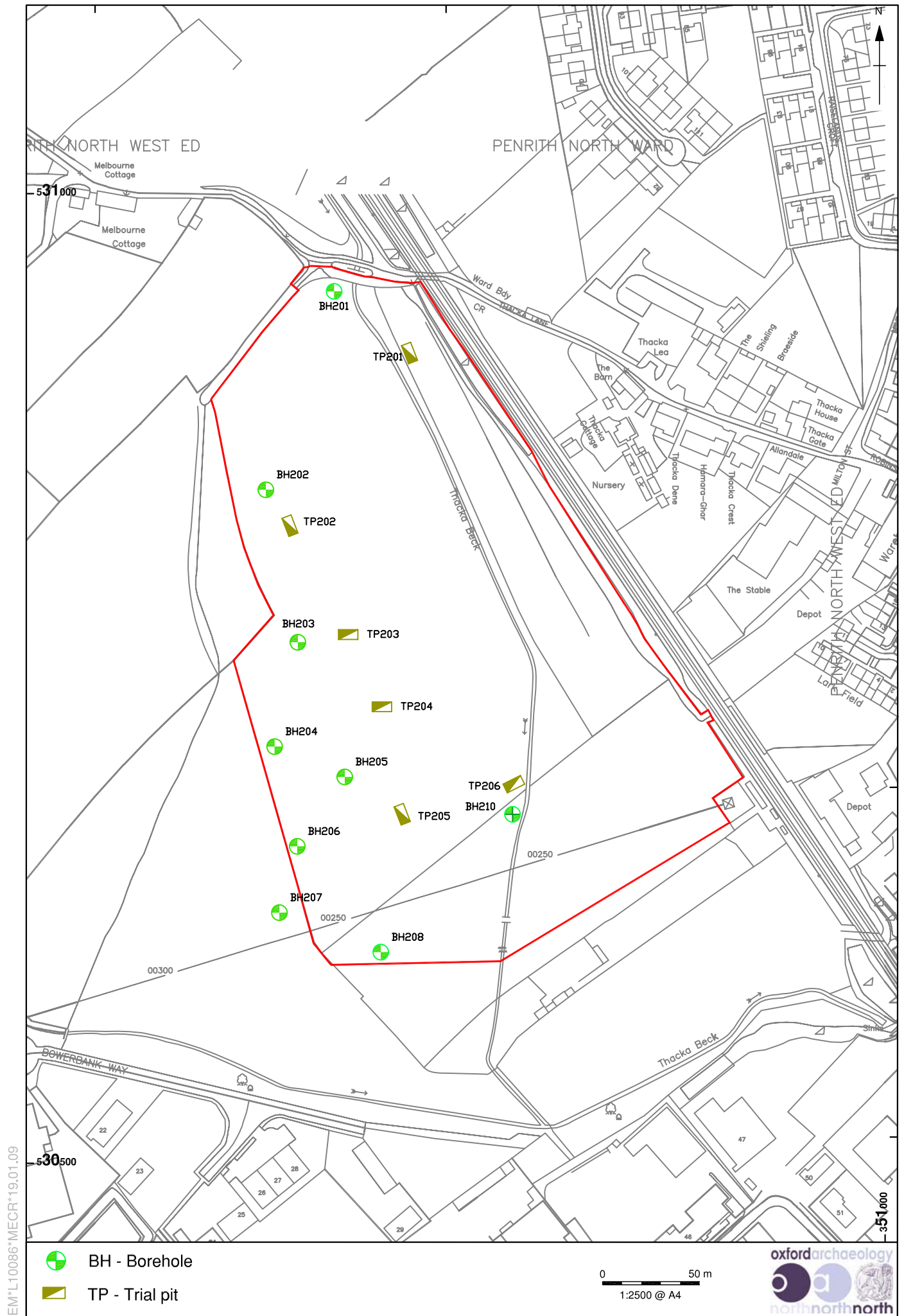
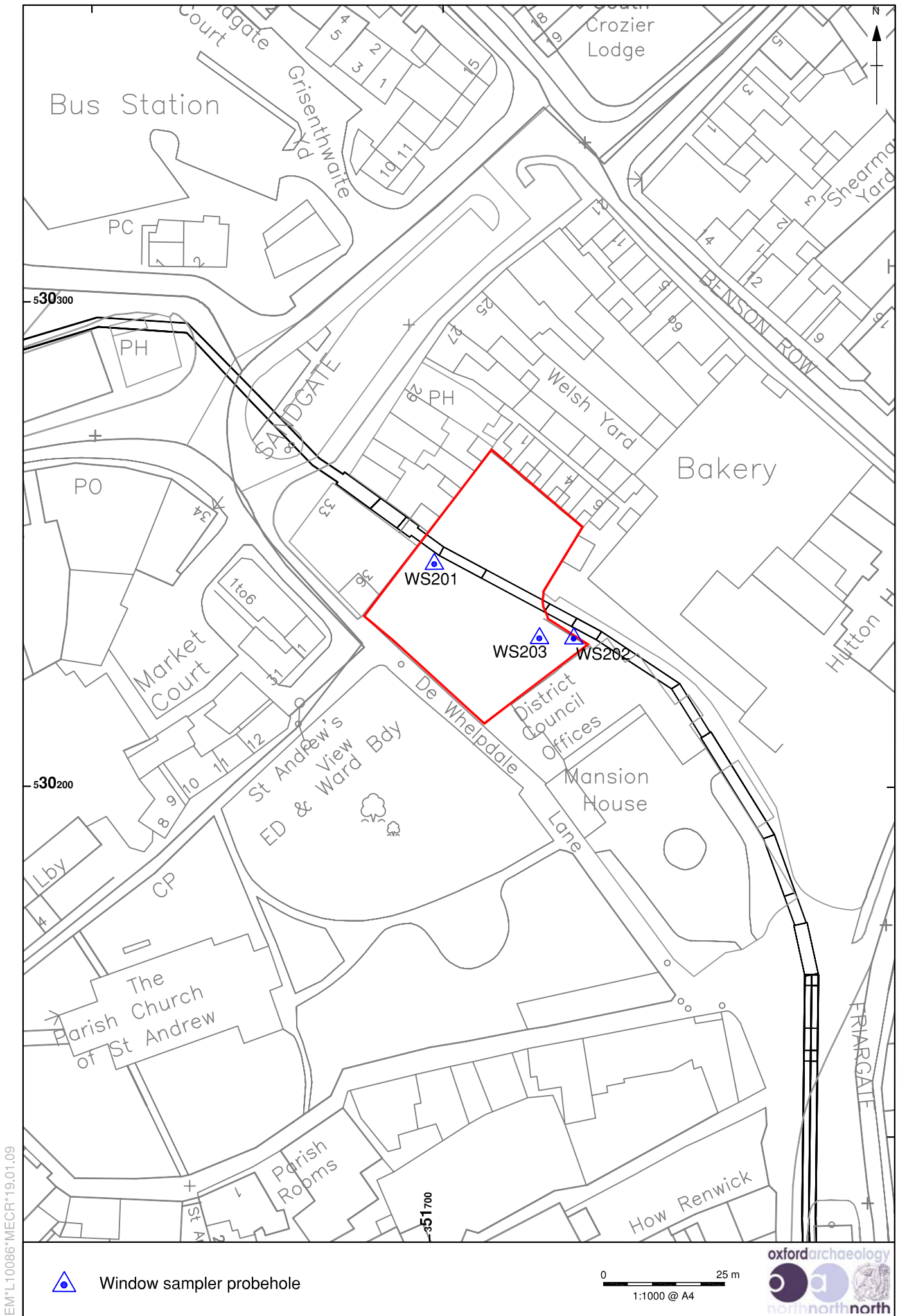


Figure 2: Storage pond area, showing location of boreholes and test pits



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Figure 3: Sandgate Mansion House area, showing location of window sampler probeholes



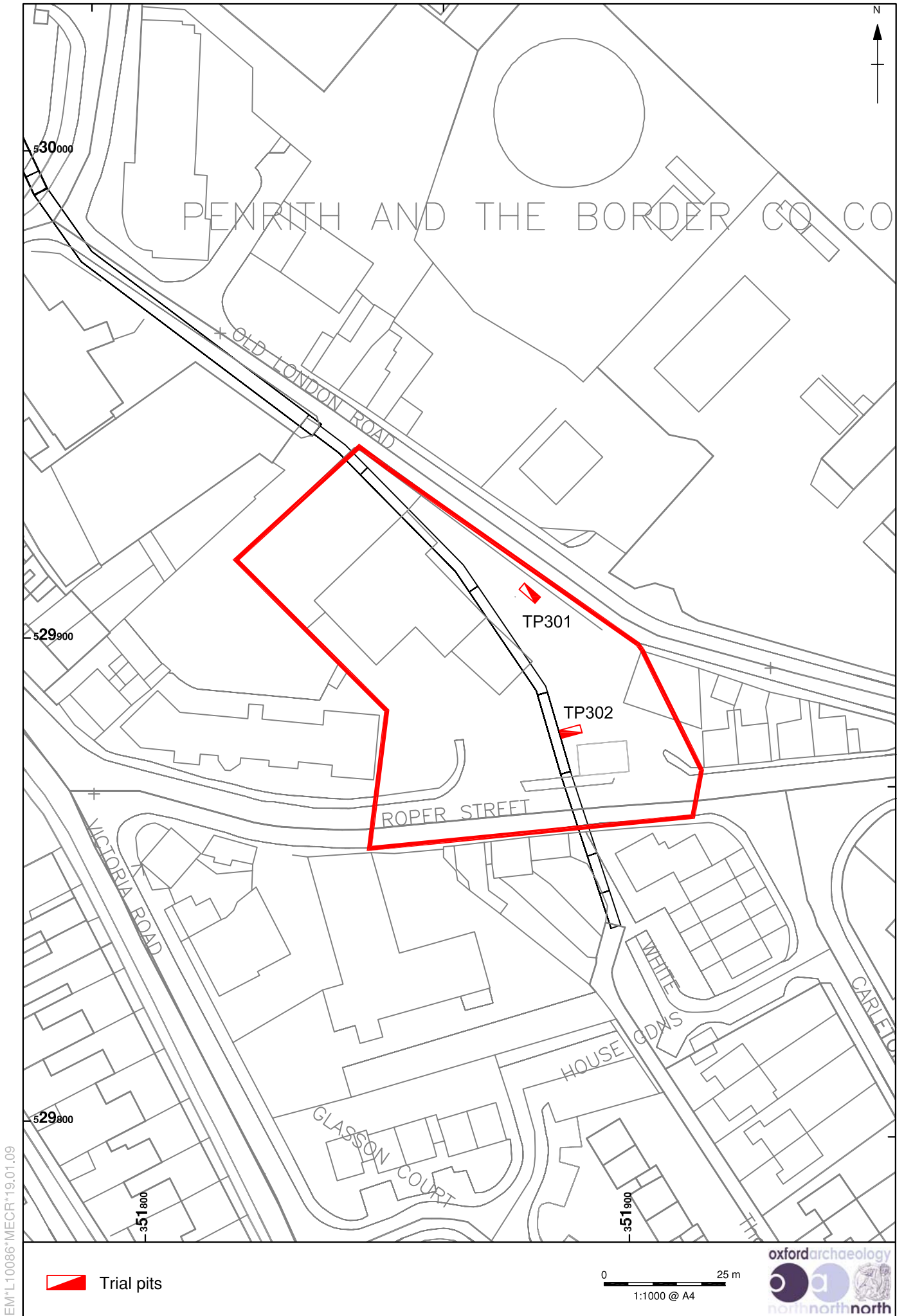
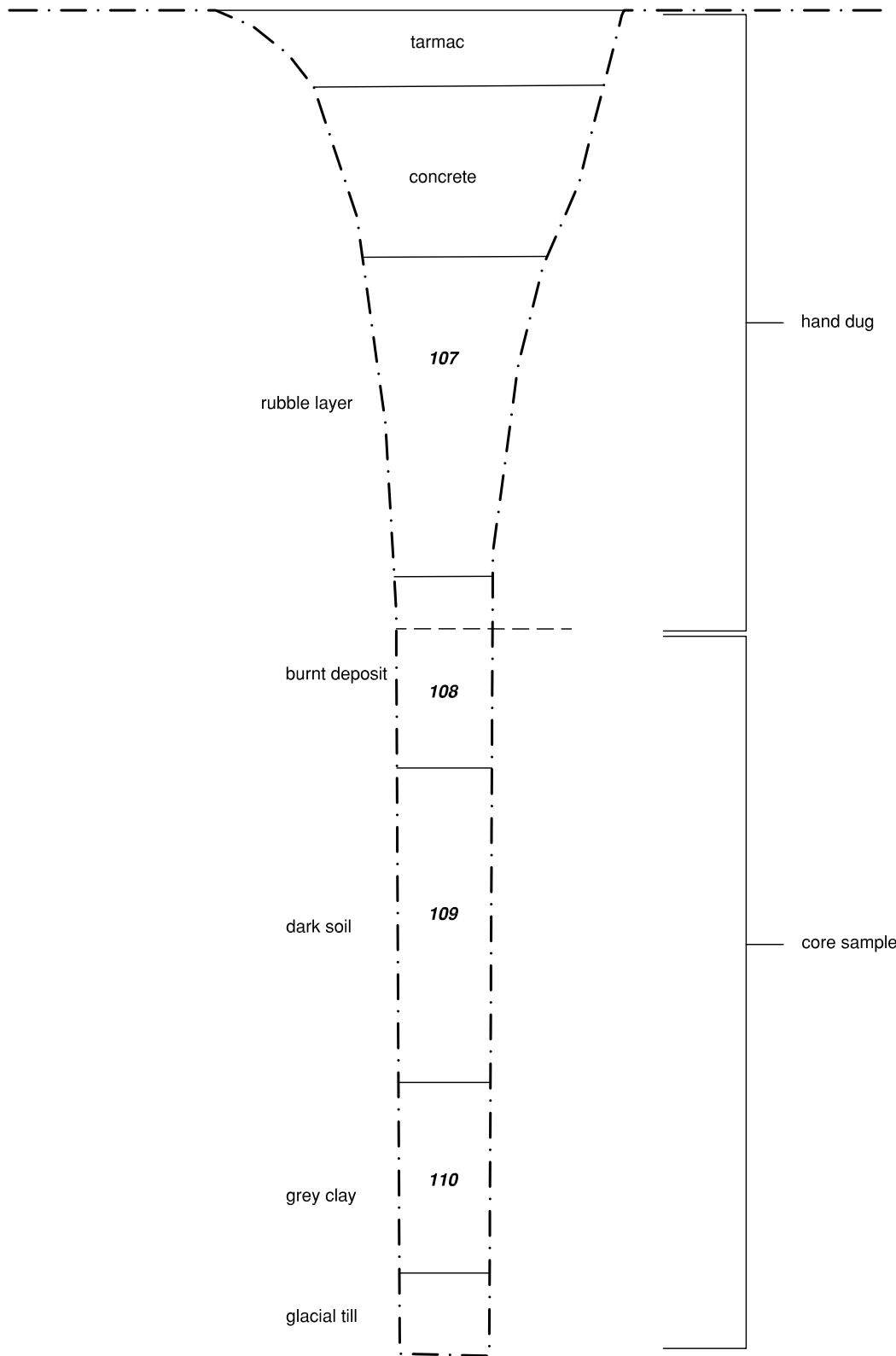



Figure 4: Old London Road Garage area, showing test pit locations



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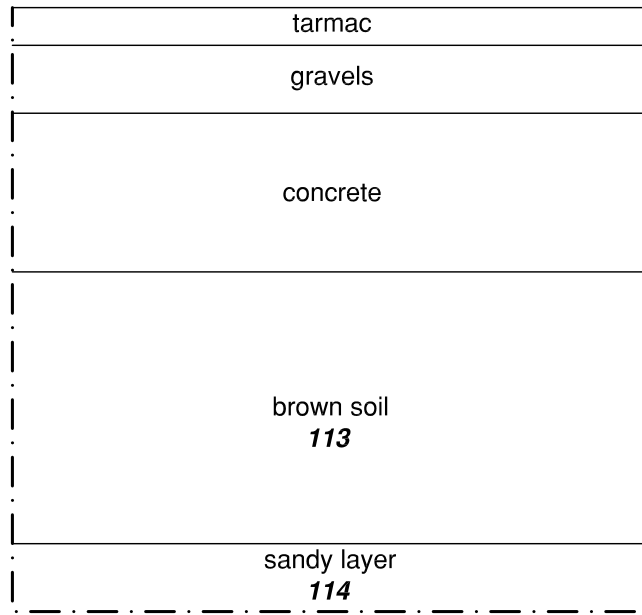
 Limit of excavation

0 25 cm  
1:12.5 @ A4

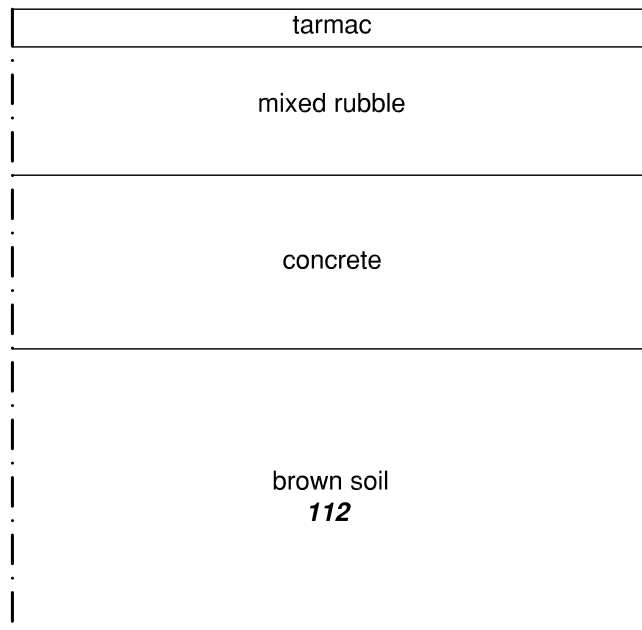


Figure 5: Representative section through WS203


TP301



TP302



EM\*L10086\*AMS\*10-03-09

 Limit of excavation

0 0.5 m  
1:20 @ A4

Figure 6: Representative sections through TP301 and TP302



Plate 1: South-west facing section of TP201, Storage pond site, showing unstable ground conditions



Plate 2: East-facing view of TP204, Storage pond site





Plate 3: View of WS203, Sandgate Mansion House



Plate 4: Core from WS203, Sandgate Mansion House, showing relict occupation deposit *109*





Plate 5: TP301, Old London Road garage site, facing south-west



Plate 6: TP302, Old London Road garage site, facing east

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## APPENDIX 1: PROJECT DESIGN

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### 1. INTRODUCTION

#### 1.4 PROJECT BACKGROUND

1.4.1 Halcrow Group Ltd (hereafter the 'client'), on behalf of their client the Environment Agency, has requested that Oxford Archaeology North (OA North) prepare a Written Scheme of Investigation (WSI) for a programme of archaeological watching brief associated with exploratory hole groundworks for the flood alleviation scheme for Thacka Beck in Penrith, Cumbria. The ground investigation (GI) work will comprise the excavation of trial pits, boreholes and window sampler probeholes under permanent archaeological presence across three areas around Penrith; six trial pits and ten boreholes are located within the strategic storage pond area to the north of the town of Penrith and lying immediately west of the M6, to the south of junction 41 (NGR 350750 530750); two trial pits at the Old London Road garage working area to the south-east of the town centre (NGR 351855 529902); and two window sampler probeholes at the Sandgate Mansion working area to the east of the town centre (NGR 351710 530240). The watching brief will be maintained during excavation to enable any archaeological remains disturbed during the groundworks to be recorded in mitigation of the exploratory works.

#### 1.5 OXFORD ARCHAEOLOGY NORTH

1.5.1 OA North has considerable experience of fieldwork and post-excavation, having undertaken a great number of small and large-scale projects during the past 30 years. In particular, OA North has carried out watching briefs and excavations on similar flood alleviation schemes for the Environment Agency across the country, some recent examples include Burton-upon-Trent FAS and Abbey Inn excavation, Staffordshire; Lochinvar FAS, Longtown, Cumbria; Durranshill Hill FAS, Carlisle, Cumbria. Such projects have taken place to fulfil the requirements of the clients to rigorous timetables.

1.5.2 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.

### 3. OBJECTIVES

3.1 The following programme has been designed to identify any archaeological deposits or features that may be present during the excavation of the GI works. It will be undertaken in order to mitigate the impact by means of preservation by record of any such archaeological features or deposits. The work will be carried out in line with current IFA guidelines and in line with the IFA Code of Conduct.

3.2 **Archaeological Watching Brief:** to maintain a permanent archaeological presence during excavation of the exploratory holes. The purpose is to identify, investigate and record any archaeological remains that may be encountered. Where such remains cannot be adequately recorded under watching brief conditions it will be necessary to undertake consultation with all interested parties to determine and implement the appropriate mitigation.

3.3 **Report:** the results of the fieldwork and any post-excavation assessment will culminate in a final report to be submitted within eight weeks of completion of the fieldwork (subject to any specialist reports outstanding).

3.4 **Archive:** a site archive will be produced to English Heritage guidelines (MAP 2 (1991)). The information will be finally disseminated through the deposition of the archive at a local museum, and report at the Historic Environment Record (HER) Office in Kendal.

## 4. METHOD STATEMENT

### 4.1 HEALTH AND SAFETY

4.1.1 **Risk assessment:** 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). OA North will liaise with the client to ensure all health and safety regulations are met. The outline risk assessment to accompany these proposals will be updated in advance of any on-site works, with continuous monitoring during the fieldwork.

4.1.2 **Services:** full regard will, of course, be given to all constraints (services etc) during the evaluation trenching as well as to all Health and Safety considerations. It is assumed that the client and main contractor on site will have identified and hold full information as to the location of services as per the plans provided to OA North.

4.1.3 **Contamination:** any contamination issues must also be made known to OA North in order that adequate PPE can be supplied prior to commencement. Should any presently unknown contamination be discovered during excavation, it may be necessary to halt the works and reassess the risk assessment. Any specialist safety requirements may be costed as a variation.

### 4.2 ARCHAEOLOGICAL WATCHING BRIEF

4.2.1 **Introduction:** a programme of field observation will accurately record the location, extent, and character of any surviving archaeological features and/or deposits during the ground disturbance for the GI works. These will be carried out under constant archaeological observation unless, with consultation and agreement of the client and other interested parties, it is identified that a more targeted and timetabled archaeological investigation would be more appropriate.

4.2.2 **Methodology:** the work will comprise archaeological observation during the excavation, to include the systematic examination of any subsoil horizons exposed during the course of the groundworks, and the accurate recording of all archaeological features and horizons, and any artefacts, identified.

4.2.3 Discovery of archaeological remains will require stoppage of the excavation. Areas of potential archaeological remains will require fencing-off from any construction works, preferably with netlon-type fencing, to allow OA North archaeologists sufficient time to undertake adequate recording under safe conditions. This will be carried out as efficiently as possible in order to minimise disruption. Depending on the deposits revealed, it is anticipated that the average time for the suspension of works will be approximately 2-4 hours.

4.2.4 Clearance will be given for construction to proceed once the archaeologist is satisfied that either no remains are present, or that they have been adequately recorded, or that the level of impact will not disturb any deeper remains that can be preserved *in situ*.

4.2.5 **Complex or extensive remains:** should the remains be too complex or extensive to be investigated and recorded under watching brief conditions then the area will be fenced-off and the client will be immediately contacted in order to determine the requirements for further investigation. All further construction works within the marked area will cease until clearance is given to proceed. All further works would be subject to a variation to this project design.

4.2.6 **Investigation and recording:** putative archaeological features and/or deposits identified by the machining process, together with the immediate vicinity of any such features, will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and where appropriate sections will be studied and drawn. Any such features will be sample excavated (i.e. 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).



- 4.2.7 During this phase of work, recording will comprise a full description and preliminary classification of features or materials revealed, and their accurate location (either on plan and/or section, and as grid co-ordinates where appropriate). Features will be planned accurately at appropriate scales and annotated on to a large-scale digital plan provided by the client. A photographic record will be undertaken simultaneously.
- 4.2.8 Levels will be recorded and reduced to their OD heights, with all benchmark and TBMS to be shown. The location of all features excavated will be recorded by Total Station with appropriate spot heights and tied into the OS grid. Altitude information will be established with respect to OS Datum. The location of the remains within the areas of construction will be based on site plans provided by the client containing OS information.
- 4.2.9 A plan will be produced of the areas of groundworks showing the location and extent of the ground disturbance and one or more dimensioned sections will be produced.

### 4.3 GENERAL PROCEDURES

- 4.3.1 **Environmental Sampling:** samples (bulk samples of 40 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). Monolith samples will be collected from freshly exposed sections through all buried soils/old ground surfaces by trained staff. These will be returned to OA North's offices for processing.
- 4.3.2 Deposits of particular interest may incur additional sampling, on advice from the appropriate in-house specialist.
- 4.3.3 The location of all samples will be recorded on drawings and sections with heights OD etc.
- 4.3.4 Between 50%-100% of bulk samples shall be selected for processing, based on the advice from OA North's in-house environmental manager. However, the basis of the advice will be agreed with the client prior to processing commences, which will be included in the final report. An assessment of the environmental potential 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.
- 4.3.5 In order to achieve the aims of the programme of work, it may be required to obtain dating evidence through radiocarbon dating, dendrochronological or other such techniques. This would only be undertaken in consultation with the client.
- 4.3.6 **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. The client, curator 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 delays caused by unforeseen and complex excavation of inhumations may be subject to a variation to the cost of the contract and will be agreed with the client.
- 4.3.7 **Finds:** all finds recovered during the evaluation investigation (metal detecting and trial trenching) 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.
- 4.3.8 Finds recovery and sampling programmes will be in accordance with best practice (current IFA guidelines) and subject to expert advice. OA has close contact with Ancient Monuments Laboratory staff at the Universities of Durham and York and, in addition, employs in-house artefact and palaeoecology specialists, with considerable expertise in the investigation, excavation, and finds management of sites of all periods and types, who are readily available

for consultation. Finds storage during fieldwork and any site archive preparation will follow professional guidelines (UKIC). Emergency access to conservation facilities is maintained by OA North with the Department of Archaeology, the University of Durham.

- 4.3.9 Neither artefacts nor ecofacts will be collected systematically during the mechanical excavation of the topsoil unless significant deposits, for example clay pipe waster dumps, are encountered. In such an eventuality, material will be sampled in such a manner as to provide data to enhance present knowledge of the production and dating of such artefacts, although any ensuing studies will not be regarded as a major element in any post-excavation analysis of the site. Other finds recovered during the removal of overburden will be retained only if of significance to the dating and/or interpretation of the site. It is not anticipated that ecofacts (eg unmodified animal bone) will be collected during this procedure.
- 4.3.10 Otherwise, artefacts and ecofacts will be collected and handled as per specification. All material will be collected and identified by stratigraphic unit during the evaluation trenching process. Hand collection by stratigraphic unit will be the principal method of collection, but targeted on-site sieving could serve as a check on recovery levels. Objects deemed to be of potential significance to the understanding, interpretation and dating of individual features, or of the site as a whole, will be recorded as individual items, and their location plotted in 3-D. This may include, for instance, material recovered from datable medieval pit groups.
- 4.3.11 All finds will be treated in accordance with OA standard practice, which is cognisant of IFA and UKIC Guidelines. In general this will mean that (where appropriate or safe to do so) finds are washed, dried, marked, bagged and packed in stable conditions; no attempt at conservation will be made unless special circumstances require prompt action. In such case guidance will be sought from OA North's consultant conservator.
- 4.3.12 All waterlogged finds will be treated as appropriate. In the case of large deposits of waterlogged environmental material (eg unmodified wood), advice will be sought with the OA North consultant with regard to an appropriate sampling strategy.
- 4.3.13 Where possible, spot dates will be obtained on pottery and other finds recovered from the site. Artefacts will be examined and commented upon by OA North in-house specialists. Initial artefact dating shall be integrated into the site matrix.
- 4.3.14 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.

#### 4.4 REPORT

- 4.4.1 **Final Report:** one bound and one unbound copy of a written synthetic report will be submitted to the client, together with a copy on CD, within eight weeks of completion of the completion of the survey fieldwork, unless an alternative deadline is agreed with the client beforehand. Three copies will also be submitted to the Cumbria HER for reference purposes. The report will present, summarise, and interpret the results of the programme detailed above in order to come to as full an understanding as possible of the archaeology of the development area. The report will include;

- a site location plan related to the national grid
- a front cover to include the planning application number and the NGR
- a concise, non-technical summary of the results
- the circumstances of the project and the dates on which the fieldwork was undertaken
- description of the methodology, including the sources consulted

- a summary of the historical background of the study area if available
- appropriate plans showing the location and position of features or sites located
- a statement, where appropriate, of the archaeological implications of the proposed development
- illustrative photographs as appropriate
- a copy of this project design, and indications of any agreed departure from that design
- the report will also include a complete bibliography of sources from which data has been derived, and a list of any further sources identified but not consulted
- plans and sections showing the positions of deposits and finds
- an index to the project archive

4.4.2 **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.

#### 4.6 ARCHIVE

4.6.1 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*, Appendix 3, 2nd edition, 1991). The archive will contain site matrices, and summary reports of the artefact record, context records, and any other records or materials recovered.

4.6.2 This archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the Cumbria HER (the index to the archive and a copy of the report). OA North will deposit the original record archive of projects (paper, magnetic and plastic media), and a full copy of the record archive (microform or microfiche), together with the material archive (artefacts, ecofacts, and samples) with an appropriate museum, probably Tullie House or Penrith Museum.

#### 5. WORK TIMETABLE

5.1 **Archaeological Watching Brief:** the duration of the archaeological presence for the watching brief will be dictated by the client's schedule of works and is anticipated to commence on 27th October 2008.

5.2 **Report:** the client report will be completed within approximately eight weeks following completion of the fieldwork, subject to any outstanding specialist reports.

5.3 **Archive:** the archive will be deposited within six months.

#### 6. STAFFING

6.1 The project will be under the direct management of **Emily Mercer BA (Hons) MSc AIFA** (OA North Senior Project Manager) to whom all correspondence should be addressed.

6.2 The fieldwork will be undertaken by an OA North supervisor or assistant supervisor experienced in this type of project, who will be responsible for liaison with the site contractors and the client, and other relevant interested parties with regards to on-site work and procedures.

- 6.3 The site teams will be supported by specialist staff based both on site and in the office in Lancaster. Finds management will be undertaken by **Christine Howard-Davis** who will also provide specialist input on certain finds categories. Environmental management will be undertaken by **Elizabeth Huckerby**, who will also provide specialist input on charred remains and pollen. Elizabeth will advise on site sampling procedures and co-ordinate the processing of samples and organise internal and external specialist input as required.

#### BIBLIOGRAPHY

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

Institute of Field Archaeologists (IFA), 1992 *Guidelines for data collection and compilation*

SCAUM (Standing Conference of Archaeological Unit Managers), 1997 *Health and Safety Manual*, Poole

United Kingdom Institute for Conservation (UKIC), 1990 *Guidelines for the preparation of archives for long-term storage*

United Kingdom Institute for Conservation (UKIC), 1998 *First Aid for Finds* London

## APPENDIX 2: CONTEXT LIST

CONTEXT NO	SITE	REF	THICKNESS (M)	DESCRIPTION
<b>100</b>	Storage pond	TP204, TP206	0.15-0.27	Topsoil
<b>101</b>	Storage pond	TP204, TP206	0.5-1.0	Redeposited orange-brown silty-clay alluvium. Beneath <b>100</b>
<b>102</b>	Storage pond	TP204, TP206	0.8	Grey gravelly-sand with pebble inclusions that become larger with depth. Glacial till. Beneath <b>101</b>
<b>103</b>	Storage pond	TP204	unknown	Organic layer at depth, beneath <b>102</b>
<b>104</b>	Storage pond	TP206	0.94	Pink-brown clay; glacial till beneath <b>102</b>
<b>105</b>	Storage pond	TP203	0.7	Orangey-brown mixed gravel and pebble deposit
<b>106</b>	Storage pond	TP203	unknown	Compacted blue-grey organic waterlogged silt beneath <b>105</b>
<b>107</b>	Mansion House	WS203	0.49	Sandstone rubble (demolition) levelling layer above <b>108</b> and beneath modern tarmac and concrete overburden
<b>108</b>	Mansion House	WS203	0.37	Burnt deposit containing occupation debris beneath <b>107</b>
<b>109</b>	Mansion House	WS203	0.61	Charcoal and organic-rich layer; possible cess pit deposit beneath <b>108</b>
<b>110</b>	Mansion House	WS203	0.37	Dark to mid grey-brown, pebble rich clay. Possible early occupation layer beneath <b>109</b>
<b>111</b>	Mansion House	WS201	0.65	Dark to mid brown soil
<b>112</b>	Garage	TP302	0.75	Mortar rich organic soil, probable ploughsoil
<b>113</b>	Garage	TP301	0.72	Rich organic soil. Pottery and bone present
<b>114</b>	Garage	TP301	0.18	Sand and pebble rich layer beneath <b>113</b> . Some degraded bone and charcoal present

## APPENDIX 3: FINDS CATALOGUE

CONTEXT	OR NO	MATERIAL	CATEGORY	NO FRAGS	DESCRIPTION	PERIOD
107	1004	Bone	Animal	1	Small fragment	
107	1005	Ceramic	Tobacco pipe	1	Stem fragment	Not closely dated
107	1006	Ceramic	Vessel	5	Joining fragments from a single vessel in self-glazed redware	Late nineteenth century?
107	1007	Stone	Building material	1	Fragment of a sandstone slab with mortar adhering	Not closely dated
108	1008	Bone	Animal	1	Small fragment	
111	1009	Bone	Animal	1	Small fragment	
112	1000	Bone	Animal	1	Small fragment	
112	1003	Ceramic	Vessel	1	Underglaze transfer-printed white earthenware	Nineteenth-twentieth century
114	1001	Bone	Animal	1	Small fragment	
114	1002	Bone	Animal	4	Small fragments	