



KENDAL FELL, KENDAL, Cumbria

Archaeological Watching Brief Report



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SUMMARY

United Utilities have been granted planning permission for the construction of a new booster pumping station on Kendal Fell, on land backing onto Kendal Golf Course (Planning Application SL/2009/0007; NGR SD 507 924; Fig 1). As the development has a high potential of disturbing structures associated with Kendal's eighteenth- and nineteenth-century lime industry, Cumbria County Council Historic Environment Service (CCCHES) requested that an archaeological watching brief be undertaken during any ground disturbance caused by the development, in order to identify and record any archaeological remains encountered.

United Utilities requested a Project Design (*Appendix 1*) from Oxford Archaeology (OA) North and, following its approval by CCCHES, commissioned OA North to undertake the archaeological watching brief. This work was completed in February 2013, and this document presents the results of the watching brief and discusses the archaeological significance of the remains found during the course of the work.

The archaeological watching brief located and recorded the south-eastern revetment wall of a lime kiln on Kendal Fell. A review of historical mapping shows that the kiln is of nineteenth-century date, and possibly has eighteenth-century origins. In addition, two further walls were identified as part of a structure shown, on historical maps, to the south-east of the kiln. Ordnance Survey mapping shows it as a roofed building, although other maps show it as an unroofed, enclosed area. It is quite possible that the structure was always crudely roofed, but with different criteria being used by cartographers as to how it should be depicted.

Most of the kiln, and its associated buildings as shown on historical mapping, lie to the north of the area examined by the watching brief. The quantity of rubble covering the surviving remains suggests that much of the upper part of the kiln, including the charging platform and other buildings, has been demolished. The lowest one metre of the walls of these structures, however, remain in a good state of preservation, and it is to be expected that further remains of the kiln and its associated buildings survive to the north of the watching brief area.

ACKNOWLEDGEMENTS

Oxford Archaeology (OA) North would like to thank United Utilities for commissioning the work, and Cumbria Country Council Historical Environment Services for their support during the project.

The archaeological watching brief was carried out by Andrew Bates, Jeremy Bradley, and Kelly Clapperton. Andrew Bates compiled the report, and Mark Tidmarsh produced the drawings. Stephen Rowland managed the project, while the report was edited by Chris Howard-Davies and Adam Tinsley.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 United Utilities was granted planning permission for the construction of a new booster pumping station on Kendal Fell, on land backing onto Kendal Golf Course (Planning Application SL/2009/0007). The new building fronts onto a lane which gives access to the golf course, off Greenside (NGR SD 507 924; Fig 1). The development site is located within an area of known archaeological significance, with a high likelihood of disturbing structures associated with Kendal's eighteenth- and nineteenth-century lime industry. In light of this, Cumbria County Council Historic Environment Service (CCCHES) requested that a programme of archaeological watching brief monitor any ground disturbance during the course of the development.
- 1.1.2 United Utilities requested a Project Design (*Appendix 1*) from Oxford Archaeology (OA) North and, following its approval by CCCHES, commissioned OA North to undertake the archaeological watching brief. The main phase of work was completed in March of 2012, with a second, minor phase being undertaken in February 2013 during landscaping works. This document presents the results of the watching brief, and assesses the significance of the archaeological remains found during the course of the work.

1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

- 1.2.1 The site lies on the south-eastern edge of Kendal Fell, off Greenside, which ultimately becomes Underbarrow Road (Fig 1). Kendal Fell is an elevated area of Dinantian Carboniferous limestone (British Geological Survey 1982), which rises to a height of 198m on the western side of the town of Kendal. The area of Fell is largely grassland, with a single plantation (Coffin Wood) at its summit, and a second area of woodland (Serpentine Wood) on its eastern side. A golf course occupies land to the immediate west of the site, and further to the west is an active limestone quarry. Part of the Fell, including the land under development, is situated within the western edge of the Kendal Conservation Area.

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 All work was carried out in accordance with the Project Design (*Appendix 1*), and was consistent with the relevant standards and procedures of the Chartered Institute for Archaeology (CIfA 2014a; 2014b), and generally accepted best practise.

2.2 WATCHING BRIEF

- 2.2.1 The main excavation, undertaken by the client, used a 13 ton, 360°, mechanical excavator, fitted with a 1.6m or 0.6m wide toothed bucket. Following the discovery of structural remains associated with a lime kiln, excavation proceeded under the direction of staff members from OA North. The second, minor phase of works comprised the monitoring of landscaping works above, and adjacent to, the structural remains, using a 13 ton, 360°, mechanical excavator, fitted with a 0.6m wide toothed bucket.
- 2.2.2 The main programme of field observation comprised the systematic examination, characterisation and recording of any structures exposed during the course of the works, using OA North's standard *proforma* record sheets. Structural remains were planned using rectified images captured with a Hi-View 12 mega-pixel digital camera and a Total Station Theodolite survey system, which were subsequently tied into the Ordnance Survey grid.
- 2.2.3 The later watching brief comprised the recording of the groundworks and associated deposits on *proforma* record sheets, and the compilation of a digital photographic archive of the works. All works were marked on a scaled plan provided by the client and located using Ordnance Survey mapping.

2.3 ARCHIVE

- 2.3.1 The results of all archaeological work carried out will form the basis for a full archive produced to professional standards, in accordance with current English Heritage guidelines (*Management of Research Projects in the Historic Environment*, MoRPHE 2006). The full archive will be deposited with the Cumbria Record Office in Kendal.
- 2.3.2 The Arts and Humanities Data Service (AHDS) online database *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.

3. HISTORICAL BACKGROUND

3.1 BACKGROUND

- 3.1.1 Wool and woollen textiles are known to have provided Kendal's principal industry from at least the medieval period (Satchell 1984) and parts of Kendal Fell are known to have been used for tenter frames. Quarrying for building stone and aggregate, and for lime-burning, is first recorded on Kendal Fell during the eighteenth century, but such activities probably have a much longer history in the area.
- 3.1.2 As early as 1770 there are references, within the minutes of the Kendal Fell Trust, to stone quarries on the Fell, and, by 1771, one William Bellingham was already applying to extend the area of his quarry within 'the ground allotted' (CRO(K) WSMB/K5/Box 14 1767-93). After this date there are numerous rental agreements regarding the use of the quarries, and in 1778 conflicts over quarrying rights emerged: 'the clerk shall send notice in writing to John Airey Stone-getter that unless he will leave the stone Quarry opened by John Wilson, the commissioners will order him to be removed from the Town of Kendal to his place of Settlement' (*ibid*). Evidently, rules were put into place regarding the maintenance of the quarries at an early date, and tenants were in 1778, for example, expected to 'spread the soil from the Stone Quarries upon that part of the land where it is necessary' (*ibid*).
- 3.1.3 The earliest known reference to the lime industry was in November 1767, when it was stated that there was a lime kiln adjoining the road to Helsfell and Kettlewell (CRO(K) WSMB/K5/Box 14 1767-1793). Whilst it is likely that most of the early references within the Kendal Fell Trust Minute Books refer to the main quarry adjacent to Greenside, there is also a further reference from 1788, that mentions a road connected to 'the Stone Quarries at Kettlewell'.
- 3.1.4 In 1787, when William Holme requested 'a place for a lime kiln' (*ibid*) from the Trustees, he was granted 'a space of ground lying in a direct line betwixt Tom Linsons and Richard Fishers kilns'. They gave instruction that the kiln should be 'of the length of Twenty yards and to be the same Breadth, and to be at nearly an equal distance from the said kilns' (*ibid*). William Holme was probably the business partner of Francis Webster, the builder and mason (Taylor 2004, 7), while Richard Fisher is the only person listed in the census of 1787 as a lime-burner (Ashcroft 1992, 328).
- 3.1.5 There are considerably more references to lime kilns as the Kendal Fell Trust Minute Books continue into the 1820s, one of the earliest being an account of the trustees inspecting lime kilns in June 1820 (CRO(K) WSMB/K5/Box 14 1819-1835). Whether the growing number of references to lime-burning during this period reflects an actual increase in production as a result of the completion of the Lancaster to Kendal Canal in 1819, as postulated by Marshall and Davies-Shiel (1969, 158), or was simply a more general increase in production and export, is debatable. It is, however, true that construction of the canal provided a relatively easy means to transport coal from the South

Lancashire coal fields to Kendal, and also to move limestone elsewhere. This development possibly helped fuel the expansion of the town during the early nineteenth century, itself requiring building stone and lime mortar, for which the quarries on Kendal Fell were exploited. In particular, the quarries were a source of 'marble', from which many of the finer buildings in the town's centre were constructed (eg Taylor 2004).

- 3.1.6 The increased availability of coal also led to an intensification of lime-burning across the South Westmorland limestone belt, lime being used for spreading on acid soils as a form of agricultural improvement (Marshall and Davies-Shiel 1969,183), as well as for mortar and whitewash. The kilns from this period typically have a single draw-hole, with a limestone façade, and single brick-lined pots. The one surviving lime kiln at Greenside is of a less-common design, with two pots and two draw-holes, of which there are only a limited number in the region. This design is usually associated with the larger limestone quarries.
- 3.1.7 The building of lime kilns at this time also appears to have involved the erection of other associated structures; in 1821 there are several mentions of 'dobby houses' in conjunction with lime kilns (CRO(K) WSMB/K5/Box 14 1819-1835), which are presumably some form of temporary lodging for workers. Two of these were sold on 13th July 1821, at which time it was stipulated that they were only to be used by manufacturers (*ibid*). Records relating to the rent paid by lime-burners also for 1821 and 1825 (CRO(K) WSMB/K5/Box 14 1820-1850) perhaps show an increased level of control beginning to be applied during the nineteenth century.
- 3.1.8 There is also evidence for the demolition of lime kilns from an early date, and the reuse of their fabric for other purposes. Shortly after 1819 John Graham proposed the taking down of a fence (meaning wall) around a plantation, and the building of a new fence. At the same time he intended to 'remove the old lime kiln and apply the same towards the building of the fences' (CRO(K) WSMB/K5/Box 14 1819-1835).
- 3.1.9 The improved transport system of the later nineteenth century, and the low cost of lime from major production centres in Derbyshire, led to a decline in the use of lime kilns in Westmorland at this time, and many rural kilns were abandoned. Three lime kilns were still shown at Greenside on the 1938 Ordnance Survey, but two were subsequently demolished, leaving only a single example on the site.

3.2 MAP REGRESSION

- 3.2.1 The 1788 plan of Kendal Fell by John Todd (CRO(K) WDX/29/1; Plate 1) shows three kilns off Greenside. They are depicted as broadly cruciform in plan, with opposed apsidal ends (perhaps denoting the position of the draw-holes of the kiln (Williams 1989)), and are arranged in a line, as described in the Kendal Fell Trust Minute Books of 1787. A close match between John Todd's plan and more modern mapping is not possible, but the present site lies

in the approximate position of the rectangular building shown to the south of the lime kilns.



Plate 1: Extract from John Todd's plan of 1788 (CRO(K) WDX/29/1)



Plate 2: Extract from John Todd's plan of 1812 (CRO(K) WDX/29/2)

- 3.2.2 Two of the three lime kilns shown on the 1788 plan are also shown on Todd's 1812 plan (CRO(K) WDX/29/2; Plate 2), along with the addition of four more kilns. The position of the rectangular structure shown in 1788 appears, at this date, to be occupied by another kiln. The site under investigation by this project lies in the vicinity of the more southerly kilns, possibly close to the site of the rectangular building shown on the 1788 plan or the kiln directly to the north seen on the 1812 plan.
- 3.2.3 The schematic depiction of the kilns on John Todd's plans provides no fine detail as to their form or that of any associated buildings. John Watson's plan of 1847 (CRO(K) WDSO 10/Z3), however, provides greater detail, with the three lime kilns indicated by the depiction of twin circular kiln pots. It has again proved difficult to align this plan with modern mapping, but in comparison to later Ordnance Survey maps it is clear that the kiln under investigation is in the lower part of Plate 3.

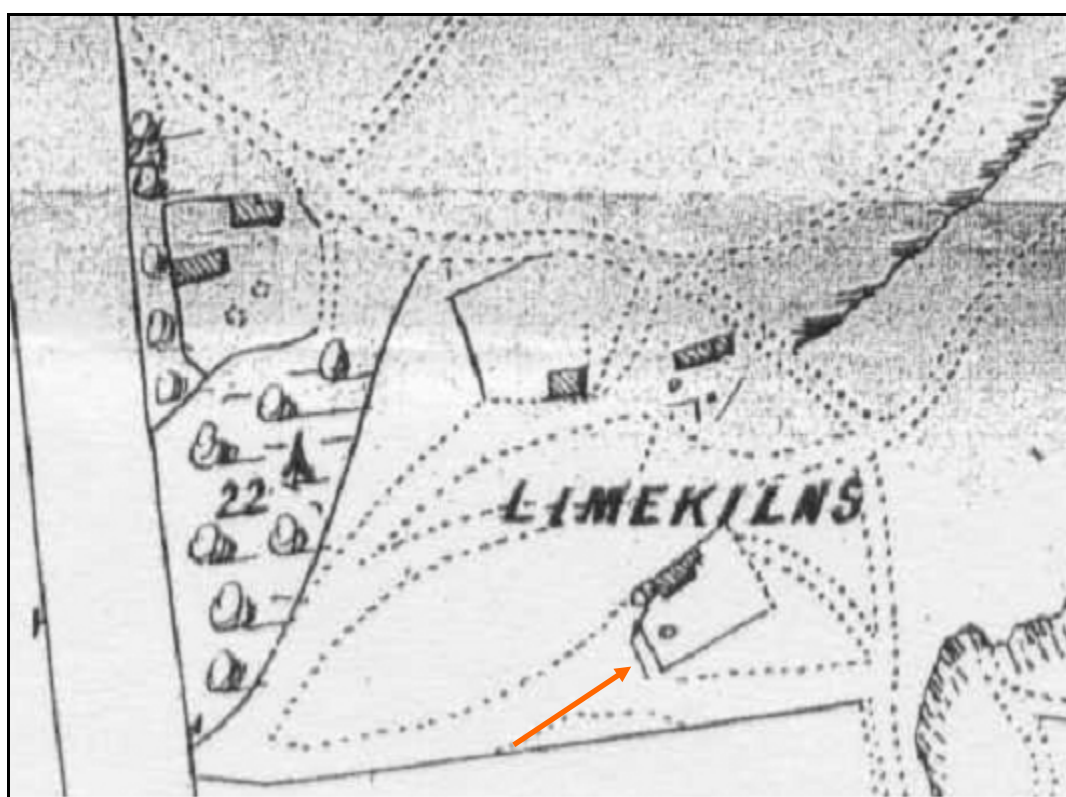


Plate 3: Extract from John Watson's plan of 1847 (CRO(K) WDX/29/2), with north to the right and a red arrow indicating the position of the site

- 3.2.4 The present site is shown, with a sub-rectangular walled area which would have provided a substantial revetment wall which serves to raise the ground level, in order to provide an upper platform above the kiln hearths. The kilns would have been loaded with lime and coal, filling the kiln pot, from an upper charging platform, fired, and then unloaded from the draw eye at the base of the structure. An examples of this type of kiln can be seen in the surviving lime kiln at Kendal Fell (Plates 4 and 5).
- 3.2.5 A long building, aligned north-west/south-east, is depicted along the south-western boundary of the walled area, with a smaller annex attached to its north-western end; presumably this housed offices or accommodation. One

kiln pot is depicted, as a circular feature within the southern part of the walled area. A second circular feature is shown at the south-eastern end of the building, but it remains uncertain as to whether this is a kiln, as it would be normal for a kiln pot to be shown within the walled structure, not free-standing.



Plate 4: View of the lower part of the surviving lime kiln at Kendal Fell



Plate 5: View of the upper part of the kiln pots from the charging platform of the surviving lime kiln at Kendal Fell



Plate 6: Extract from the 1859 6'' : 1-mile Ordnance Survey map, with a red arrow marking the position of the site

3.2.6 The 1859 Ordnance Survey map of Kendal Fell (Plate 6) depicts the kiln located by the watching brief, but with a number of changes. Its enclosure is more rectangular in shape, and two twin circular kiln pots are clearly marked inside it, close to the south-eastern wall. The annex depicted to the south-west of the walled area on Watson's map appears to have been roofed or replaced by a building. An additional wall also projects from the southern-most corner of the walled area.

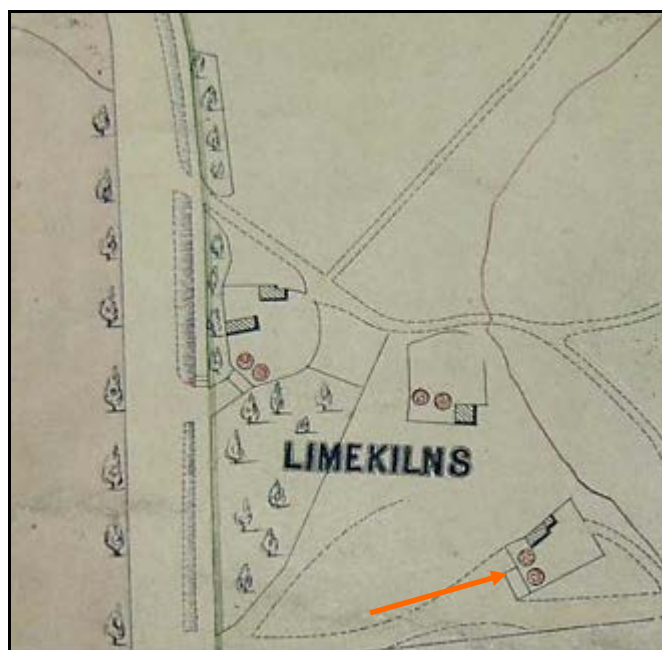


Plate 7: Extract from the 1870 Town Plan of Kendal, with north to the right and a red arrow indicating the position of the site

3.2.7 The 1870 Town Plan of Kendal Fell (Plate 7) shows little change in comparison to the previous map. The kiln pots are clearly marked in red. The smaller structure to the south-east is again marked as an unroofed walled area.

- 3.2.8 The 1898 Ordnance Survey map of the area (Plate 8) depicts a new building, constructed along the south-western wall of the earlier building of the site and doubling the size. The smaller building to the south-east is once again shown as a roofed structure.



Plate 8: Extract from the 1898 6":1-mile Ordnance Survey map, with a red arrow marking the position of the site

- 3.2.9 The 1914 and 1938 Ordnance Survey maps of the area shows no change. By the time of the 1956-7 Ordnance Survey edition, the site had been demolished.

4. RESULTS

4.1 INTRODUCTION

4.1.1 The archaeological watching brief was undertaken in accordance with the Methodology laid out above (*Section 2.2*) and the Project Design (*Appendix 1*). An overview of the results is presented below, with detailed context descriptions provided in *Appendix 2*.

4.2 RESULTS

4.2.1 Excavation using the mechanical excavator removed a substantial quantity of building rubble (deposit *I*) measuring up to 2.66m deep. This layer contained large quantities of building rubble, including large dressed limestone blocks and fragments of refractory brick. Most of the excavated area was machined down to the level of the natural limestone bedrock, but the substantial remains of the south-eastern side of a lime kiln were located, projecting from the northern limit of excavation (Fig 2; Plates 9 and 10).



Plate 9: Overhead view of the northern end of the watching brief area produced from rectified photographs, with north to the top



Plate 10: General shot of northern end of site, looking north

- 4.2.2 **Stone structural elements:** three structural elements of the lime kiln were located by the watching brief. The elevation of a substantial north-east/south-west aligned revetment wall, masonry **3** (Fig 2; Plate 9 and 10), was encountered along the northern edge of the excavation. It is undoubtedly the revetment wall for most of the kiln's raised platform, above which the kiln pots' charging platform would have been situated.
- 4.2.3 Wall **8** is the remains of a substantial north-west/south-east wall fragment, some 1.6m wide (Fig 2; Plate 9 and 11). It is highly likely that this wall continued in a north-easterly direction, forming the north-eastern revetment wall of the kiln. The portion of this wall located by the watching brief also matches the position of the north-easterly wall of the smaller rectangular building depicted on the 1859 OS map (Plate 6). The remains of a less substantial wall, **4**, formed the south-western wall of the same structure (Plate 9 and 12). The gap between the walls **8** and wall **3**, filled with rubble **1**, is most likely to be a recessed area, within which the draw eyes of both, or possibly just the north-easterly, kiln pots were situated.



Plate 11: Elevation of wall 3, looking north



Plate 12: Wall 8, looking north



Plate 13: North-eastern elevations of wall 4, butting up to wall 3, looking west

- 4.2.4 **Other elements:** a hinge or pintle, probably late nineteenth-century in date (Chris Wild pers comm), was located protruding from the eastern-most corner of wall 8, 0.25m above the base of the wall at a 135° angle to the wall (Plate 13). This would have allowed a door to swing up to the south-eastern and north-eastern elevations of wall 8.



Plate 14: Hinge or lintel in wall 8, looking north-east

- 4.2.5 The remains of a compacted floor, 9, was located adjacent and below some of the remaining rubble (Fig 2). It comprised a mix of clinker, ash, and lime,

presumably residue of the material drawn from the kiln whilst unloading the lime. A patch of lime, deposit 5, was also located in the corner of walls 3 and 4 (Fig 2; Plate 12).

- 4.2.6 A wooden plank was located leaning against wall 3 in the entrance of the recessed area formed by walls 3 and 8 (Fig 2; Plate 3). It measured 1.28m in length, with iron nails hammered into it at various points along of its length. It was not fixed to wall 8, and does not appear to have a structural reason for being in that position.
- 4.2.7 **Secondary landscaping works:** the bank forming the boundary of the development site was subsequently landscaped to form a 45° slope above, and adjacent to, the kiln remains. This exercise comprised the careful scraping of material from the slopes, and its manipulation with a toothed ditching bucket to form stable sides (Plate 15). The material excavated was a mid-brown sandy-silt with significant quantities of demolition rubble, including limestone blocks, refractory bricks and lime mortar. The *in situ* kiln was not disturbed, and was subsequently cleaned by hand. No further remains of archaeological interest were observed during this phase of groundworks.



Plate 15: post-excitation shot of the landscaping works around the kiln, looking north-west

5. DISCUSSION

5.1 CONCLUSION

- 5.1.1 The south-eastern revetment wall (wall 3) of a lime kiln was located in the northern part of the watching brief area. Historical mapping shows that this kiln was extant in the nineteenth-century, and possibly had eighteenth-century origins. Walls 8 and 4 have been identified as part of the structure to the south-east of the lime kiln seen on historical maps (*Section 3.2*), and depicted at various times as roofed or unroofed. This situation has not been resolved, and it is possible that this area was always crudely roofed, but with different criteria being used by cartographers as to how it should be depicted.
- 5.1.2 The kiln appears to have been unloaded from the south-eastern elevation of the overall structure, with a draw eye thought to be located between walls 3 and 8 (Fig 2). Lime, clinker, and ash were identified in this area, presumably removed from the kiln pots when the kiln was still in operation.
- 5.1.3 Most of the two kiln pots and their associated buildings, depicted on the historical mapping, lie to the north of the watching brief area and were not examined. Judging from the quantity of rubble covering the surviving remains, most of the upper parts of the kiln, including the charging platform and the buildings, have been demolished. However, the lower part of the structure survives, standing to *c* 1m in height, and is in good condition. It is to be expected that more of the remains of this kiln survive to the north of the watching brief area.

6. BIBLIOGRAPHY

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Ordnance Survey, 1898 *Westmorland*, Sheet **38.8**, 25": 1 Mile

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Ordnance Survey, 1938 *Westmorland*, Sheet **38 NE**, 6": 1 Mile

Ordnance Survey, 1956-7 *Westmorland*, Sheet **38 NE**, 6": 1 Mile

6.2 PRIMARY SOURCES

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7. ILLUSTRATIONS

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Figure 2: Plan of the site

7.2 LIST OF PLATES

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Plate 2: Extract from John Todd's plan of 1812 (CRO(K) WDX/29/2)

Plate 3: Extract from John Watson's plan of 1847 (CRO(K) WDX/29/2), with north to the right and a red arrow indicating the position of the site

Plate 4: View of the lower part of the surviving lime kiln at Kendal Fell

Plate 5: View of the upper part of the kiln pots from the charging platform of the surviving lime kiln at Kendal Fell

Plate 6: Extract from the 1859 6":1-mile Ordnance Survey map, with a red arrow marking the position of the site

Plate 7: Extract from the 1870 Town Plan of Kendal, with north to the right and a red arrow indicating the position of the site

Plate 9: Extract from the 1898 6":1-mile Ordnance Survey map, with a red arrow marking the position of the site

Plate 8: Overhead view of the northern end of the watching brief area produced from rectified photographs, with north to the top

Plate 10: General shot of northern end of site, looking north

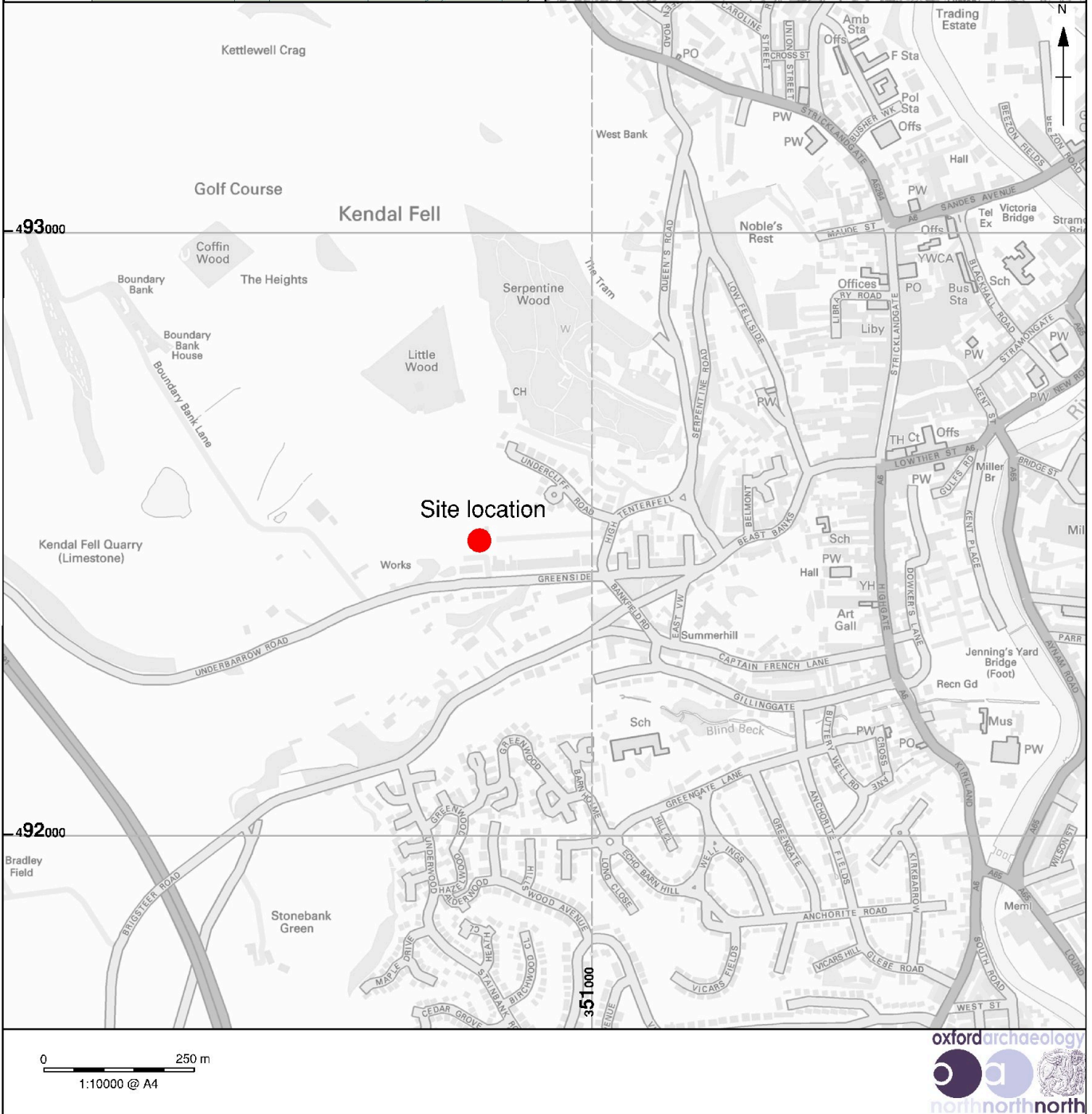
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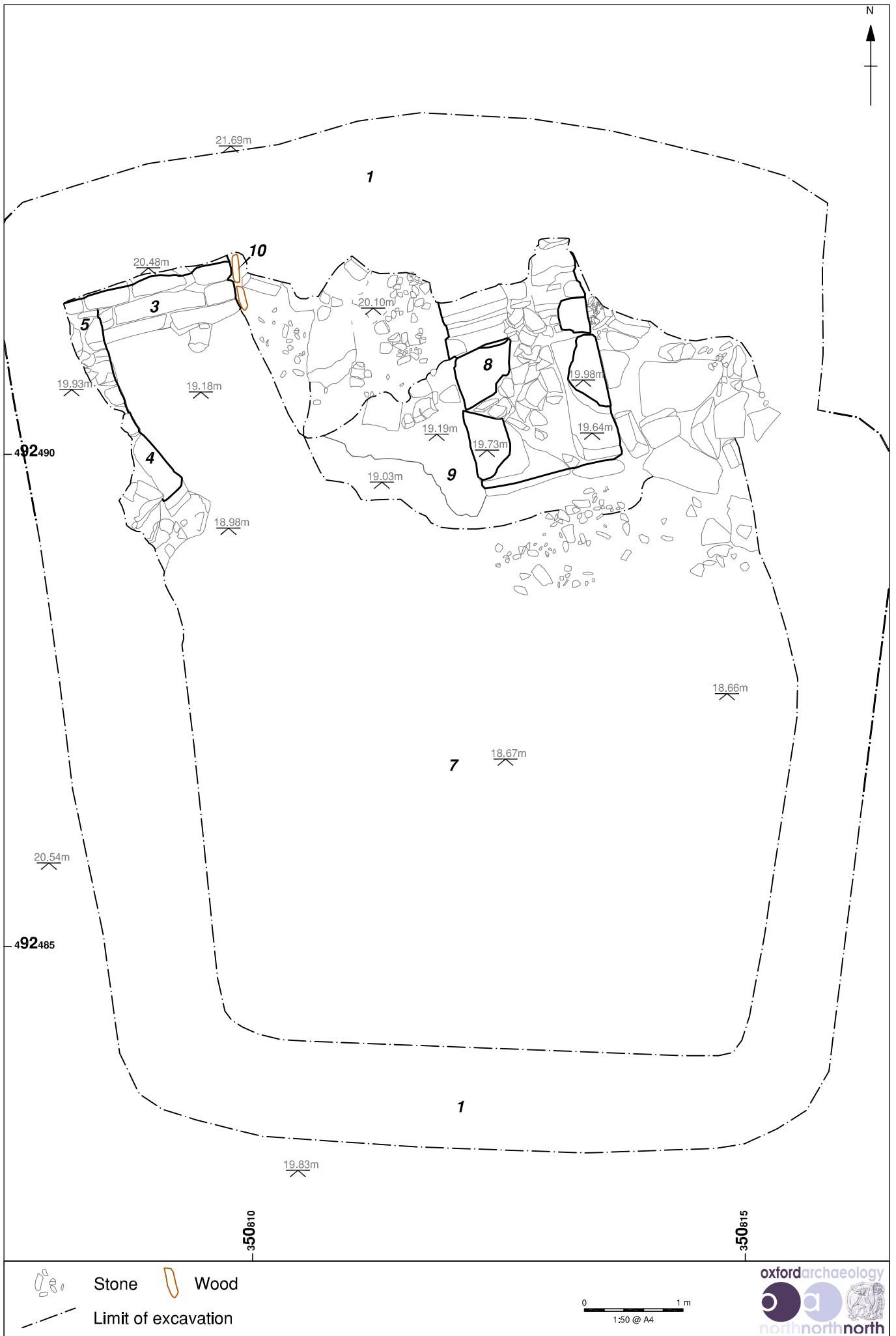
Plate 14: Hinge or pintle in wall 8, looking north-east

Plate 15: post-excavation shot of the landscaping works around the kiln, looking north-west



SR*L10467*MAT*May 2012

Figure 1: Site location



SR*L10467*MAT*May 2012

Figure 2: Site plan

APPENDIX 1: PROJECT DESIGN

KENDAL FELL BOOSTER PUMPING STATION, GREENSIDE, KENDAL, CUMBRIA

Watching Brief Project Design



Oxford Archaeology North

February 2012

United Utilities

Planing Reference: SL/2009/0007
NGR: SD 507 924

1. INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 United Utilities (UU, hereafter ‘the Client’), has requested that Oxford Archaeology North (OA North) submit proposals for a programme of archaeological work to be undertaken during construction works for a booster pumping station on land at Greenside, backing onto Kendal Fell Golf Course, Cumbria (NGR SD 507 924). The development site is located within an area of archaeological potential and, consequently, Cumbria County Council Historic Environment Service (CCCHES) requested that a watching brief be conducted during any ground disturbing activities. These comprise all groundworks associated with the construction of the pumping station, including those for the foundations, for the pipe trench, and also of any soil stripping for works/compound areas or haul roads, should they be required. The following document represents a project design to carry out the above programme of work and has been prepared in accordance with standard CCCHES requirements.

1.2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

1.2.1 The proposed booster pumping station at Greenside lies at the edge of the Kendal Fell and the Kendal conservation area, on the north-western outskirts of the town. The area has been the subject of several previous archaeological investigations, the reports on which should be consulted for further details (OA North 2006; 2010). As early as the Middle Ages, the rising ground of the Fell probably hosted tenter frames for Kendal’s staple woollen industry (Satchell 1984), whilst eighteenth-century documents record the presence of several quarries; these provided much of the limestone for Kendal’s buildings (OA North 2006). Quarrying was accompanied by the construction of kilns for producing lime, with several mentioned in historical documents and shown on historical maps. It seems likely that the site of the proposed booster pumping station coincides with that of one of three early nineteenth-century kilns that once stood at Greenside. Only one of them, near the Greenside street front, is still extant, and its importance is recognised through its status as a Scheduled Monument. Any remains of a lime kiln revealed by the works for the booster pumping station would thus be highly significant. There is rather less potential for archaeological remains relating to other periods, but, given the importance of the fell over many centuries, any such findings would, be significant.

1.3 OXFORD ARCHAEOLOGY NORTH

1.3.1 OA North has considerable experience of excavation of sites of all periods, having undertaken a great number of small and large scale projects throughout Northern England during the past 25 years. Evaluations, desk-based assessments, watching briefs and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. 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 for Archaeologists (IfA) registered organisation, registration number 17**, and all its members of staff operate subject to the IfA Code of Conduct.

2. OBJECTIVES

2.1 The following programme has been designed to identify and record any archaeological deposits affected by the proposed development of the site, in order that they can be preserved by record. To this end, the following programme has been designed, in accordance with normal CCCHES standards, to provide a watching brief. The required stages to achieve these ends are as follows:

2.2 *Archaeological Watching Brief*

To undertake a programme of observation and recording during any ground disturbance to determine the presence, quality, extent and importance of any archaeological remains on the site.

2.3 *Report and Archive*

A report will be produced for the Client within eight weeks of completion of the fieldwork. A site archive will be produced to English Heritage guidelines (1991) and in accordance with the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990).

3. METHOD STATEMENT

3.1 WATCHING BRIEF

3.1.1 **Methodology:** a programme of field observation will accurately record the location, extent, and character of any surviving archaeological features and/or deposits within the whole area of the proposed ground disturbance. This work will comprise observation during all ground reduction and excavations for the proposed development, 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 during observation.

3.1.2 The watching brief will cover the whole of the area to be disturbed by the development including, topsoil and subsoil stripping and any other groundworks which would expose archaeological horizons and/or the natural drift geology.

3.1.3 Putative archaeological features and/or deposits identified during the observation of groundworks, 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 (*ie* 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).

- 3.1.4 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 plan provided by the Client. A photographic record will be undertaken simultaneously.
- 3.1.5 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.
- 3.1.6 **Treatment of finds:** all finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds*, 1998 (new edition) and the recipient museum's guidelines.
- 3.1.7 **Treasure:** any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft.
- 3.1.8 All identified finds and artefacts will be retained, although certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained on advice from the recipient museum's archive curator.
- 3.1.9 **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. CCCHES 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. The removal of human remains will be carried out with due care and sensitivity under the environmental health regulations.
- 3.1.10 **Contingency plan:** in the event of significant archaeological features being encountered during the watching brief, discussions will take place with the Planning Archaeologist or his representative, as to the extent of further works to be carried out. All further works would be subject to a variation to this project design. In the event of environmental/organic deposits being present on site, it would be necessary to discuss and agree a programme of palaeoenvironmental sampling and or dating with the Planning Archaeologist.

3.2 REPORT AND ARCHIVE

- 3.2.1 **Report:** one bound and one unbound copy of a written synthetic report will be submitted to the Client, and a further three copies submitted to the Cumbria HER within eight weeks of completion. Copies of the desk-based assessment, and interim statements on the results of the watching brief can be issued within three weeks of the completion of these elements. The report will include:

- a front cover to include the planning application number and the NGR
 - a site location plan, related to the national grid
 - the dates on which the fieldwork was undertaken
 - a concise, non-technical summary of the results
 - a description of the methodology employed, work undertaken and results obtained
 - plans and sections at an appropriate scale, showing the location of features
 - other illustrations and photographic plates showing, as appropriate, features of interest or to demonstrate the absence of archaeological features.
 - a description of any environmental, finds, or other specialist work undertaken, and the results obtained
 - the report will also include a complete bibliography of sources from which data has been derived.
 - a copy of this project design in the appendices, and indications of any agreed departure from that design
- 3.2.2 This report will be in the same basic format as this project design; a copy of the report can be provided on CD, if required.
- 3.2.3 **Archive:** the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (Management of Archaeological Projects, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. It will include summary processing and analysis of all features, finds, or palaeoenvironmental data recovered during fieldwork, which will be catalogued by context. All artefacts will be processed to MAP2 standards and will be assessed by our in-house finds specialists.
- 3.2.4 The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct. OA North conforms to best practice in the preparation of project archives for long-term storage. 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 practice is to deposit the original record archive of projects with the County Record Office, Kendal. The material archive (artefacts and ecofacts) will be deposited with an appropriate museum following agreement with the client.
- 3.2.5 **Collation of data:** the data generated will be collated and analysed in order to provide an assessment of the nature and significance of the known surface and subsurface remains within the designated area. It will also serve as a guide to the archaeological potential of the area to be investigated, and the

basis for the formulation of any detailed field programme and associated sampling strategy, should these be required in the future.

3.2.6 The Arts and Humanities Data Service (AHDS) online database project Online Access to index of Archaeological Investigations (OASIS) will be completed as part of the archiving phase of the project.

3.2.7 **Confidentiality:** all internal reports to the client are designed as documents for the specific use of the client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

4. HEALTH AND SAFETY

4.1 OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). A risk assessment will be completed in advance of any on-site works and copies will be made available on request to all interested parties.

5. WORK TIMETABLE

5.1 **Archaeological Watching Brief:** the duration of this element is dependant upon the duration of any ground disturbing activities on the site.

5.2 **Report and Archive:** an evaluation report will be submitted within eight weeks of the completion of the fieldwork. However, should an interim statement be required this can be issued within two weeks but instruction must be received from the client prior to completion of the fieldwork.

5.3 **Written Instruction:** OA North can execute projects at very short notice once written confirmation of commission has been received from the Client. One weeks notice would be sufficient to allow the necessary arrangements to be made to commence the task and inform CCCHES.

6. PROJECT MONITORING

6.1 **Access:** liaison for site access during the evaluation will be arranged with the client unless otherwise instructed prior to commencement of the archaeological investigation.

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

7. STAFFING PROPOSALS

- 7.1 The project will be under the direct management of **Stephen Rowland** (OA North project manager) to whom all correspondence should be addressed.
- 7.2 All elements of the archaeological investigation will be supervised by either an OA North project officer or supervisor experienced in this type of project. Due to scheduling requirements it is not possible to provide these details at the present time. All OA North project officers and supervisors are experienced field archaeologists capable of carrying out projects of all sizes.
- 7.3 Assessment of the finds from the evaluation will be undertaken under the auspices of OA North's in-house finds specialist **Christine Howard-Davis BA MIFA** (OA North project officer). Christine has extensive knowledge of all finds of all periods from archaeological sites in northern England. However, she has specialist knowledge regarding glass, metalwork, and leather, the recording and management of waterlogged wood, and most aspects of wetland and environmental archaeology.
- 7.4 Assessment of any palaeoenvironmental samples which may be taken will be undertaken by **Elizabeth Huckerby MSc** (OA North project officer). Elizabeth has extensive knowledge of the palaeoecology of the North West through her work on the English Heritage-funded North West Wetlands Survey. Assessment of any faunal material will be undertaken by **Andrew Bates MSc** (OA North Supervisor).

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APPENDIX 2: CONTEXT DESCRIPTIONS

Context	Depth/ Height (m)	Description
1	2.00	Demolition rubble. A light grey sandy silt with abundant sub-angular stones (maximum of 0.30m by 0.28m by 0.05m in size), and frequent roughly hewn and squared limestone blocks to a maximum of 1.3m by 0.40m by 0.40m in size.
2		Void
3	1.07	Wall comprising a north-east/south-west aligned structure at least 2.0m in length. It was constructed utilising squared limestone blocks, a maximum of 1.3m by 0.4m in size, bound by light grey sandy mortar.
4	0.90	Wall comprising a slightly curving north-west/south-east aligned structure 2.20m in length and 1.9m wide. It was constructed utilising squared limestone blocks to a maximum of 0.79m by 0.36m by 0.27m in size, bound by a light grey sandy mortar, with irregular limestone fragments forming its rubble core.
5	0.48	Layer of lime.
6		Layer, same as 9
7	Unknown	Limestone bedrock
8	1.25	Wall comprising a north-west/south-east aligned structure at least 2.19m in length and 1.6m wide. It was constructed utilising squared limestone blocks a maximum of 1.3m by 0.51m by 0.31m in size, bound by light yellow sandy mortar, with a rubble core. A hinge or pintle was located protruding from the eastern most corner of the wall. It was located 0.25m above the base of the structure, and at a 135° angle to its north-west/south-east alignment.
9	0.04	Compacted floor surface. It comprised dark grey coarse sand, formed from a mix of clinker and ash.
10	2.28	Wood. A piece of wood 0.16m wide and 0.14m thick, with 10mm long square shafted nails at intervals along its length, leaning against wall 3 .



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