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SUMMARY

Prior to a proposed residential development (Planning Application Number 4/04/2413) at Castle Mews, Coach Road, Whitehaven, Cumbria (centred NX 9770 1775) by Thomas Armstrong (Construction) Ltd, Cumbria County Council Archaeology Service requested a desk-based assessment and visual inspection, followed by an archaeological evaluation. Following the acceptance of a project design for this work (*Appendix 1*), OA North was commissioned to undertake the work in November 2004.

The desk-based assessment examined a study area of approximately 500m radius, centred on the proposed development site. It revealed evidence of 25 sites comprising three sawmills (Site **09, 12** and **13**), three rope walks (Sites **21-23**), two residences (Sites **01** and **07**), two churches (Sites **10** and **11**), two fountains (Sites **19** and **25**), a foundry (Site **02**), a barracks (Site **03**), a bone and manure works (Site **04**), a brewery (Site **05**), an Ice House (Site **06**), a riding school (Site **08**), a steam mill (Site **14**), a fever hospital (Site **15**), a pottery (Site **16**), a station (Site **17**), a copperas works (Site **18**), a glass house (Site **20**), and a thread factory (Site **24**). Two of these sites (Sites **08** and **25**) appeared to be at risk from the proposed development.

Three evaluation trenches, measuring 25m by 1.7m, were excavated across the site, in order to examine 5% of the development area of approximately 2600m². All three trenches revealed archaeological remains, including cobbled surfaces, and walls in Trenches 1 and 3. Most of the cobbled surfaces exposed seemed to be paths running alongside walls, with the exception of the surface ***14*** within Trench 2, which appeared to represent a substantial courtyard. The wall in Trench 1 relates possibly to part of the earliest buildings seen on the cartographic sources covering the development area, which date to the late eighteenth century. The walls revealed in Trench 3 appear to be part of the building to the south of Site **08** on the Ordnance Survey 1st edition (1865), and may perhaps be best interpreted as part of the riding school, with the courtyard in Trench 2 possibly used as an exercise area.

The putative fountain or lamp post (Site **25**), which is considered to be of local significance, is also at risk from the proposed development during construction, predominantly due to plant movement across site. It is also likely to be moved during the development to allow excavation of the area where it is located presently.

The evaluation highlights the lack of wide-scale truncation and previous impact across the site, with the structures shown on the cartographic sources surviving relatively well as below ground remains. Therefore, the proposed development will impact negatively on remains associated with the riding school (Site **08**) and buildings likely to relate to the Castle. It must be noted, however, that a number of areas of modern service disturbance and trees were present on site, which have perhaps already disturbed the archaeology in these areas, given that the remains revealed by the evaluation were relatively shallow.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Barry Denham of Thomas Armstrong (Construction) Ltd for commissioning the project. Thanks are also due to Jeremy Parsons, Assistant Archaeologist at Cumbria County Council Archaeology Service, Jo Mackintosh of the Cumbria SMR, and all the staff of the County Record Office in Whitehaven for their assistance with this project. The excavating skills of Bobby Bell of Thomas Armstrong are also much appreciated.

The desk-based assessment was undertaken by Paul Clark, with the evaluation undertaken by Paul Clark and Kathryn Blythe. The report was written by Paul Clark, with the finds report produced by Jo Dawson and the drawings produced by Mark Tidmarsh. The project was managed by Emily Mercer, who also edited the report together with Alan Lupton.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

1.1.1 Cumbria County Council Archaeology Service (CCCAS) were consulted by Copeland Borough Council regarding a planning application for a residential development at Castle Mews, Coach Road, Whitehaven, Cumbria (centred NX 9770 1775; Fig 1) by Thomas Armstrong (Construction) Ltd (Planning Application Number 4/04/2413). In response to this CCCAS issued a brief (*Appendix 1*) requesting a desk-based assessment and visual inspection, followed by an evaluation as the first phase of work. Thomas Armstrong (Construction) Ltd requested that Oxford Archaeology North (OA North) submit proposals for this archaeological investigation, the result of which was the production of a project design (*Appendix 2*) prepared in accordance with the CCCAS brief. Following the acceptance of the project design, OA North was commissioned to undertake the work.

1.1.2 The desk-based assessment comprised a search of both published and unpublished records held by the Sites and Monuments Record (SMR) in Kendal, the Cumbria County Record Office in Whitehaven, and the archives and library held at OA North. In addition to this, a site inspection was carried out on the site of the proposed development, in order to relate the landscape and surroundings to the results of the desk-based assessment. This report sets out the results of the desk-based assessment and evaluation trenching in the form of a short document. This document outlines the results of the desk-based assessment, and examines the archaeological potential and significance of the site using the criteria detailed in PPG 16 (DoE 1990). This is followed by the results of the subsequent evaluation trenching and an assessment of the impact of the proposed development.

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design (*Appendix 2*) was submitted by OA North in response to a request from Thomas Armstrong (Construction) Ltd. This was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

2.2 DESK-BASED ASSESSMENT

2.2.1 An area of 500m radius centred on the proposed development site was considered as the main study area, although a wider area was considered for the purposes of the historical and archaeological context (*Section 3*). The results were analysed (*Section 5*) for the archaeological significance and potential of the proposed development site in accordance with the criteria used in scheduling monuments (as detailed in Annex 4 of PPG 16 (DoE 1990)).

2.2.2 ***Sites and Monuments Record (SMR):*** the Sites and Monuments Record for Cumbria, held in Kendal, was consulted. This consists of a list of known archaeological sites within the county, and is maintained by CCCAS. Each site recorded within the study area was accessed and a brief entry, including grid reference, sources, and description, was added to the gazetteer (see *Section 4*).

2.2.3 ***County Record Office (CRO), Whitehaven:*** the County Record Office in Whitehaven holds a large number of original documents and maps for the area around Whitehaven. It was visited primarily to consult early maps of the area, which can provide details of the development of the landscape, and other documents relevant to the study area.

2.2.4 ***Oxford Archaeology North:*** OA North has an extensive archive of secondary sources relevant to the study area, as well as numerous unpublished client reports on work carried out both as OA North and in its former guise of Lancaster University Archaeological Unit (LUAU). These were consulted where necessary.

2.3 SITE INSPECTION

2.3.1 A visual inspection of the site was undertaken to relate the existing landscape to any research findings, and to note any features of potential archaeological interest. It would also enable any areas of potentially significant disturbance to archaeological remains to be identified and to highlight any hazards and constraints to undertaking the subsequent evaluation.

2.4 EVALUATION TRENCHING

2.4.1 The evaluation was required to examine a minimum of 5% of the total proposed development area, which is approximately 2600m². This required the

excavation of 130m², which equated to the excavation of three 25m trenches, 1.7m in width.

2.4.2 The topsoil was removed by machine (fitted with a toothless ditching bucket) under archaeological supervision to the surface of the first significant archaeological deposit. This deposit was cleaned by hand and inspected for archaeological features. All features of archaeological interest were investigated and recorded. The trenches were not excavated deeper than 1.20m to accommodate health and safety constraints. All trenches were excavated in a stratigraphical manner, whether by machine or by hand. Trenches were located by use of manual survey techniques

2.4.3 All investigation of intact archaeological deposits was exclusively manual. Selected pits and postholes were only half-sectioned, linear features were subject to no more than a 10% sample, and extensive layers were, where possible, sampled by partial rather than complete removal. In terms of the vertical stratigraphy, maximum information retrieval was achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, was undertaken with a view to avoiding damage to any archaeological features, which appear worthy of preservation *in situ*.

2.4.4 All information identified in the course of the site works was recorded stratigraphically, using a system, adapted from that used by Centre for Archaeology Service of English Heritage, with sufficient pictorial record (plans, sections, colour slides and monochrome contacts) to identify and illustrate individual features. Primary records were available for inspection at all times.

2.4.5 Results of all field investigations were recorded on *pro forma* context sheets. The site archive includes both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20 and 1:10). All artefacts and ecofacts were recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.

2.5 ARCHIVE

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

3. BACKGROUND

3.1 LOCATION, TOPOGRAPHY AND GEOLOGY

3.1.1 The site is located within the parish of St Bees, centred on NX 9770 1775, and located *c* 200m to the south-east of the main urban centre of Whitehaven (Fig 2). It lies within a triangle formed by Flat Walks to the south-west, the access road to Castle Mews to the north, and a boundary wall to the east. The site has a total area of *c*2600m² and measures a maximum of *c*78m east/west by *c*66m north/south. The land is currently laid down to soft landscaping, with areas of brambles and undergrowth. The site is generally level at about 15m aOD.

3.1.2 The site lies within the area defined by the Countryside Commission (1998) as the West Cumbria Coastal Plain. This area is typified by its varied open coastline with localised sections of dunes, sandy beaches and sandstone cliffs (*op cit*, 25). The solid geology around Whitehaven consists of an outcrop of coal measures, but it is mainly sandstone with some shale (*op cit*, 27). The drift geology in this area comprises predominantly of boulder clay (*ibid*).

3.2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.2.1 ***Introduction:*** the historical and archaeological background is principally compiled through secondary sources and is intended to provide a wider context to the results of the assessment. Sites from the Gazetteer (*Section 4* and Fig 2) are also referred to where relevant but will be discussed in more detail in *Section 5*.

3.2.2 ***Prehistoric Period:*** the evidence for activity in the area during the Mesolithic period comes from two settlement sites on the cliffs to the north of St Bees (Hodgkinson *et al* 2000, 68). The evidence for the Neolithic period is also somewhat sparse, with further evidence from St Bees consisting of a pair of arrowheads (*op cit*, 75). However, roughed-out stone axes have been found at two sites within the vicinity of the development site (Richardson 1980; SMR Nos 1189 and 11954), and Yew Bank stone circle was known to the east of Whitehaven, although it is no longer extant (Burl 1976; SMR 1178). No Bronze Age or Iron Age sites within the vicinity of the study area were identified during this assessment.

3.2.3 ***Roman Period:*** the closest Roman site to the study area appears to be on the headland above Parton, about a mile and a half from Whitehaven town centre (Routledge 2002, 7). This site is located beneath St Bridget's Church and during alterations in the nineteenth century a number of Roman coins were found (*ibid*). This site is known as Moresby fort, constructed between AD 128 and AD 138 (Shotter 1997; Salway 1981, 177), with evidence of its occupation until the fourth century (Routledge 2002, 7). The *Notitia Dignitatum* lists a number of forts beyond Burgh-by-Sands, which have been equated with the forts of the Cumberland coast (Shotter 1997, 112). From this information Moresby fort has been equated with the *Gabrocentio* mentioned in

the *Notitia Dignitatum* and by inference with the *Gabrosentum* of the Antonine Itinerary. Moresby fort appears to be at the western end of one of the two east/west routes across the Lake District, with Brougham, Penrith at the eastern end (the other to the south ends at Ravenglass in the west and Watercrook, Kendal in the east) (Allan 1994, 1).

3.2.4 Next to St Bridget's Church, is Moresby Hall, beneath which several skeletons were found, which may relate to a graveyard associated with the fort (Routledge 2002, 8). Two Roman altars are also known from the area, and were later moved to Whitehaven Castle (Jefferson 1842, 368). One of the altars was found at Moresby fort, with the second, reported as being 'the largest which has been discovered in Britain' (*ibid*), coming from Ellenborough, approximately 12 miles north-east of Whitehaven, on the outskirts of Maryport (*ibid*).

3.2.5 ***Early Medieval Period:*** most of the evidence for settlement in the early medieval period on the West Cumbrian coastal plain is in the form of ecclesiastical sites. The most relevant of these is the putative monastic site at St Bees, traditionally established by the Irish saint Bega during the mid seventh century and mentioned by the Venerable Bede (Colgrave and Mynors 1940). The site was destroyed by the Vikings, under the leadership of Halfdan, in AD 876 who's armies eventually fanned out throughout the whole of Cumbria (Whelan 1860) to settle in the north-west in the tenth century. This led to the repeated occupation of Cumbria by the Vikings for the next two hundred years (Routledge 2002, 8). Several placenames around Whitehaven show evidence of this Viking presence, including Moresby, Asby, Arrowthaite and Sandwith (*ibid*). Edmund, King of England (939-46), drove the Vikings from York in 944 and reduced all of Northumbria. In 945 he then subdued Cumbria before letting it to Malcolm, King of the Scots (*ibid*). For the next 150 years Whitehaven, and the whole of Cumbria, was ruled by the Scots, until Carlisle was captured by William Rufus in 1092 (*op cit*, 9) who encouraged English settlement of Cumberland (Rollinson 1996).

3.2.6 Early medieval remains have also been discovered in Workington, not in the form of settlement remains but at the parish church of St Michael, which is the oldest parish church in Workington (Flynn 1996, 1). The first historical reference is in an early twelfth century charter in the Register of St Bees, although little is known of the subsequent history of the church (*ibid*). It was demolished in 1770 and replaced by a larger and more elaborate church (*ibid*). Numerous cross fragments of Anglian type were found within the fabric of the church during rebuilding after a fire in 1887 (Calverley 1888; 1891; 1893). Further pieces were found in 1926 during work in the crypt (Mason and Valentine 1928). The majority seem to be Anglian in type, forming pieces of an ornately carved stone cross, dating perhaps as early as the eighth century AD (Bailey and Cramp 1988). Other pieces include parts of what may be hog back grave stones or architectural fragments dating perhaps to the tenth century (*ibid*; Flynn 1996). More recent excavations, following another fire in 1994, revealed a further cross fragment built into the base of the wall, a socketed cross base still *in situ*, and burials, some of which were dated to the

tenth century (*ibid*). Clearly the site was of some significance although its wider context is unknown.

3.2.7 The West Cumbrian Coastal Plain is significant for the large number of pre-Conquest stone crosses especially to the north at Gosforth (Rollinson 1996). The Northumbrian cross at Irton is regarded as 'one of the finest examples of ninth century sculpture in the country' together with the greatest of the Anglo-Scandinavian crosses at Gosforth (Bailey 1980; Bailey and Cramp 1988).

3.2.8 ***Late Medieval Period:*** Cumbria was divided into several administrative wards by Henry I, one of which, Allerdale above Derwent, became modern day Copeland with Whitehaven as its principal town (Routledge 2002, 9). St Bees monastery was refounded by the de Meschines family in about 1120 as a Benedictine house (Burgess 1989, 34). Whitehaven became part of the lands of the monastery (Routledge 2002, 9) and a township by the twelfth century (Hay 1987).

3.2.9 The placename evidence for Whitehaven suggests it comes from three Old Norse elements; *hvit-hofud-hafn*. *Hvit-hofud* refers to a white headland, while the *hafn* refers to a haven or harbour; the combined name, therefore, refers to a harbour beneath a white headland. The final element, *hafn*, in Whitehaven's name is a remarkably early example of the usage of this element in an English placename (Armstrong *et al*, 1971).

3.2.10 The first written reference to Whitehaven as a harbour is in 1172, when the port was used by the Neville family to transport their quota of soldiers for Henry II's conquest of Ireland (*ibid*). Around 1250, Robert of Hothwaite gave six acres of land, in the township of Holthwaite, to his son Gilbert. Later Gilbert and his wife Christian gave the land to St Bees priory, referring to it as 'our whole land in the flat of Holthwaite'. The reference to 'flat' is taken to indicate that this is the site on which Whitehaven Castle was later built and that this is the oldest inhabited site in the vicinity (Hay 1987, 15). Whitehaven, however, remained relatively insignificant, with a 1566 survey recording only six fisherman's cottages and a single boat (Cook 1993, 6).

3.2.11 Following the Dissolution of the Monasteries by Henry VIII in 1536-9, monastic land was divided up, with the manor, rectory and cell of St Bees given to Sir Thomas Chaloner (Cook 1998, 9). The lands were then purchased by Thomas Wyberg in 1599, but by 1600 they were mortgaged to George Lowther (*ibid*). The right to hold a market in Whitehaven was granted in 1654 and confirmed in 1660 (CCC n.d., 13).

3.2.12 ***Post-medieval Period:*** the Lowther family's subsequent deliberate policy of development for Whitehaven led to industries as varied as chemical manufacture (salt and copperas), spinning, weaving, textiles and glass manufacture, as well as coal and pottery industries. The provision of a railway for Whitehaven is a good example of the Lowther's policy, with the Earl of Lonsdale (William Lowther) and George Stephenson coming to an agreement in 1847 over the Whitehaven Junction Railway (*ibid*). Within the study area there is evidence for a copperas works (Site **18**), a glass factory (Site **20**), Whitehaven's earliest foundry (Site **02**), a bone and manure works (Site **04**), a

brewery (Site **05**), a steam mill (Site **14**), a pottery (Site **16**), a thread factory (Site **24**), three ropewalks (Sites **21-23**) and three sawmills (Sites **09, 12** and **13**). Most of these industries are dated to the mid nineteenth century (Ordnance Survey 1863), although the foundry, glassworks and copperas works are significantly earlier.

3.2.13 ***Glass:*** after James I prohibited glass-makers from using wood as fuel in their furnaces, the industry relocated from its traditional centre in the Weald to the coal fields of the Midlands and the North. The change to coal fuel required considerable modifications to furnace design. This period saw the introduction of the glass cone, which became the classic symbol of the English glass industry. In this respect alone, the Whitehaven example (Site **20**) is intriguing as the cartographic sources available depict it to have been a square-shaped structure. This hints that the furnace may represent an important stage in the development of furnace design. The Glass House was established in 1732, but it is not mentioned in Angerstein's account of the town's industries in 1754, suggesting that the works had failed by that date (Berg and Berg 2001).

3.2.14 ***Coal Mining:*** the development of Whitehaven owes much to the Lowther's concern with the extraction of coal (Fletcher 1878, 270). Christopher Lowther lay the foundation stone for a new pier in 1633 to ensure a safe harbour for the ships which were involved in the export of coal, mainly to Ireland (Routledge 2002, 14). In 1666, Charles II granted Sir John Lowther all the derelict ground in Whitehaven (Nicolson and Burn 1777, 43), which enabled Sir John a free hand in determining the future expansion of Whitehaven. The importance of the coal industry remained a constant, illustrated by the construction of a post-mill (SMR 19092) somewhere at the Ginns, between 1681 and 1700 to remove water from the coal mines (Tyson 1988, 189). Indeed, many important mining innovations were introduced at Whitehaven, such as at Saltom Pit (*ibid*). In addition, one of the earliest steam pumping engines was leased and set up at the Ginns in 1715 (*ibid*; Jefferson 1842, 399). The Thwaite Pit Coal Mine (SMR 12840) was sunk in 1737, followed closely by the construction of Dr William Brownrigg's laboratory (SMR 19932) in 1743 for his investigations into the causes of firedamp in coal mines (Bowd 2003).

3.2.15 By 1750, the collieries of Whitehaven were producing 200,000 tons of coal a year (Routledge 2002, 24), with writers declaring that 'the coal mines at this place are perhaps the most extraordinary of any in the known world' (Nicolson and Burn 1777, 43). The need for suitable housing for workers in Whitehaven led to the construction in 1788 of 266 dwellings at New Houses (Cook 1993, 8), to the west of the Ginns. Whitehaven's importance to the coal trade is attested to by the contemporary assertion that 'it is the most important port in England for it [coal] next to Newcastle' (Barfoot and Wilkes 1794). Coal remained important for about the next two hundred years (Lysons and Lysons 1816, 24; Mannix and Whellan 1847, 375; Routledge 2002), although ultimately the depletion of the coal reserves led to a decline in mining and a decline in industry in general in Whitehaven (Countryside Commission 1998, 29), with the final coal mine, the Haig, closing in 1986 (CCC nd).

3.2.16 ***Pottery Manufacture:*** in 1674 Sir John Lowther instructed Thomas Tickell, his agent, to engage Edward Gibson, a brickmaker, to work in Whitehaven

(Sibson 1991, 5). Gibson predominantly produced bricks and tiles, although apparently a degree of pottery manufacture was undertaken (*ibid*). In 1689, a Jeremy Lyons agreed a lease for seven years to manufacture pots, but left after two months, apparently unable to cope with the local coal (*op cit*, 6; Rumbold 1993, 8). In 1697 William Gilpen, the new agent of Sir John Lowther, began discussing with Sir John the possibility of manufacturing pottery and clay pipes (Weatherill and Edwards 1971, 160). The manufacture of pipes was started in 1698, with further commercial pottery recorded in 1740, with the founding of the Ginns Pottery (SMR 11969), when part of a building was leased to Thomas Atkinson (Hay 1987, 125). This pottery was not noted by Angerstein in his account of 1754, suggesting that is was only a small production centre (Berg and Berg 2001). The second pottery to be established was the Preston Street Pottery (Site **16**), apparently in 1813; by 1847 it was under the control of an Edward Lewis and was manufacturing 'brown and black' earthenware (Mannix and Whellan 1847, 404). The third pottery to open in Whitehaven was the Whitehaven Pottery (SMR 11971), which opened in 1819; this pottery produced the highest quality wares in the area with advertisements for the pottery declaring their products to be 'equal, if not superior to the Generality of Staffordshire Ware' (Hay 1987, 126). In 1837 over 150 people were employed in the local potteries (*op cit*, 127), highlighting their importance to the local economy.

3.2.17 ***Copperas works:*** the manufacture of copperas, or green vitriol, may be traced back to the sixteenth century, and has been viewed as representing the genesis of the chemical industry (Jecock 2004). It was required by a suite of manufacturing processes, including the sizing of paper and the tanning of leather, although perhaps its most widespread was in the textile industry, where it acted as a mordant. Rees claimed that the art of manufacturing green vitriol was not perfected until the end of the seventeenth century (Cossons 1972). In broad terms, the manufacturing process was relatively straightforward, although much of the finer detail is uncertain. In the first instance, a heap of pyrites was spread over a bed of impermeable clay. The pyrite was presumably obtained as a by-product of coal mining in the area, as it only occurs naturally in coal measures. The pyrite heap would have been left open to the elements in order to allow the sulphur and iron content to decompose. The sulphur, in combination with oxygen from the air, would form a sulphurous acid, which would dissolve the particles of iron. The heaps were then worked, and the liquid collected in wooden cisterns. After a period of settling, the liquid was then pumped into large copper boilers, where it was evaporated, forming green crystals. The crystals were then dried and packed into large casks ready for despatch to the markets (Ian Miller pers comm). The copperas industry appears to have been superseded in the mid-nineteenth century by a new process developed by Peter Spence in 1846, whereby the waste from the collieries was treated with sulphuric acid.

3.2.18 Whitehaven Copperas Works (Site **18**) was visited by the Swedish industrial spy Angerstein in 1754, who included a description in his travel diary (Berg and Berg 2001, 285-86). Angerstein noted that the pyrites were laid out in rows on ground that had been walled in. From the cistern, the raw liquor was pumped to a lead boiler "where scrap iron is added in a certain proportion".

This appears to be an unusual method that is not known from other sites. Angerstein also states that three tonnes of copperas were boiled per week and was sold to Ireland for £9 per ton (*ibid*).

3.2.19 ***Trading:*** Whitehaven was an extremely important port for goods other than simply coal. The eighteenth century was probably the most prolific for the traders of Whitehaven, when at the turn of the century Whitehaven's tobacco imports were almost two million pounds per annum (Richardson and Schofield 1992). Most of this imported tobacco was then exported to Scotland and Ireland, neither of which could legally import tobacco directly from the English colonies in America (*ibid*). Slavery too played an important part in the economy of Whitehaven, with at least 69 voyages to Africa for slaves fitted out by Whitehaven merchants in the eighteenth century (*ibid*). Indeed, comparison with other ports has led Richardson and Schofield to suggest that 'Whitehaven merchants were probably the fifth largest group of slave traders in Britain in 1750-1769' (*op cit,* 184). Trading also had a positive effect on manufacturing within Whitehaven, with a number of anchor smithies, blockmakers, sail manufacturers, thread manufacturers (Site **24**), rope manufacturers (Sites **21-22**) and other industries required for the upkeep of shipping, as well as ship yards themselves (RCHME 1991, 15).

3.2.17 ***Municipal buildings:*** with the increasing wealth of Whitehaven came a number of structures, some of which were paid for by generous benefactors. The most obvious close to the development site is Whitehaven Castle (Site **07**), which was built and so named as in its present form in 1769 by Sir James Lowther, Earl of Lonsdale, following a fire. It had previously been the site of a mansion known as the Flatt and owned by Sir George Fletcher when it was bought by Sir John Lowther in 1675 (Pevsner 1967). More than 200 years after the Lowthers had initially purchased the castle, the large wall around the castle and grounds was removed, finally opening up the park to the people of Whitehaven (Anon n.d.). A further example was Trinity Church, Site **10**, which was constructed in 1715, at a cost of £2075 (Hay 1987) by Sir John Lowther Esq and other inhabitants (Mannix and Whellan 1847). The entertainment of the inhabitants of Whitehaven is also illustrated by the Whitehaven Riding School (Site **08**; Ordnance Survey 1863).

3.2.18 Healthcare provisions are highlighted by two of the sites in the study area, namely the Ginns Fever Hospital (Site **15**) and Whitehaven Castle (Site **07**). The Ginns Fever Hospital was located in an existing building which was loaned free of charge by the Earl of Lonsdale, for use as an isolation ward for patients suffering from contagious diseases (Wood 1830). In 1924, the Earl of Lonsdale sold the Castle and donated it to the town along with monies to carry out necessary repairs and alterations. The castle was duly modified and it replaced the old infirmary. However, in 1951, due to inadequacies at the infirmary, an architect was appointed to come up with the plans for the West Cumberland Hospital. This was the first hospital built in England following the creation of the National Health Service and was officially opened in 1964. The castle infirmary and the new hospital coexisted until 1986, when due to fire regulations, the infirmary had to close to its patients. Today, following

extensive renovation, the castle in Whitehaven has been converted into private accommodation (Anon n.d.).

3.3 MAP REGRESSION ANALYSIS

3.3.1 A number of maps were consulted, tracing the development of the site back to the earliest available cartographic source. This provided information on additional sites not included in the SMR, as well as ascertaining any areas of disturbance within the proposed development area.

3.3.2 ***Andrew Pellin's Map of Whitehaven, 1695:*** this map and Pellins' two later ones were commissioned to enable informed discussion between the absent Sir John Lowther and his agents (RCHME 1991). The copy of this map used during analysis was badly damaged at its southern end. Nevertheless, the word 'Flatt' was visible at the site of the Flatts (Site **07**), which appeared to be a rectangular building at the end of a road shown as the 'way to Egremont'. Immediately to the east of the Flatts 'White Park' was shown, north of which was an area called 'Plumplands'. St Nicholas Church (Site **11**) was also shown. Nothing was shown on the site of the proposed development.

3.3.3 ***Andrew Pellin's Map of Whitehaven, 1699 (Fig 3):*** the Flatts (Site **07**) is shown as a rectangular walled area with a rectangular building against the northern corner of the walled area and four other buildings ranged around the walls. Apart from the Flatts, this map is less detailed than the previous and adds no additional information.

3.3.4 ***Andrew Pellin's Map of Whitehaven, 1705:*** the Flatts (Site **07**) is not shown on this map and the detail of the remainder of Whitehaven is again rather poor, showing no more detail than his 1695 map.

3.3.5 ***Town Plan of Whitehaven on Thomas Donald's Map of Cumberland, 1774 (Fig 4):*** Whitehaven was one of three town plans shown on Donald's map of Cumberland (Hindle 2002). It shows for the first time evidence of structures within the proposed development area, in the form of three rectangular buildings. The current triangular shape of the proposed development area seems to correlate with the area to the south of the castle, suggesting that this parcel of land has remained unchanged in shape for over two hundred years. The two southern buildings in the walled courtyard of the Flatts (Site **07**) appear to remain in the same form as shown on the previous map. The Flatts mansion (Site **07**) in the north-western part of the courtyard has been demolished and rebuilt (Pevsner 1967).

3.3.6 Details of the area around the site can be seen for the first time, also. The road leading up to the Flatts is tree-lined and named 'Love Lane', whilst the road in front of the castle is named 'Flat Walks'. Hartley's Rope Walk (Site **21**) is shown to the south-west of the development site and further industrial sites, namely the Copperas Works (Site **18**) and the Old Glass House (Site **20**) also appear on this map. Another notable aspect of this map, when compared to previous mapping evidence, is the infilling of 'blank' areas, and the

formalisation of streets, such as Lowther Street that were shown as dotted lines on Pellin's maps.

3.3.7 ***Plan of Whitehaven, Cadell and Davies, 1815 (Fig 5):*** the proposed development area appears to remain the same, as does much of the surrounding area, although the building to the north is now shown as 'The Castle' (Site **07**). Two further rope walks (Sites **22** and **23**), aligned broadly east/west appear to the south of Hartley's (Site **21**). To the west of Trinity Church (Site **10**) a 'Bell and Braggs Factory' (Site **24**) is shown.

3.3.8 ***Wood's Plan of Whitehaven, 1830 (Fig 6):*** since the publication of the previous map, the area surrounding the site has begun to be developed and infilled. Within the development area, the southernmost of the three rectangular buildings has been demolished, whilst the remaining two appear to have been extended in length. The Castle (Site **07**) appears to remain the same. In terms of industrial sites, the Bell and Braggs factory (Site **24**) is now under Joseph Bell and Company. There is also the addition of the Preston Street Pottery (Site **16**) shown as 'pottery', and the Ginns Fever Hospital (Site **15**), whilst there are still buildings in the area of the Copperas Works (Site **18**) and the Old Glass House (Site **20**), although they have apparently been somewhat modified. Two of the ropewalks (probably Sites **21** and **22**) appear to survive, but are not named as such.

3.3.9 ***Ordnance Survey 1865, 1st edition, 25":1 mile (Fig 7):*** this map shows more detail than any of the previous, and shows increasing development. The northernmost structure on the development site is extended westwards to Flat Walks and can be seen to be a number of buildings. The riding school (Site **08**) and an additional, and probably associated, building immediately to the south of it are seen for the first time. There appears to be more building around the perimeter of Whitehaven Castle (Site **07**), although this amounts to little more than the infilling of previous gaps and a degree of landscaping, including the installation of a sundial to the west.

3.3.10 The area on the opposite side of Flat Walks to the Castle is now noted as a timber yard, which replaces an unknown structure on Wood's map of 1830. The railway is another new addition to this map with the tunnel between Corkickle to the south (Site **17**) and Bransty stations running to the east of the proposed development area and marked by numerous air shafts. The Bell and Company factory (Site **24**) had become part of the Royal Cumberland Military Barracks (Site **03**), which makes its first appearance on this map. The Ginns Fever Hospital (Site **15**) appears to have been converted to use as 'Colliery Schools', although the building does change shape suggesting the possible demolition of the Hospital and construction of a new building for the Colliery Schools. To the east of the development site, an Ice House (Site **06**) is visible on this map and to the north, a sawmill is visible on Catherine Street (Site **12**).

3.3.11 ***Ordnance Survey 1899, 2nd edition, 25":1 mile (Fig 8):*** this map is broadly similar to the previous one. There are no notable changes within the development area. Beyond this, Site **06** and the timber yard are no longer mapped.

3.3.12 ***Ordnance Survey 1925, 3rd edition, 25":1 mile (Fig 9):*** the main riding school building (Site **08**) disappears from this map, suggesting it was demolished at some point in the last 26 years. However, the structure situated to the south still remains. No other changes are noted within the proposed development area. Within the wider study area, a drill hall has been built to the north-west of the development site, together with a new school and library.

3.3.13 ***Ordnance Survey 1938, 4th edition, 25":1 mile (Fig 10):*** by 1938 the proposed development area has been entirely cleared of all the previous buildings. The Castle (Site **07**) is now shown as a hospital.

3.3.12 ***Ordnance Survey 1:10000, current edition:*** the current edition map shows a rectangular building in the north-eastern corner of the site, which appears to be *c*50m east/west x 20m north/south.

3.3.13 ***Electricity Service Plans (Fig 11):*** the current utility plans (sewage, water, electricity, telephone and gas) were consulted to identify areas of disturbance within the proposed development area. The electricity mapping revealed an electric cable across the northern end of the site, about 4m to the south of the northern boundary. The plans also show more accurately the most recent building on site, allowing the disturbance caused by this to be extrapolated. This building was demolished approximately 15 years ago (B Denham pers comm).

3.4 ARCHAEOLOGICAL INTERVENTIONS

3.4.1 No evidence of archaeological work within the proposed development area was revealed during the course of this assessment. Within Whitehaven, evidence of two excavations was found, comprising the 1978 excavations on the site of the Old Fort which revealed the general groundplan of the 1741 fort, albeit truncated in the middle by a modern road (Taylor and Richardson 1979) and a watching brief during wastewater improvement works between Whitehaven and Parton, in 1999, which revealed no significant archaeological remains (A Lupton pers comm). A recent desk-based assessment was also undertaken on land about 500m south-west of the present development (OA North 2004), which revealed the importance of the industrial heritage of the area.

3.5 SITE VISIT

3.5.1 The site visit identified an additional site (Site **25**; Plate 1), comprising the remains of a stone base. It also revealed the site to be predominantly grass covered, although with small patches of brambles and some small trees (Plate 2). A number of small ridges were identified, possibly relating to below ground remains. Two manhole covers were located, showing areas of modern disturbance and potential hazards that may inhibit the evaluation. A number of small trees were also observed on site, which are to be preserved as a condition of the planning permission (B Denham pers comm).

4. GAZETTEER OF SITES

Site number	**01**
Site name	Somerset House, Duke Street
NGR	NX 9767 1812
Site type	Building
Period	Post-medieval
SMR No	5459
Stat. Des. No	26195, Grade II*
Sources	Pevsner 1967
Description	An eighteenth century three-storeyed building of coursed stone with a Georgian gothic porch (Pevsner 1967, 205).
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**02**
Site name	Newton Foundry, Whitehaven
NGR	NX 9720 1780
Site type	Foundry
Period	Post-medieval
SMR No	5512
Sources	SMR, OS 1865
Description	Newton Foundry was a "gothic" style building which existed in 1815 and is on the site of the earliest known foundry in Whitehaven.
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**03**
Site name	Royal Cumbria Military Barracks
NGR	NX 9736 1780
Site type	Barracks
Period	Post-medieval
SMR No	11967
Sources	SMR, OS 1865
Description	This is the site of the Royal Cumbria Military Barracks, built on the site of the Bell and Co thread factory. The barracks was divided into a guardroom, two offices, an orderly room, a block of four cells and a large armoury. There was another small block attached to the main block, plus a band room in the south west corner of the yard, a magazine in the south-east corner and a bake house against the south wall.
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**04**
Site name	Flat Walks Bone and Manure Works
NGR	NX 9774 1764
Site type	Bone Mill
Period	Post-medieval
SMR No	11968
Sources	SMR, OS 1865
Description	The site of a bone and manure works. The SMR notes that the name Flat Walks is given purely for reference.
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**05**
Site name	Corkickle Brewery
NGR	NX 9806 1743
Site type	Brewery

Period	Post-medieval
SMR No	11972
Sources	SMR, Parson and White 1829, Mannix and Whellan 1847, Bulmer 1883
Description	The site of Corkickle brewery; owned in 1829 by William Longmire (Parson and White 1829), Thomas Charters and Co in 1847 (Mannix and Whellan 1847) and Thomas Dalzell in 1883 (Bulmer 1883).
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**06**
Site name	Ice House, Whitehaven Castle
NGR	NX 9781 1781
Site type	Ice House
Period	Post-medieval
SMR No	12839
Sources	SMR, OS 1863, David 1982
Description	Site of an ice house in the park belonging to Whitehaven Castle. The site was constructed on the south side of a disused sandstone quarry *c*0.5km above the castle and survives as a subterranean ruin. The entrance passageway faces west and measures 8.5m in length. The central ice pit is at least 7m high.
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**07**
Site name	Whitehaven Castle
NGR	NX 9771 1783
Site type	Building
Period	Post-medieval
SMR No	12841
Stat. Des. No	26205, Grade II
Sources	SMR, Donald 1774, Cadell and Davies 1815, Wood 1830, OS 1863, Mannix and Whellan 1847, Ayton 1814, Pevsner 1967
Description	In 1675 a mansion known as the Flatt owned by Sir George Fletcher of Hulton was bought improved and extended by Sir John Lowther. In 1769 it was rebuilt in its present form by Sir James Lowther, Earl of Lonsdale, who renamed it Whitehaven Castle (Pevsner 1967). An old directory relates how tradition gives this as the site of an ancient ruin, possibly a stone circle, removed about 1628 (Mannix and Whellan 1847, 377). A traveller of 1814 described this building as a 'large castellated mansion' (Ayton 1814, 149).
Assessment	The site lies to the north of the proposed development. Due to its statutory designated status the visual impact of the development must be accounted for.

Site number	**08**
Site name	Whitehaven Riding School
NGR	NX 9771 1776
Site type	Riding School
Period	Post-medieval
SMR No	12842
Sources	SMR, OS 1863
Description	The site of a Riding School adjacent to Whitehaven Castle.
Assessment	The site lies within the proposed development area and any surviving sub-surface remains will be directly impacted by the development.

Site number	**09**
Site name	Richmond Terrace Sawmill, Whitehaven
NGR	NX 9724 1778
Site type	Saw Mill
Period	Unknown

SMR No	12844
Sources	SMR, OS 1865
Description	The site of a sawmill and a timber yard near Richmond Terrace.
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**10**
Site name	Trinity Church, Whitehaven
NGR	NX 9745 1792
Site type	Church
Period	Post-medieval
SMR No	12845
Sources	SMR, Donald 1774, Cadell and Davies 1815, OS 1865, Mannix and Whellan 1847
Description	Trinity Church and its associated graveyard, was built by 1715 by James Lowther, Esq and others of the inhabitants, and demolished in 1949. James Lowther (1653-1755) and the artist Matthias Read (1667-1747), who's painting of the Ascension hung over the alter table (Mannix and Whellan 1847), were buried here. Its style was very similar to that of St Nicholas (Site **11**).
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**11**
Site name	St Nicholas Church, Whitehaven
NGR	NX 9741 1814
Site type	Church
Period	Post-medieval
SMR No	12846
Stat. Des. No	26176, Grade II
Sources	SMR, Donald 1774, OS 1863, Hay 1987, Mannix and Whellan 1847
Description	Until 1693, the only place of worship in Whitehaven was "a little old chapel," with a bell turret, and a cross at the east end, situate in Chapel street, dedicated to St Nicholas. It was replaced by a newer building in 1693 by Sir John Lowther and the inhabitants, at the expense of £1066 16s. 2½d., and was consecrated 16th July, 1693, when the House of Commons was unsuccessfully petitioned to make it parochial (Mannix and Whellan 1847). It was enlarged by 1746, which had nothing very ecclesiastical in its external appearance, except the tower, but internally it was very handsomely fitted up (*ibid*). In 1883 another church of red sandstone was built and stood until the 31st August 1971, when a fire destroyed the main building, leaving only the tower as a chapel, with the graveyard now as public gardens (Hay 1987).
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**12**
Site name	Catherine Street Sawmill and Granary Yard, Whitehaven
NGR	NX 9751 1792
Site type	Sawmill
Period	Post-medieval
SMR No	12847
Sources	SMR, OS 1863, Mannix and Whellan 1847
Description	This was a Sawmill and Granary Yard shown on the 1863 OS 1st edition. In the time of George III two field guns were apparently kept here and annually taken to the quay to celebrate the King's birthday (Mannix and Whellan 1847).
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**13**
Site name	Irish Street Sawmill
NGR	NX 9733 1786
Site type	Sawmill

Period	Post-medieval
SMR No	12848
Sources	SMR, OS 1863, Bulmer 1883
Description	A Sawmill and Timber Yard on Irish Street, probably owned by J and W Jackson in 1883 (Bulmer 1883).
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**14**
Site name	Scotch Street Steam Mill
NGR	NX 9758 1821
Site type	Steam Mill
Period	Post-medieval
SMR No	12850
Sources	SMR, OS 1863, Mannix and Whellan 1847
Description	Site of a steam powered corn mill, probably run by a Hamilton in 1847 (Mannix and Whellan 1847, 403).
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**15**
Site name	Ginns Fever Hospital
NGR	NX 9732 1749
Site type	Hospital
Period	Post-medieval
SMR No	12881
Sources	SMR, Wood 1830
Description	The Fever Hospital was opened in 1819 as an isolation ward for patients suffering from contagious diseases, and was loaned free of charge by the Earl of Lonsdale.
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**16**
Site name	Preston Street Pottery (also known as The Glass House Pottery or the Yellow Pottery)
NGR	NX 9728 1755
Site type	Pottery
Period	Unknown
SMR No	12882
Sources	SMR, Mannix and Whellan 1847, Wood 1830, Rumbold 1993
Description	This pottery was apparently established in 1813 by John Goulding and John Tunstal, who were later joined by John Trousdale who was in charge in 1829. By 1847 Edward Lewis had taken over, and he probably remained until sometime after 1864. The pottery produced here was described as brown and black (SMR). Some moulded wares were also made here, and some of the wares produced were exported
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**17**
Site name	Corkickle Station
NGR	NX 9774 1742
Site type	Railway Station
Period	Post-medieval
SMR No	12888
Sources	SMR, OS 1863
Description	Site of Corkickle Railway Station.
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**18**
Site name	Copperas Works Dye Extraction Factory, Whitehaven
NGR	NX 9731 1740
Site type	Factory
Period	Post-medieval
SMR No	14881
Sources	SMR, Donald 1774, Ayton 1814, Cadell and Davies 1815, Wood 1830, RCHME 1991
Description	The site of the Copperas Works at the Ginns, Whitehaven, was apparently established in 1718. It seems likely that is the 'vitriol manufactory' referred to by Ayton (1814).
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**19**
Site name	Fountain, Lowther Street
NGR	NX 9760 1793
Site type	Fountain
Period	Post-medieval
SMR No	18953
Sources	SMR, Godwin 1986
Description	**T**he only remaining drinking fountain in position that was set up in 1859. It is set in the wall of grounds on the south-west side of Lowther Street, near Whitehaven Castle. It is an iron structure, about 1.5m high and 0.75m wide within a frame about 0.23m thick. The Arms of the Lord of the Manor can be seen on the frame.
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**20**
Site name	Old Glass House, the Ginns
NGR	NX 9731 1745
Site type	Glass Factory
Period	Post-medieval
SMR No	40823
Sources	SMR, Donald 1774, Ayton 1814, Cadell and Davies 1815, Wood 1830, Beckett 1981, RCHME 1991
Description	A building shown as the 'Old Glass House' on the plan of 1774 and no longer visible on Wood's 1830 plan, is possibly the same as the glasshouse mentioned in Ayton's description of Whitehaven (1814). The glass house was apparently opened in 1732 (RCHME 1991).
Assessment	The site lies outside the area of the proposed development and will not be affected.

Site number	**21**
Site name	Hartley's Rope Walk
NGR	NX 9766 1765
Site type	Rope Walk
Period	Post-medieval
SMR No	N/A
Sources	Donald 1774, Cadell and Davies 1815, Pigot and Co 1823, Pigot and Co 1829, Pigot and Co 1834, Mannix and Whellan 1847, Slater 1855, RCHME 1991
Description	This ropewalk is first shown on the 1774 map of Whitehaven (Donald 1774) as 'Hartley's Rope Walk'. The site appears to be *c* 390m long. Thomas Milham Hartley ropemakers are mentioned in the directories for 1823 (Pigot and Co 1823), 1829 (Pigot and Co 1829) and 1834 (Pigot and Co 1834), although by 1847 the company appears to have been passed down to Tom and Gilford Hartley, who employed a Thomas Nicholson as manager (Mannix and Whellan 1847). The final directory entry for this company was in 1855 (Slater 1855). A rope walk belonging to Thomas Hartley was known as early as 1713 on a site to the north of central Whitehaven (RCHME 1991, 18)

Assessment The site lies outside the area of the proposed development and will not be affected.

Site number **22**
Site name Mr Seriants and Company's Rope Walk
NGR NX 9768 1763
Site type Ropewalk
Period Post-medieval
SMR No N/A
Sources Cadell and Davies 1815
Description A ropewalk, first shown on the 1815 map of Whitehaven (Cadell and Davies 1815) as 'Mr Seriants and Cos Rope Walk'. The site appears to be *c* 380m long. No directory entries for this company could be found.
Assessment The site lies outside the area of the proposed development and will not be affected.

Site number **23**
Site name Lord Lonsdale's Rope Walk
NGR NX 9768 1762
Site type Ropewalk
Period Post-medieval
SMR No N/A
Sources Cadell and Davies 1815
Description A ropewalk, first shown on the 1815 map of Whitehaven (Cadell and Davies 1815) as 'L. Lonsdale Rope Walk'. The site appears to be *c* 380m long.
Assessment The site lies outside the area of the proposed development and will not be affected.

Site number **24**
Site name Bell and Co Thread Factory
NGR NX 9737 1780
Site type Factory
Period Post-medieval
SMR No N/A
Sources Cadell and Davies 1815, Wood 1830, Pigot and Co 1829, Pigot and Co 1834
Description A factory, first shown on the 1815 map of Whitehaven (Cadell and Davies 1815) as 'Bell and Braggs Factory', but by the 1830 map (Wood 1830) it has been renamed as Joseph Bell and Company. The directories for 1823 (Pigot and Co. 1823), 1829 (Pigot and Co. 1829) and 1834 (Pigot and Co. 1834) all make reference to Joseph Bell and Company as thread manufacturers, but no later directory references could be found. By the time of the OS 1st edition (1863), the building previously used as a factory becomes part of the Royal Cumbria Military Barracks (Site **03**).
Assessment The site lies outside the area of the proposed development and will not be affected.

Site number **25**
Site name Ornamental Stone Base, south of Whitehaven Castle
NGR NX 9766 1778
Site type Ornamental Stonework
Period Post-medieval
SMR No N/A
Sources Site Visit
Description This is a stone base, comprising three segments (Plate 1). The lowest is circular, measuring c2m in diameter, the middle is also circular, measuring *c*1m in diameter and the uppermost one is a carved octagonal stone section with 1814 inscribed on it. The top of the octagonal section, which measures *c*0.5m across, appears to be broken off. Information from a local resident suggests this may be a fountain base, moved during recent renovation works to Whitehaven Castle.
Assessment The site lies within the development area and may be affected by it.

5. SIGNIFICANCE OF THE REMAINS

5.1 INTRODUCTION

5.1.1 The desk-based assessment identified 25 sites, 20 (Sites **01-20**) of which were previously on the SMR. A single site (Site **25**) was identified by the site visit, whilst the remaining four sites (Sites **21-24**) were identified from cartographic sources.

5.1.2 No scheduled monuments were identified within the study area, although 87 listed buildings were identified (*Appendix 3*). Importantly, the Castle (Site **07**) is a Grade II listed building and is situated adjacent to the site.

Period	No of sites	Sites
Prehistoric	0	
Roman	0	
Medieval	0	
Post-medieval	25	Somerset House (Site **01**), Newton Foundry (Site **02**), Royal Cumbria Military Barracks (Site **03**), Flat Walks Bone and Manure Works (Site **04**), Corkickle Brewery (Site **05**), Ice House, Whitehaven Castle (Site **06**), Whitehaven Castle (Site **07**), Whitehaven Riding School (Site **08**), Richmond Terrace Sawmill (Site **09**), Trinity Church (Site **10**), St Nicholas Church (Site **11**), Catherine Street Sawmill (Site **12**), Irish Street Sawmill (Site **13**), Scotch Street Steam Mill (Site **14**), Ginns Fever Hospital (Site **15**), Preston Street Pottery (Site **16**), Corkickle Station (Site **17**), Copperas Works (Site **18**), Fountain, Lowther Street (Site **19**), Glass House (Site **20**), Hartley's Rope Walk (Site **21**), Mr Seriants and Company's Rope Walk (Site **22**), Lord Lonsdale's Rope Walk (Site **23**), Bell and Company Thread Factory (Site **24**), Fountain (Site **25**)
Unknown	0	

Table 1: Number of sites by period

5.2 CRITERIA

5.2.1 There are a number of different methodologies used to assess the archaeological significance of sites; that to be used here is the 'Secretary of State's criteria for scheduling ancient monuments' which is included as Annex 4 of PPG 16 (DoE 1990). This will be used to assess the archaeological significance and potential of the proposed development site in relation to the results from the desk-based assessment.

5.2.2 ***Period:*** all of the sites revealed date to the post-medieval period. However a number of sites are considered significant in terms of period on account of their contribution to the industrial development of Whitehaven. The pottery (Sites **16**) and copperas works (Site **18**) are of regional significance and the glass works (Site **20**) of possible national significance.

5.2.3 From documentary sources the proposed development site is not known to have been in use prior to the post-medieval period, when buildings likely to be associated with the Castle (Site **07**) were constructed.

5.2.4 ***Rarity:*** the Old Glass House at the Ginns (Site **20**) is of at least national rarity given its early date. Only two other excavated examples of eighteenth century coal-fired glasshouses in the north-west have been located at Bickerstaffe in Lancashire and Denton in Greater Manchester (Vose 1994). Moreover, it appears that this glassworks was not in production for more than twenty years, implying a good potential for an unmodified structure.

5.2.5 The early date of establishment of the Copperas Works (Site **18**) makes it of regional rarity. Indeed, no copperas works have been subjected to a detailed archaeological investigation and current knowledge relies entirely upon contemporary accounts (eg Cossons 1972; Allen 1832). The Preston Street pottery (Site **16**) is also considered to be of regional rarity because of a combination of its relatively early date and the quality of wares produced by it, a number of which were exported. The remaining sites in the area are considered to be of local rarity, indeed that three rope walks (Sites **21-23**) were identified within the study area illustrates their relative abundance.

5.2.6 However, none of these sites will be directly affected by the impact of the development. Site **08,** Whitehaven Riding School, will be directly impacted during construction and is considered to be of regional significance.

5.2.7 ***Documentation:*** in broad terms, there is a large amount of documentation available for the post-medieval development of the study area and Whitehaven generally, including cartographic sources and correspondence between the Lowthers and their agents, a number of newspaper entries and entries in trade directories. Although much of the remains are no longer extant, they can be traced through documentary evidence. However, this documentation is limited in terms of information concerning the production details of the various industries.

5.2.8 In more specific terms, within the proposed development area, there was relatively little known documentation concerning the riding school (Site **08**) beyond cartographic references.

5.2.9 ***Group Value:*** the post-medieval sites are significant when considered as a group as they illustrate the growth of Whitehaven during this period. In particular, the earlier industrial features located at the Ginns (the Old Glass House, Copperas Works etc) when taken together are significant in terms of the early industrial heritage of Whitehaven, and possibly of national significance in terms of their group value. The industries also provided some trade via the harbour in the past, generating revenue critical to the

development of the port and, therefore, the prosperity of this town. Industries enabling the trade, such as the ropewalks (Sites **21-23**) also gain in significance through this group value.

5.2.10 ***Survival/Condition:*** the majority of sites within the study area do not survive as above ground remains. The industrial sites, particularly those such as the glassworks (Site **20**) that would have had flues to a substantial depth, are likely to have intact below ground remains.

5.2.11 On the proposed development site itself, the riding school (Site **08**) was demolished by 1925 (Figs 8 and 9), and the site was shown as being entirely empty in 1938 (Fig 10). The recent structure shown on the utilities plan (Fig 11) may also have had an adverse effect on the survival of any remains within the development area.

5.2.12 ***Fragility/Vulnerability:*** it is difficult to gauge the fragility of most of these sites, as the majority will only survive at the very most as the below ground remains of structures, which are probably fairly stable but vulnerable to further developments.

5.2.13 Within the development area the below ground remains are at present vulnerable to the proposals in terms of complete destruction, and therefore require adequate examination and recording. In addition, the statutory designated status of Site **07** means that the setting of the Castle is vulnerable to change from the proposed development, and any vibration and noise during construction should also be considered as a threat. On the edge of the site, the probable fountain or lamp post base (Site **25**) is considered to be fragile and probably vulnerable to damage during the course of the proposed development.

5.2.14 ***Diversity:*** none of the individual sites identified show a high degree of diversity. However, collectively the range of industrial sites is diverse in date and industry.

5.2.15 ***Potential:*** the site that has the most potential to be directly impacted during the course of the proposed development is the riding school (Site **08**). However, any consequential archaeological investigation of the development site has the potential to inform discussions of the buildings seen on the cartographic sources next to Whitehaven Castle (Site **07**), and within the proposed development area. Their function is unknown but they appear to relate to the castle.

5.3 SIGNIFICANCE

5.3.1 The glassworks (Site **20**) is considered to be of regional, and potentially national, significance on the basis of the criteria of rarity, group value, survival and potential. Work undertaken as part of the Monuments Protection Programme (MPP) emphasised the current lack of knowledge of urban centres of glass-making which developed from the seventeenth century onwards (Crossley 1993), demonstrating the importance of this site. This is highlighted

in the Monuments Protection Programme (MPP) reports (*ibid*). The pottery (Site **16**) is considered to be of regional significance on the basis of its rarity and potential. The other sites are considered to be of local significance, although the copperas works (Site **18**) may possibly be considered as being of regional significance.

5.3.2 The proposed development site is considered to be of local significance due to the site of the now demolished riding school (Site **08**). However, its close proximity and likely association with the Castle (Site **07**) means that it may be of some significance in terms of its archaeological potential for any related below ground remains. Furthermore, the development site is situated within the visual setting of Whitehaven Castle, a Grade II listed building (*Section 4* and *Appendix 3*).

6. EVALUATION RESULTS

6.1 INTRODUCTION

6.1.1 The evaluation comprised the excavation of three 25m long trenches, to a width of 1.7m (Fig 12), using a JCB 3CX equipped with a toothless ditching bucket (Plate 3). *Appendix 4* provides a list of the contexts mentioned below.

6.2 TRENCH 1

6.2.1 Trench 1 was located at the northern end of the site (Fig 12) and was aligned broadly east/west. The earliest deposits located within this trench (Fig 13) comprised a wall, ***3*** (Plate 5), and two layers of clay, ***18*** and ***19***. The wall ran along the length of the trench broadly east/west and measured *c* 23m long and *c* 0.6m wide. Excavation of a small sondage revealed that the base of the wall stepped out, presumably for foundations, to a width of 0.75m. The wall was constructed of roughly-squared sandstone blocks, to a maximum size of 0.25m x 0.45m, with a central rubble core and was heavily bonded with pink sandy mortar. This wall was bounded at its lowest exposed levels by two clay layers, ***18*** and ***19***; identified in a limited sondage. These layers appeared to be almost identical in nature, both consisting of well compacted mid yellowish-grey sandy-clay. It could not be ascertained within the confines of the sondage whether these layers represented the natural geology, and so it remains unclear whether wall ***3*** was trench-built or constructed within a wider construction cut. Layers ***18*** and ***19*** were overlain by a layer of cobbles, ***4***, (Plate 4) and a sand layer, *7*, respectively.

6.2.2 The cobbled surface appeared to represent a path, on the same alignment as the wall and immediately to the south of it. The surface extended for 7.7m from the western end of the trench, with the cobbles set in a matrix of black silty-clay. To the north of the wall, layer *7* was a well-compacted orange boulder clay which contained some rubble inclusions; this layer would appear to represent the backfill of the cut for wall ***3***. To the south of the cobbled surface ***4***, a highly compacted tarred black surface, ***6***, was exposed; it appeared to contain rammed gravels.

6.2.3 At the western end of the trench, a drain, ***5***, was revealed comprising a small iron grill surrounded by red sandstone blocks. This structure extended beyond the western extent of the evaluation trench and so its full size could not be ascertained. It remains unclear whether this drain was an original part of the wall ***3*** or whether, as appears more likely, it is related to cut ***1***, which truncates the wall immediately to the north of this drain. Cut ***1*** was square in plan, measuring 0.43m x 0.43m and truncated part of wall ***3***, possibly to enable drain ***5*** to be constructed. The fill, ***2***, of this cut comprised blackish-brown gravelly-silt, containing pottery. Overlying the wall and cobbles was a thin layer of black silty-clay with fine gravel inclusions, which contained both pottery and glass fragments. This layer was in turn overlain by a layer of white

degraded mortar and silt, ***9***, which had a maximum thickness of 0.2m and appeared to represent a deliberate dump of material. This layer was truncated at the eastern end of the trench by a number of modern drains and a manhole (Fig 13). This disturbance was sealed by the mid-grey sandy-silt topsoil.

6.3 TRENCH 2

6.3.1 Trench 2 (Plate 6) was located to the south of Trench 1 (Fig 12) and was aligned broadly north-west/south-east (Fig 14). The earliest layer encountered within this trench was the natural geology, ***17***, which comprised an orange boulder clay. This layer was overlain by a layer, ***15***, of light reddish-orange sand to a maximum thickness of 0.1m. This represented the bedding material for cobbled surface ***14***, which comprised well-rounded cobbles of average size 0.13m x 0.08m and appeared to represent the north-eastern corner of a large cobbled area. It was bounded to the north-west by a black surface, ***13*** (Plate 6), that was almost certainly the same as surface ***6*** within Trench 1. Two linear cuts, probably for drains, truncated cobbled surface ***14,*** as well as a further less regular cut, ***16***, that appeared to be the result of bioturbation, given the large number of roots observed within this area. The surfaces exposed in this trench were sealed by a 0.15m thick layer of light-brown sandy-silt, ***12***, which appeared to represent a deliberate dump deposit. This deposit was overlain by a dump of pinkish-grey aggregate, ***11***, which would appear to represent a modern dump of material. At the south-eastern end of the trench a small deposit of highly-compacted slag was revealed. This slag and layer ***11*** were overlain by the topsoil, ***10***, which comprised mid-grey sandy-silt, to a maximum depth of 0.3m.

6.4 TRENCH 3

6.4.1 Trench 3 (Plates 7 and 8) was located in the south of the proposed development area (Fig 12) and was aligned broadly north/south (Fig 15). The earliest deposit revealed within this trench was the natural geology, ***20***, comprising light grey boulder clay, which was exposed at the northern and southern ends of the trench. A number of structural elements, comprising walls ***29, 31*** and ***32*** (Plate 8) and cobbles ***25*** (Plate 7)***, 26*** and ***27***, were exposed (Fig 15), which all appear to be broadly contemporary and probably all overly the natural geology, although this was not confirmed. The largest single component within the trench was wall ***29***, which was initially aligned broadly north/south, before turning to the east at its northern end. This wall was constructed of yellow sandstone with a rubble core and was mortared with light pinkish-white mortar. The two further walls within the trench, ***31*** and ***32***, were both perpendicular to wall ***29***, with wall ***31*** at its southern end and wall ***32*** 1.75m to the north of ***31***. These walls were parallel to each other, ran broadly east/west and were both constructed of red sandstone. Their relationship with wall ***29*** remains somewhat unclear, although they are probably later additions.

6.4.2 Cobbled surface ***27*** was the southernmost encountered within this trench and the remains seen were aligned broadly east/west, as it was truncated to the

south (by cut ***23***). Cobbled surface ***26*** was located in the interior of the space defined by wall ***29***, although their relationship was obscured by concrete ***28***. The northernmost cobbled surface within this trench, ***25***, was again aligned broadly east/west and was built up to wall ***29***, suggesting it may well have been contemporary with it. This surface contained a row of larger cobbles, two wide, close to the wall, possibly for drainage. It seems probable that the cobbles, ***25***, represent a path outside a building comprising wall ***29***.

6.4.3 Two concrete layers were also observed within the trench, with concrete ***28*** overlying both the wall ***29*** and the cobbled surface ***26*** and in effect forming a small concrete border. The other concrete layer encountered, ***30***, had been applied to walls ***29*** and ***32*** to face them, forming a continuous right-angled surface.

6.4.4 The concrete layers appeared to be the latest structural elements within the trench and they were sealed by layer ***24***, which comprised brown slag-rich sand, and appeared to represent a deliberate dump deposit. This layer had a maximum thickness of 0.13m and was truncated to the south by a large cut, ***23***, which appeared to be modern, although no finds were retrieved from its fill, ***22***, to confirm this. This fill was overlain by the topsoil, ***21***, which was a dark-grey sandy-silt.

6.5 THE FINDS

6.5.1 ***Introduction:*** in total, 23 artefacts were recovered from the evaluation, the majority of which were fragments of pottery, with smaller quantities of glass, iron and slag also present. The bulk of the finds were retrieved from contexts in Trench 1 (***2***, ***7***, ***8***, and ***9***), and layer ***24*** in Trench 3 was the only deposit outside Trench 1 to produce any finds. The type of finds found in each context is summarised in Table 2, below, and all the artefacts are listed in *Appendix 5*.

	Context 2	***Context 7***	***Context 8***	***Context 9***	***Context 24***	***Total***
Glass	0	0	1	0	2	*3*
Iron	0	2	0	0	0	*2*
Pottery	9	0	1	4	3	*17*
Slag	0	0	0	0	1	*1*
Total	*9*	*2*	*2*	*4*	*6*	***23***

Table 2: Type of finds from different contexts

6.5.2 All artefacts fall into a date range of late seventeenth to twentieth century, with the pottery and glass providing the most reliable dating evidence. Details of the pottery are set out below, followed by a brief record of each of the categories of finds.

6.5.3 ***Pottery:*** much of the pottery retrieved from fill ***2*** and layer ***9*** was very water-worn, showing similar amounts of wear to pottery on beaches and stream beds.

The pottery fragments from all of the contexts were small, and there was no more than one fragment present from each vessel. All of this indicates that the deposits had undergone a lot of movement and disturbance. In addition, the pottery from mortar layer ***9*** had mortar adhering to it, and breaks were apparent which post-dated the water wear.

6.5.4 The earliest pottery present was scratch blue stoneware, dated to the eighteenth century, retrieved from slag-rich layer ***24***. It was from a fine hollow-ware vessel, such as a bowl or a cup. The other tableware was white earthenware and bone china. The white earthenware was decorated with transfer-printed patterns such as 'Willow', 'Broseley', Spode's 'Castle' (Coysh 1970, 76-7, pl 104) and a black transfer-printed child's plate was also identified. 'Willow' and 'Broseley' were very popular for long periods of time and are, consequently, not reliable date indicators. 'Castle' is thought to have been introduced by Spode in 1806, and it was subsequently copied by other potters (Drakard and Holdway 2002, 215, P711). The white earthenware can be broadly dated to the late eighteenth to twentieth century, and the bone china to the nineteenth to twentieth century.

6.5.5 Most of the coarseware was brown-glazed red earthenware, used essentially for kitchen wares such as crocks, jars, and pancheons. No vessel types could be identified due to the lack of rims and bases present, and these wares were broadly dated to the late seventeenth to early twentieth century. A single fragment of self-glazed buff earthenware, typically used for pie dishes and mixing bowls, was recovered from fill ***2***, and was dated to the late eighteenth to twentieth century. A rim from a self-glazed speckled buff earthenware bag- or barrel-shaped handled vessel was also present in layer ***8***, and was dated to the nineteenth to twentieth century.

6.5.6 ***Glass, iron, and slag:*** the neck of a colourless glass bottle was recovered from layer ***8***, and was dated to the twentieth century due to the presence of mould seams covering everything including the mouth. Two translucent white glass fragments were retrieved from slag-rich layer ***24***. They were from a single object, which may have been a lampshade or a tableware vessel, and were dated to the nineteenth to early twentieth century. Two iron nails were recovered from layer ***7***, and they were not closely dateable. Similarly, it was not possible to date the single lump of slag from slag-rich layer ***24***.

6.5.7 ***Discussion:*** the assemblage was extremely small and the objects had clearly been very disturbed since they were first deposited. The pottery was dated to the late seventeenth to early twentieth century, but there was a large amount of water wear on many of the fragments suggesting that it was imported onto site. From fill ***2*** and layers ***9*** and ***24***, this importation is likely to have been the nineteenth or twentieth century, for layer ***8*** the twentieth century. It is possible that these have been imported from the Whitehaven coast, but it is more likely that they were imported with the water-worn cobbles used for the suggested paths and courtyards observed in the evaluation.

7. CONCLUSION

7.1 DISCUSSION OF RESULTS

7.1.1 The desk-based assessment has shown that activity within the area around the development site, and for the majority of Whitehaven, dates to the post-medieval period. There is a reference to the harbour at Whitehaven from the twelfth century, suggesting earlier medieval activity, but this was thought to be very low scale and definitive remains of this date have not been recognised within the development area. More specific to the proposed development site, however, the map regression analysis highlighted a number of buildings dating from the middle of the eighteenth century, the remains of which will be directly affected by the development.

7.1.2 Three evaluation trenches (Trenches 1, 2 and 3) investigated the structures; all revealed the remains of cobbled surfaces, whilst two of them (Trenches 1 and 3) also revealed evidence of walls. Most of the cobbled surfaces exposed appear to be paths running alongside walls, with the exception of ***14*** within Trench 2, which appeared to represent a substantial courtyard. The OS 1st edition 25":1 mile map (1865) suggests that the wall in Trench 1 belongs to the buildings shown along the northern edge of the development area, which is also likely to be that observed on the 1774 map (Donald 1774). The walls revealed in Trench 3 are very likely part of the building situated immediately to the south of the riding school (Site **08**) on the OS 1st edition (1865), although there is a possibility that they may belong to a previous building demolished between 1815 and 1830 (Cadell and Davies 1815; Wood 1830). The lack of finds from beneath the walls means that we do not have a *terminus post quem* for their construction. The substantial cobbled surface from Trench 2 is also undated, but it is perhaps tempting to see it as part of the riding school, as presumably a large exercise area would be needed.

7.1.3 The finds assemblage generally was quite small, with no evidence of activity on the site prior to the post-medieval period. The assemblage dates from the late seventeenth century onwards. However, it is unlikely that this has any direct association with the site as the well water-worn appearance of the pottery suggests these have been imported, probably with the cobbles.

8. IMPACT

8.1 IMPACT

8.1.1 This assessment and evaluation has highlighted the potential for archaeological remains across the site, with the assessment revealing evidence of three sites (Sites **07**, **08** and **25**) which will probably be adversely affected by the development. With regards to above ground archaeological or historical sites, the close proximity of the development site to the listed building of Whitehaven Castle (Site **07**) will affect the latter's visual setting, and will therefore need to be considered. Furthermore, the fountain (Site **25**) is at risk predominantly from plant movement across site and from actual construction, since it is likely that it will need to be moved to allow excavation of the area where it is located presently.

8.1.2 In terms of below ground remains, structures relating to the riding school (Site **08**) appear to have been revealed within Trenches 2 and 3, and will therefore be vulnerable to destruction by the development. Trench 1 also provided evidence of the buildings along the north side of the development area that are thought to be associated with the Castle.

8.1.3 The evaluation highlights the lack of wide-scale truncation and previous impact across the site, with the structures shown on the cartographic sources appearing to survive relatively well as below ground remains. This suggests that the proposed development will negatively impact on an array of structures. It must be noted, however, that a number of areas of modern service disturbance and trees were present on site, restricting the location of the evaluation trenches, and perhaps suggests some areas of archaeological and historical remains may have been extensively disturbed.

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10. ILLUSTRATIONS

10.1 FIGURES

10.2 PLATES

Plate 8: North-facing view of cobbles ***27*** and walls ***29***, ***31*** and ***32*** within Trench 3

APPENDIX 1: PROJECT BRIEF

APPENDIX 2: PROJECT DESIGN

1. INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 Thomas Armstrong (Construction) Ltd (hereafter the 'client') has requested that Oxford Archaeology North (OA North) submit proposals for an archaeological investigation at Castle Mews, Coach Road, Whitehaven, Cumbria (centred NX 9770 1775). Cumbria County Council Archaeology Service (CCCAS) has been consulted by Copeland Borough Council regarding a planning application for a residential development on the site (Planning Application Number 4/04/2413). In response to this CCCAS have issued a brief requesting a desk-based assessment and visual inspection, followed by an evaluation as the first phase of work. Due to the site being within an area of high archaeological potential, adjacent to Whitehaven Castle, the impact of the proposed development on any archaeological remains is required prior to any development on site. This project design has been prepared in accordance with the CCCAS brief.

1.2 ARCHAEOLOGICAL BACKGROUND

1.2.1 During the later medieval period, Cumbria was divided into several administrative wards by Henry I, one of which, Allerdale above Derwent, became modern day Copeland, with Whitehaven as its principal town (Routledge 2002, 9). The monastery at St Bees was refounded in *c*1120 as a Benedictine house, with Whitehaven becoming part of the lands of the monastery (*ibid*). The land around the proposed development area was given to the priory of St Bees in 1250 by Gilbert of Hothwaite. 'Hothwaite' was the land between the new road out of Whitehaven and Midgey Ghyll. Situated on this land was the Flatt mansion and other settlement (Anon n.d.).

1.2.2 The first reference to Whitehaven as a harbour is in 1172, when the port was used by the Neville family to transport their quota of soldiers for Henry II's conquest of Ireland (*ibid*). Whitehaven, however, remained relatively insignificant, with a 1566 survey recording only six fisherman's cottages and a single boat (Cook 1993, 6).

1.2.3 Following the Dissolution of the Monasteries by Henry VIII in 1536-9, monastic land was divided up. Eventually this land fell into the hands of Sir George Fletcher. Sir John Lowther purchased the Flatt in 1675 from Sir George Fletcher and made many improvements. In 1686 the castle was described by Mr Denton as, "a stately new pile of building, lately erected by ye said Sir John Lowther" (Anon n.d.)

1.2.4 The Lowther family's subsequent deliberate policy of independent development for Whitehaven led to industries as varied as chemical manufacture, spinning, weaving, textiles and glass manufacture as well as coal and pottery industries. However, the development of Whitehaven owes much to the Lowther's concern with the extraction of coal (Fletcher 1878, 270). Christopher Lowther lay the foundation stone for a new pier in 1633 to ensure a safe harbour for the ships which were involved in the export of coal, mainly to Ireland (Routledge 2002, 14). In 1666, Charles II granted Sir John Lowther all the derelict ground in Whitehaven (Nicolson and Burn 1777, 43), which enabled Sir John a free hand in determining the future expansion of Whitehaven. The importance of the coal industry remained a constant, and many important mining innovations were introduced at Whitehaven, such as at Saltom Pit (Jefferson 1842, 399).

1.2.5 By 1750, the collieries of Whitehaven were producing 200,000 tons of coal a year (Routledge 2002, 24), with writers declaring that 'the coal mines at this place are perhaps the most extraordinary of any in the known world' (Nicolson and Burn 1777, 43). Coal remained important for about the next two hundred years, although ultimately the depletion of the coal reserves led to a decline in mining and a decline in industry in general in Whitehaven (Countryside Commission 1998, 29).

1.2.6 The increasing wealth of Whitehaven brought with it a number of structures, some of which were paid for by generous benefactors. In 1769, Sir James Lowther, who was later to be made The Earl of Lonsdale, had the Flatt rebuilt following a fire to the eighteenth century residence no known as the present day Whitehaven Castle. More than 200 years after the Lowthers had initially purchased the castle, the large wall around the castle and grounds was removed, finally opening up the park to the people of Whitehaven (Anon n.d.).

1.2.7 In 1923 the park was officially opened, along with the unveiling of the Cenotaph. A roll of honour containing the names of the fallen plus a local newspaper were encased in a lead casket and buried in the foundations. A year later, in 1924, the Earl of Lonsdale sold the castle, which was donated to the town along with monies to carry out necessary repairs and alterations. The castle was duly modified and it replaced the old infirmary. However, in 1951, due to inadequacies at the infirmary, an architect was appointed to come up with the plans for the West Cumberland Hospital. This was the first hospital built in England following the creation of the National Health Service and was officially opened in 1964. The castle infirmary and the new hospital coexisted until 1986, when due to fire regulations, the infirmary had to close to its patients. Today, following extensive renovation, the castle in Whitehaven has been converted into private accommodation (Anon n.d.)

1.3 OXFORD ARCHAEOLOGY NORTH

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

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

2 OBJECTIVES

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

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

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

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

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

3. METHOD STATEMENT

3.1 DESK-BASED ASSESSMENT

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

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

3.1.3 Any published documentary sources and unpublished documents will also be examined where relevant. The study will examine place and field name evidence for the site and its environs. This work will involve visits and or correspondence searches of the following repositories: Cumbria Sites and Monuments Record in Kendal, County Records Office in Whitehaven, and the OA North research archive.

3.1.4 A rapid desk-based compilation of geological (both solid and drift), pedological, topographical and palaeoenvironmental information will be undertaken. It will be based on published geological mapping and any local geological surveys in the possession of the county council or the client.

3.2 VISUAL INSPECTION

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

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

3.3 EVALUATION

3.3.1 The programme of trial trenching will establish the presence or absence of any previously unsuspected archaeological deposits and, if established, will then test their date, nature, depth and quality of preservation. In this way, it will adequately sample the threatened available area.

3.3.2 ***Trenches:*** the evaluation is required to examine a minimum of 5% of the total study area, which is approximately 2600m². Therefore, this requires the excavation of 130m², which equates to the excavation of probably 4 or 5 trenches all measuring 1.7m in width (the width of a typical excavator bucket) and between 15-20m in length. The exact locations of these trenches will be determined by the desk-based assessment and visual inspection. Subject to the assessment there may also be additional areas of disturbed land, which are inappropriate for evaluation and hence may reduce the overall area requiring evaluation trenching.

3.3.3 ***Methodology:*** the topsoil will be removed by machine (fitted with a toothless ditching bucket) under archaeological supervision to the surface of the first significant archaeological deposit.

This deposit will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features. All features of archaeological interest must be investigated and recorded unless otherwise agreed by CCCAS. The trenches will not be excavated deeper than 1.20m to accommodate health and safety constraints; any requirements to excavate below this depth will involve recosting.

3.3.4 All trenches will be excavated in a stratigraphical manner, whether by machine or by hand. Trenches will be located by use of GPS equipment which is accurate to +/- 0.25m, altitude information will be established with respect to Ordnance Survey Datum.

3.3.5 Any investigation of intact archaeological deposits will be exclusively manual. Selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal. It is hoped that in terms of the vertical stratigraphy, maximum information retrieval will be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features, which appear worthy of preservation *in situ*.

3.3.6 All information identified in the course of the site works will be recorded stratigraphically, using a system, adapted from that used by Centre for Archaeology Service of English Heritage, with sufficient pictorial record (plans, sections, colour slides and monochrome contacts) to identify and illustrate individual features. Primary records will be available for inspection at all times.

3.3.7 Results of all field investigations will be recorded on *pro forma* context sheets. The site archive will include both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20 and 1:10). All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.

3.3.8 ***Access:*** liaison for basic site access will be undertaken through the client and it is understood that there will be access for both pedestrian and plant traffic to the site.

3.3.9 ***Reinstatement:*** it is understood that there will be no requirement for reinstatement of the ground beyond backfilling. The ground will be backfilled so that the topsoil is laid on the top, and the ground will be roughly graded with the machine. Should there be a requirement by the client other than that stated this will involve recosting.

3.3.10 ***Fencing/hoarding requirements:*** it is assumed that the client will arrange for the site to be protected from public access. However, if this is not possible it is the client's responsibility to inform OA North prior to commencement of site works. Should heras fencing or similar be required this will be costed as a variation.

3.3.11 ***Environmental Sampling:*** environmental samples (bulk samples of 30 litres volume, to be sub-sampled at a later stage) will be collected from stratified undisturbed deposits and will particularly target negative features (gullies, pits and ditches). An assessment of the environmental potential of the site will be undertaken through the examination of suitable deposits by the in-house palaeoecological specialist, who will examine the potential for further analysis. The assessment would include soil pollen analysis and the retrieval of charred plant macrofossils and land molluscs from former dry-land palaeosols and cut features. In addition, the samples would be assessed for plant macrofossils, insect, molluscs and pollen from waterlogged deposits. The costs for the palaeoecological assessment are defined as a contingency and will only be called into effect if good deposits are identified and will be subject to the agreement of CCCAS and the client.

3.3.12 Advice will also be sought as to whether a soil micromorphological study or any other analytical techniques will enhance the understanding of the site formation processes, including the amount of truncation to buried deposits and the preservation of deposits within negative features. Should this be required the costs for analysis have been provided as a contingency.

3.3.13 ***Faunal remains:*** if there is found to be the potential for discovery of bones of fish and small mammals a sieving programme will be carried out. These will be assessed as appropriate by OA north's specialist in faunal remains, and subject to the results, there may be a requirement for more detailed analysis. A contingency has been included for the assessment of such faunal remains for analysis.

3.3.14 ***Human Remains****:* any human remains uncovered will be left *in situ*, covered and protected. No further investigation will continue beyond that required to establish the date and character of the burial. CCCAS and the local Coroner will be informed immediately. If removal is essential the exhumation of any funerary remains will require the provision of a Home Office license, under section 25 of the Burial Act of 1857. An application will be made by OA North for the study area on discovery of any such remains and the removal will be carried out with due care and sensitivity under the environmental health regulations.

3.3.15 ***Treatment of finds:*** all finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds*, 1998 (new edition) and the recipient museum's guidelines.

3.3.16 ***Treasure:*** any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft.

3.3.17 All identified finds and artefacts will be retained, although certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained on advice from the recipient museum's archive curator.

3.3.18 ***Contingency plan:*** a contingency costing may also be employed for unseen delays caused by prolonged periods of bad weather, vandalism, discovery of unforeseen complex deposits and/or artefacts which require specialist removal, use of shoring to excavate important features close to the excavation sections etc. This has been included in the Costings document and would be in agreement with the client.

3.3.19 The evaluation will provide a predictive model of surviving archaeological remains detailing zones of relative importance against known development proposals. In this way, an impact assessment will also be provided.

3.4 ARCHIVE/REPORT

3.4.1 ***Archive:*** the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive will include summary processing and analysis of all features, finds, or palaeoenvironmental data recovered during fieldwork, which will be catalogued by context.

3.4.2 The deposition of a properly ordered and indexed project archive in an appropriate repository is essential and archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the Cumbria SMR (the index to the archive and a copy of the report). OA North practice is to deposit the original record archive of projects with the appropriate County Record Office.

3.4.3 All artefacts will be processed to MAP2 standards and will be assessed by our in-house finds specialists. The deposition and disposal of any artefacts recovered in the evaluation will be agreed with the legal owner and an appropriate recipient museum. CCCAS will be notified of the arrangements made.

3.4.4 ***Report:*** one bound and one unbound copy of a written synthetic report will be submitted to the client, and a further three copies submitted to the Cumbria SMR within eight weeks of completion. The report will include;

- a site location plan related to the national grid
- a front cover to include the planning application number and the NGR
- the dates on which the fieldwork was undertaken
- a concise, non-technical summary of the results
- an explanation to any agreed variations to the brief, including any justification for any analyses not undertaken
- a description of the methodology employed, work undertaken and results obtained
- plans and sections at an appropriate scale showing the location and position of deposits and finds located
- a list of and dates for any finds recovered and a description and interpretation of the deposits identified
- a description of any environmental or other specialist work undertaken and the results obtained
- recommendations concerning any subsequent mitigation strategies and/or further archaeological work following the results of the field evaluation will **not** be included, although this may be outlined to CCCAS in a separate communication
- 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.

3.4.5 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.

3.4.6 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.

3.4.7 ***Confidentiality:*** all internal reports to the client are designed as documents for the specific use of the Client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.

4. HEALTH AND SAFETY

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

4.2 Full regard will, of course, be given to all constraints (services etc) during the watching brief as well as to all Health and Safety considerations. OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. As a matter of course the Unit uses a U-Scan device prior to any excavation to test for services, however, this is only an approximate location tool. **Information regarding services within the study area have been received and will be used during the course of the evaluation.**

5 PROJECT MONITORING

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

6 WORK TIMETABLE

6.1 ***Desk-based assessment:*** approximately five days will be required for this element. This could commence on Monday 22nd November 2004.

6.2 ***Visual Inspection:*** approximately one day will be required to complete this element, which would be undertaken with the desk-based assessment.

6.3 ***Evaluation Trenching:*** approximately three days will be required to complete this element. A trench location plan will be drawn up following the results of the desk-based assessment, to be agreed by CCCAS. OA North could begin the trenching w/c 29th November 2004.

6.4 ***Archive/Report:*** the report and archive will be produced following the completion of all the fieldwork. The final report could be completed and forwarded by 24th December 2004 providing the above timetable is followed, and the archive deposited within six months.

6.5 OA North would require a formal written agreement 5 days to one week before commencement in order to notify CCCAS and schedule the work as above.

7 STAFFING

7.1 The project will be under the direct management of **Emily Mercer BA (Hons) MSc AIFA** (OA North senior project manager) to whom all correspondence should be addressed.

7.2 All elements of the assessment will be supervised by either an OA North project officer or supervisor experienced in this type of project. Due to scheduling requirements it is not possible to provide these details at the present time. All OA North project officers and supervisors are experienced field archaeologists capable of carrying out projects of all sizes.

7.3 Assessment of the finds from the evaluation will be undertaken by OA North's in-house finds specialist **Sean McPhilips** or **Jo Dawson** (OA North project supervisors). Both Sean and Jo act as OA North's in-house finds specialists and together they have an extensive knowledge of all finds of all periods from archaeological sites in northern England.

7.4 Assessment of any palaeoenvironmental samples will be undertaken by or under the auspices of **Elizabeth Huckerby MSc** (OA North project officer). Elizabeth has extensive knowledge of the palaeoecology of the North West through her work on the English Heritage-funded North West Wetlands Survey.

8 INSURANCE

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

REFERENCES

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Nicolson, J and Burn, R, 1777 *The History and Antiquities of the counties of Westmorland and Cumberland*, Volume 2

Routledge, AW, 2002 *Whitehaven, History and Guide*, Stroud

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APPENDIX 3: LISTED BUILDINGS

Listed Building Number	**Building**	**Grade**
26167	5-9 Albert Square	II
26168	Air shaft cap to former railway tunnel	II
26169	Air shaft cap to former railway tunnel	II
26170	Air shaft cap to former railway tunnel	II
26171	Air shaft cap to former railway tunnel	II
26172	15, 15 Catherine Street	II
26173	Bonded Warehouse, Catherine Street	II
26174	Barracks Mill, Catherine Street	II*
26176	Church of St Nicholas	II
26177	1-16 Church Street	II
26187	4A Cross Street	II
26188	5-9 and 11 Cross Street	II
26189	12 Cross Street	II
26193	43, 44 Duke Street	II
26194	46-50 Duke Street	II
26195	Somerset House, Duke Street	II*
26196	52, 53 Duke Street	II
26197	54, 55 Duke Street	II
26198	Town Hall, Duke Street	II
26205	Whitehaven Castle, Flatt Walks	II
26206	Wall behind West Cumberland College of Science and Technology, Flatt Walks	II
26207	1, 2 Foxhouses Road	II

26218	1-4 Front Corkickle	II
26219	5, 6 Front Corkickle	II
26220	7 Front Corkickle	II
26221	8 Front Corkickle	II
26222	Railings at 8, Front Corkickle	II
26223	9-11 Front Corkickle	II
26224	12 Front Corkickle	II
26225	15-19 Front Corkickle	II
26227	70 George Street	II
26228	71, 72 George Street	II
26229	73 George Street	II
26232	1-6 Hamilton Terrace	II
26238	Howgill Street	II
26239	11, 14,15 Howgill Street	II
26240	12 Howgill Street	II
26241	Premises of British Legion, Howgill Street	II
26242	17, 18 Howgill Street	II
26247	4, 5, 10 Irish Street	II
26248	1-4, 1A, 7 Irish Street	II
26249	17 Irish Street	II
26250	18 Irish Street	II
26251	141 Irish Street	II
26252	41-43 Irish Street	II
26255	1 Lowther Street	II
26256	7-17, 133 Lowther Street	II
26257	Oddfellows Hall, Lowther Street	II
26258	22-24 Lowther Street	II
26259	25 Lowther Street	II

26265	Methodist Church and Sunday School, Lowther Street	II
26270	Clydesdale Bank, Lowther Street	II
26271	75-77 Lowther Street	II
26272	78, 79 Lowther Street	II
26273	80 Lowther Street	II
26274	81-83 Lowther Street	II
26290	16, 17 Queen Street	II
26291	30 Queen Street	II
26296	66, 132 Queen Street	
26297	Westminster Bank, Queen Street	II
26298	Wulstan Hall, Queen Street	II
26299	139, 140 Queen Street	II
26300	Columba Club, Queen Street	II
26301	150 Queen Street	II
26302	Queen Street	II*
26303	152-155 Queen Street	II
26307	19, 20 Roper Street	II
26308	21, 22 Roper Street	II
26309	19, 20, 23, 24 Roper Street	II
26310	25 Roper Street	II
26311	28 Roper Street	II
26312	29 Roper Street	II
26313	30 Roper Street	II
26314	36-38 Roper Street	II
26315	44, 45 Roper Street	II*
26316	49A Roper Street	II
26317	46-49, 51 Roper Street	II
26318	52 and 151 Roper Street	II

26325	1-3 Scotch Street	II
26326	4-8 Scotch Street	II
26327	9, 10 Scotch Street	II
26328	14 Scotch Street	II*
26329	31A, 31B Scotch Street	II
26330	32-35 Scotch Street	II
26331	84-95 Scotch Street	II
26334	Union Hall, Scotch Street	II
26336	1-3 Victoria Terrace	II

APPENDIX 4: CONTEXT LIST

Context Number	Trench Number	Description
1	1	Cut at west end of trench
2	1	Fill of ***1***
3	1	Wall
4	1	Cobbled surface on south side of Wall ***3***
5	1	Drain at west end of trench
6	1	Compact black surface on south side of cobbles ***4***
7	1	Orange sand on north side of wall ***3***
8	1	Black layer overlying cobbles ***4***
9	1	Layer of mortar overlying ***8***
10	2	Topsoil
11	2	Modern Aggregate
12	2	Brown silty sand
13	2	Indurated black layer
14	2	Cobbled surface
15	2	Make-up layer for cobbles ***14***
16	2	Disturbance through cobbles ***14***
17	2	Natural
18	1	Layer underneath cobbles ***4***
19	1	Layer underlying ***7***
20	3	Natural
21	3	Topsoil
22	3	Fill of ***23***
23	3	Disturbance at southern end of trench
24	3	Slag-rich layer
25	3	Cobbled surface

26	3	Cobbled surface
27	3	Cobbled surface
28	3	Concrete surface
29	3	Wall
30	3	Concrete
31	3	Wall
32	3	Wall

APPENDIX 5: FINDS SUMMARY

Trench	Context	Quantity	Material	Description	Date range
1	***2***	5	Pottery	Brown-glazed red earthenware	Late seventeenth - early twentieth century
1	***2***	1	Pottery	Brown-glazed red earthenware dish with white slip trailing	Late seventeenth - early twentieth century
1	***2***	1	Pottery	Self-glazed buff earthenware	Late eighteenth - twenteith century
1	***2***	2	Pottery	White earthenware with blue transfer-printed patterns, from 'Castle' plate rim and 'Broseley' hollow-ware vessel	Late eighteenth - twentieth century
1	***7***	2	Iron	Nails	Not closely dateable
1	***8***	1	Pottery	Self-glazed speckled buff earthenware rim with white slip coating on interior, from bag- or barrel-shaped vessel	Late eighteenth - twentieth century
1	***8***	1	Glass	Colourless bottle	Twentieth century
1	***9***	4	Pottery	White earthenware, comprising jam or paste pot rim, 'Willow' and brown pattern transfer-printed plate bases, and black transfer-printed child's plate base	Late eighteenth - twentieth century
3	***24***	1	Slag	Large vesicular lump with lots of grit inclusions	Not closely dateable
3	***24***	1	Pottery	Scratch blue stoneware from hollow-ware vessel	Eighteenth century
3	***24***	1	Pottery	White earthenware from hollow-ware vessel	Late eighteenth - twentieth century
3	***24***	1	Pottery	Bone china flatware rim with remains of green enamel	Nineteenth - twentieth century
3	***24***	2	Glass	Translucent white from lamp shade or tableware?	Nineteenth - early twentieth century

