INTRODUCTION

This document has been prepared by AOC Archaeology Group (*hereafter* AOC) on behalf of the Aberlady Conservation and History Society (*hereafter* ACHS) who are applying for Scheduled Monument Consent to undertake excavation at Glebe Field, Aberlady, East Lothian.

The document is structured around 4 main sections:

Section 1: **Background to the project** which identifies the client, the background to the project, the research context and aspirations and how the project fits into wider national and research policies.

Section 2: **Suggested Programme of Works**. This second section identifies how AOC intend to deliver the key research deliverables of the proposed excavations in Glebe Field. This section is, in essence a Method Statement and a Written Scheme of Works.

Section 3: **The team.** This section of the document details the background, experience and responsibility of key team members AOC will use to carry out the work.

Section 4: **Organisation and Contact details.** This section gives information on Capacity, Health and Safety, Insurance, Policies and an outline of previous experience in successful delivery of similar projects.

SECTION 1: BACKGROUND TO THE PROJECT

The client

Aberlady Conservation and Heritage Society (*hereafter* ACHS) was established in 2001 to help conserve and improve the built environment of the historic village of Aberlady and to research and promote its rich heritage. Following on from their successful Heritage Lottery Funded Project *Aberlady Heritage Project* carried out in 2008, ACHS is now wishing to undertake further work in the Aberlady area, with a specific focus on the Glebe Field (centred NGR: NT 4614 7988). As with all of ACHS's work the project will be founded on sound academic research and be a community-led initiative that explores and promotes, for the benefit of the local community and wider interests, the rich heritage of Aberlady.

The Aberlady Conservation and Historical Society (ACHS) have been awarded grants from East Lothian Council, Gullane Area Community Council and Heritage Lottery Fund to undertake a project called *Aberlady Angles*. The project proposes a series of community-led activities including a schools' learning programme, community training workshops and a research excavation at Glebe Field. Prior to the funding applications discussions took place with Historic Scotland, now Historic Environment Scotland (HES), outlining the principles of the project and the wider benefits. Discussions were very positive and Historic Scotland informed ACHS that, if they were successful in raising the funds, that they would have to apply through the normal Scheduled Monument Consent (SMC) scheme. AHCS has appointed AOC Archaeology Group (AOC) to aid delivery of the project.

The site

The Scheduled Monument of Kilspindie Castle, Castle and Settlement (Scheduled 1994, Index No.5997) lies to the north of Aberlady, between the main body of the town and the Firth. Glebe Field is low lying and generally flat, with a shallow rise from south to north to the visible remains of Kilspindie Castle, after which it slopes down to the bay.

Figure 1: General location of Glebe Field

The drift geology is sand with a high density of sea shell fragments. The site was scheduled in 1994 following the discovery of a number of finds ranging from the Roman Iron Age through to the Medieval / Modern period. The assemblage includes a number of Anglo-Saxon finds which are of national importance (see below). The project stimuli are the Anglian finds and the aim is to excavate archaeological features on the site that are believed to be Anglian in date and characteristic.

The project in context (1): the historical and archaeological background

The coming of the Angles

Anglians, Angles & Anglo-Saxons are really all one and the same thing. In northern Britain they are also referred to as Northumbrians because Northumbria was the Anglo-Saxon kingdom that came to dominate much of Britain, including the Lothians and East Lothian. There were originally two Anglo-Saxon kingdoms on the north-east of Britain, Deira in what is now North Yorkshire, and Bernicia, covering what is now Northumberland.

There is still much debate about how and why the Angles ended up in Britain – Gildas, the 6th century monk who wrote a history of the period after the Romans left Britain, reports a tradition that the Anglo-Saxons were warriors deliberately settled in Britain as a policy to repulse Pictish & Irish invaders. So, as on the Continent where German 'federates' had been billeted in local communities, it is possible that the Northumbrians might have been billeted in the area by Romano-British leaders such as the Votadini, to increase their military might. However, recent scholars, including James Frazer believe that it is more likely that they were just settlers who colonised land during what Frazer calls the '…shadowy Anglo-British wars of the late 5th century', when basically everything was up for grabs. He even suggests that the Bernicians could have been Britons who became ethnic Anglo-Saxons.

Whatever the reasons for the Anglo-Saxon presence in northern Britain, by the early 7th century the Bernician king Ethelfrith was the dominant presence – he had destroyed a British army at the battle of *Catterick* around 600, commemorated in the epic poem *The Goddodin,* and *in* 603 he defeated the Irish King Aedan MacGabran, and finally united Bernicia & Deira into one kingdom, Northumbria.

It is the activities of Ethelfrith and his successors that provide the backdrop for the history of the Lothians at this time, probably all being orchestrated from their power base at Bamburgh. This was the principal stronghold of the Bernicians, probably on the spot of the castle there, although excavations there have revealed very little evidence of Anglo-Saxon settlement activity.

Under his sons, Oswy and Oswald, the Northumbrians extended their power north beyond the Forth – there are only a few key dates on which to base this narrative:

- AD 640 '*obsessio Etin*' – siege of Edinburgh
- AD 655 Oswy is penned up in a stronghold called *Iudeu*, or *Urbs Guidi* which may be Stirling implying that he was campaigning that far north.
- AD 681 establishment of bishopric at Abercorn as Episcopal seat of *prouincia Pictorum*

The Northumbrians probably wanted to secure the Lothians under their rule because they could then control the route between Iona and its daughter house on Lindisfarne – the connections between the Northumbrian royal family and Iona were strong, as several offspring ended being

fostered there – it was also a means of access to luxury wares that were being imported from Europe and the Mediterranean up the Irish sea routes.

It is probably reasonable to assume then that by the late 7th century the Northumbrian annexation of the Lothians (and indeed parts of the Scottish Borders) was secure if they could think of establishing a bishopric. The settlement of East Lothian and Berwickshire may have happened earlier in the century - the presence of early English placenames such as the *–ingaham* element in Whittinghame, Tyninghame and Coldingham, as well the *–ham* element in Auldhame and Oldhamstocks, supports a mid-7th century date.

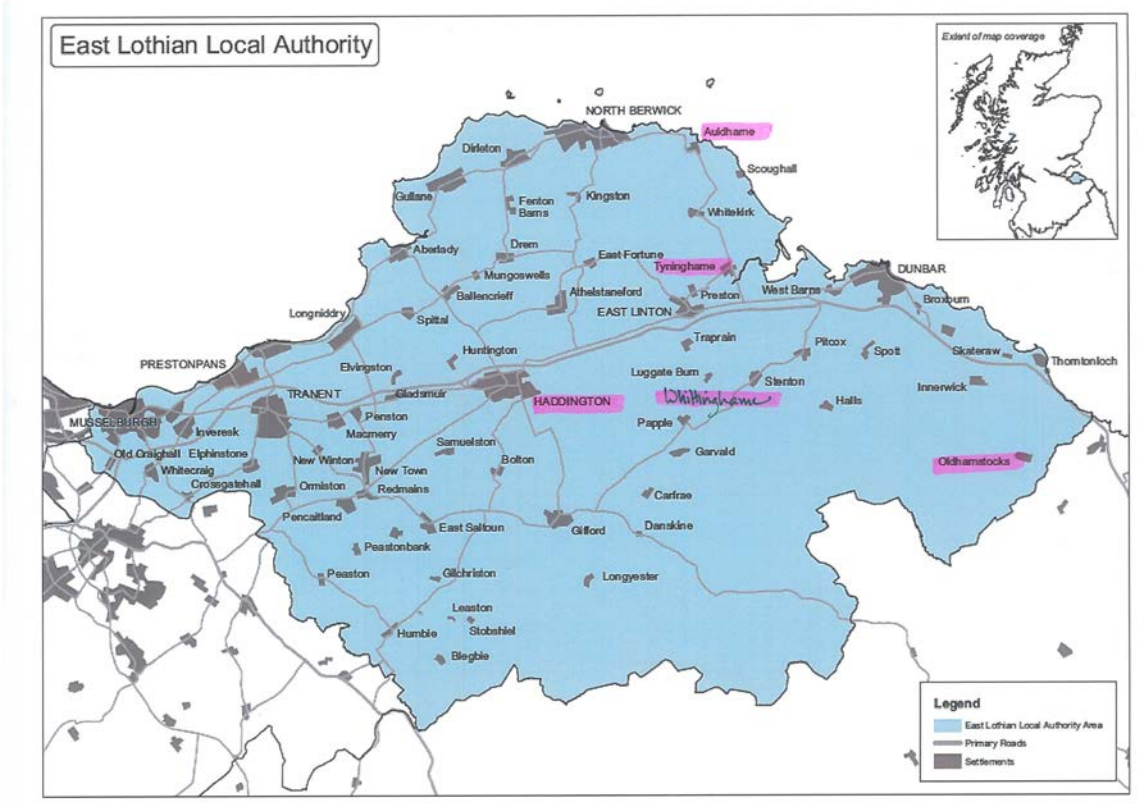


Figure 2: Anglo-Saxon place names

Scholars often use words like battle, siege, defeat, annexation to describe the Anglian incursions, all of which suggest an aggressive takeover. But the manner in which south-eastern Scotland became part of the Northumbrian kingdom is moot. This is partly because in the written sources, relations between Anglo-Saxons and British are frequently portrayed as hostile. Bede, in particular, appears to display an almost personal hatred of the British; this might be because he saw the British as heretics, pursuing a different Christianity to his, or it might be part of the process of defining ethnic identities. Certainly, elsewhere in Britain the archaeological evidence for violent conquest and subsequent decimation of the British population is ambiguous.

However, in northern Britain some evidence points to a relatively peaceful transition from British to English rule - known Anglian power centres (eg Dunbar) for instance had British names - this is taken as evidence that a Northumbrian elite took over these British centres, but left their administrative, political and social functions in place, presumably allowing the British population to continue as before. As we shall see below there is some archaeological evidence which supports this interpretation.

So - what constituted the Lothians in Anglian times? Placename and documentary evidence notwithstanding, the physical evidence for Northumbrian activity in Lothian is not extensive. Lowe (1999) mapped the evidence as far as we understood it up until the end of the 20th century. Since then we can add a few more sites to our narratives.

Settlements

The most important site in the region was probably Dunbar. It was described as '*urbs sua Dynbaer*', 'his town of Dynbaer', him being the Northumbrian king at the time, Ecgfrith. Ecgfrith imprisoned Wilfred, Bishop of York in Dunbar in AD 680, implying that it was a royal stronghold. The town is also described as being in the charge of a *praefectus*, interpreted as a royal official who may have had administrative responsibility for a region centred on Dunbar. So by the latter half of the 7th century we can envisage that East Lothian was settled and organised.

Figure 3: The Royal site of Dunbar

Excavations at Castle Park, in Dunbar have revealed evidence of Northumbrian settlement and have also shown that this was originally a fortified British tribal centre taken over by the Northumbrians. There were many rectangular earth-fast timber buildings, including a *grübenhaus*, a sunken-floored building that is very characteristic of Anglo-Saxon settlement. Although they didn't find a large hall, which you would expect to find on a royal site, its royal status was confirmed by the discovery of a mortar-mixer, a structure only associated with high-status sites elsewhere in Britain and on the Continent. Radiocarbon dates and artefacts indicate activity there from the 7th to 9th centuries AD (see Perry 2000 for full discussion).

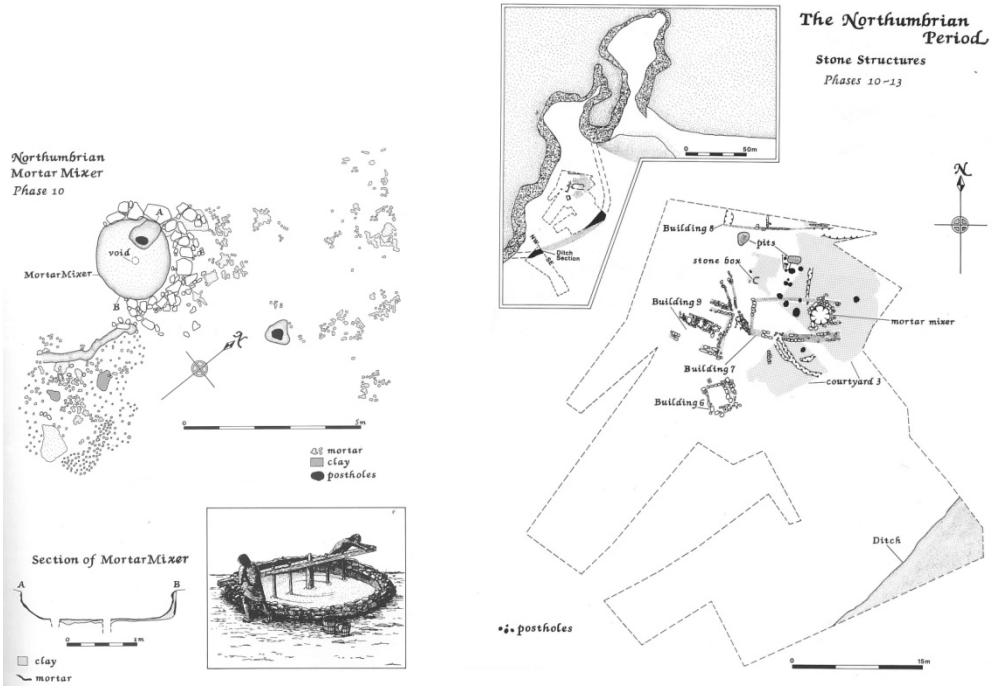


Figure 4: The Northumbrian features at Dunbar

The rectangular earthfast timber buildings so characteristic of Anglo-Saxon settlement are traditionally referred to as halls, probably because of resonances with *Heorot*, the great feasting hall of the Beowulf epic, but they are often quite small.

Within East Lothian, the only timber hall excavated so far is that at Doon Hill (Reynolds 1980). Here, a timber hall (15 m long and 8 m wide), and of continuous trench construction (B) had replaced an earlier post-built hall (A) which had been destroyed by fire, the footprint of (B) lying neatly within that of (A) 24m x 10m. Hope-Taylor, the archaeologist who excavated Doon Hill argued that this represented Anglian destruction of a British building and its replacement with an Anglian hall, ie the takeover of a British power centre by an Anglian one. So Doon Hill is a lesser royal centre in the Northumbrian settlement pattern of Lothian. The hall on Doon Hill sits within a palisaded enclosure, and large enclosures are a distinctive characteristic of other high status Northumbrian sites. That said, it may be similar to other more recently excavated sites of an earlier date, such as Balbridie.

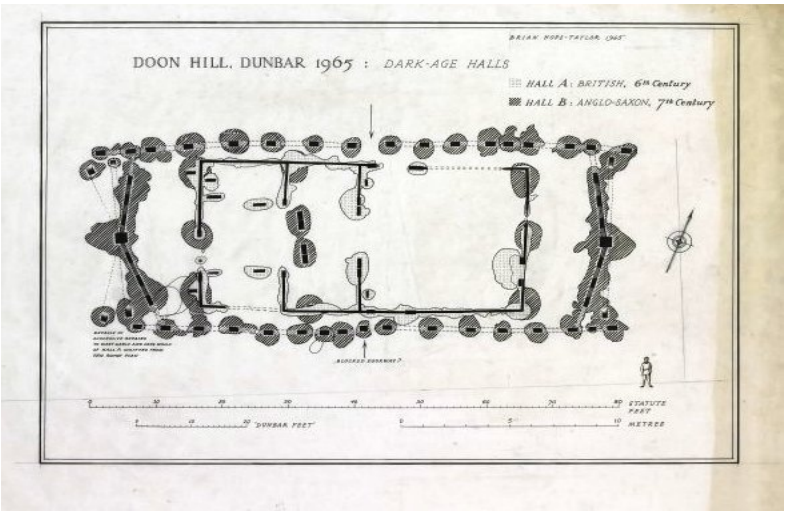


Figure 5: The timber halls recovered from Doon Hill

The only other known hall site in East Lothian is at Whitekirk, which is not enclosed (Brown 1983). The cropmark evidence at Whitekirk shows two large halls and a row of small rectangular enclosures, within which are what may be small buildings. As with everything Anglo-Saxon there is some debate about the interpretation of these cropmarks. Ian Smith (1991, 286) suggested that the absence of enclosure at Whitekirk implies a lesser status, and that it could have been a *vill*, a township subordinate to the royal centre at Dunbar, but Chris Lowe (1999, 33) has suggested that it could be a small farmstead attached to the monastery at Tyninghame. Either of these interpretations might be applicable to Aberlady too.

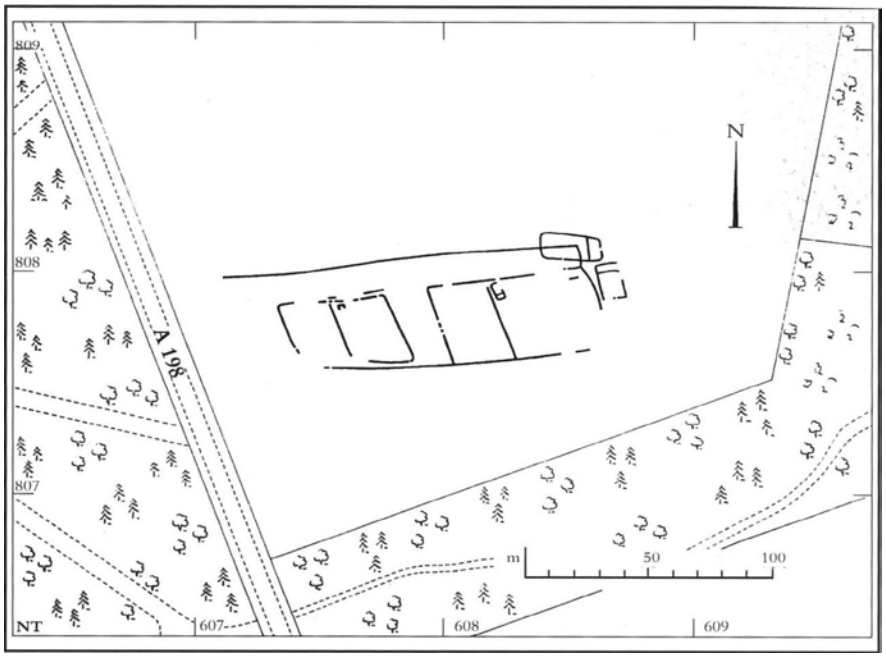


Figure 6: The remains at Whitekirk

Only two other sites in the Lothians have yielded evidence of Northumbrian settlement: Eldbottle and Ratho.

Excavations amongst the greens and bunkers of the golf course at Eldbotle (Archerfield) revealed an extensive medieval settlement but there was also an early phase of activity with radiocarbon dates spanning the 5th – 7th centuries AD (see Morrison et al 2008). These features were only investigated in a narrow trench but it is clear that they were the remains of post-in-trench timber buildings, which may have been halls. The placename Eldbotle is Northumbrian in origin; *Eld-bōtl* means 'old hall or building' so an Anglian settlement at Eldbotle was always anticipated. The placename component *bōtl* went out of use by the end of the 9th century so it must have been applied to the site between *circa* AD 600 and *circa* AD 900, while the use of *Eld*, old in the placename implies the existence of an earlier settlement. The excavators, therefore, suggested that, as Doon Hill and Dunbar, the excavated features represent a British settlement which was subsequently taken over by Northumbrian settlers.

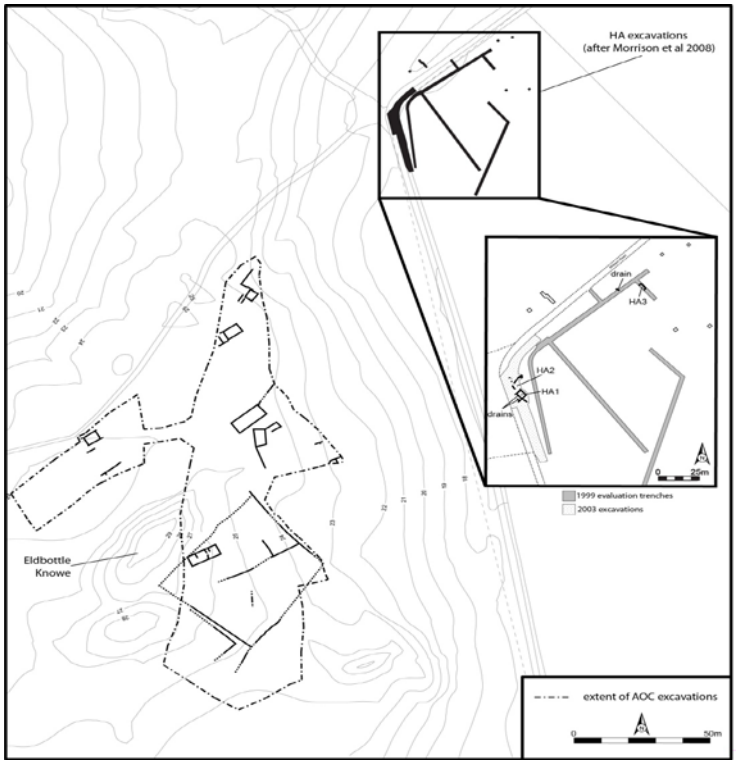


Figure 7: The remains at Eldbotle

The evidence for Anglian settlement at Ratho, Midlothian consisted of a *grübenhaus* enclosed within a palisade – it was interpreted as a weaving workshop because of the assemblage of clay loomweights found within it. Two small rectilinear, post-in-trench buildings which lie outside the palisade may also belong to the Anglian settlement. Radiocarbon dates from the *grübenhaus* indicate activity from the 6th to the 9th centuries AD. The grubenhaus at Dunbar also contained loomweights (see Smith 1995).

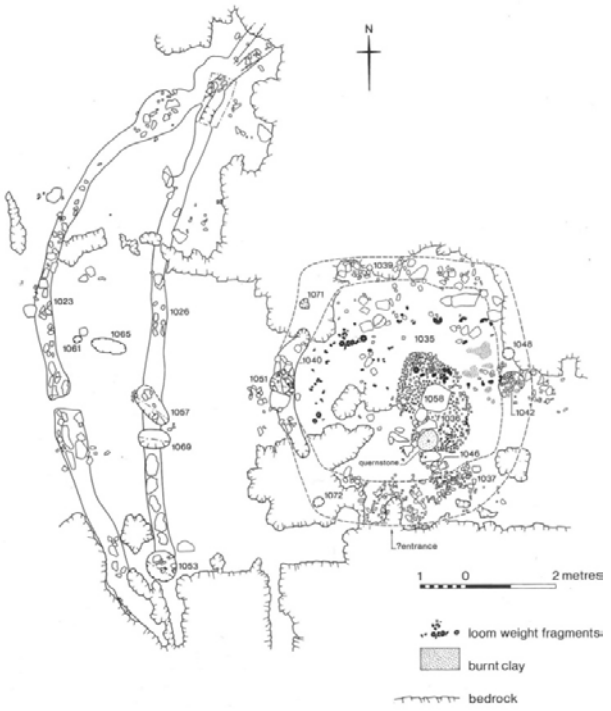


Figure 8: The grübenhaus and enclosure discovered at Ratho

Christianity

Aside from the settlement evidence the other evidence for the Anglo-Saxon period rests on the evidence of Christianity, in the form of sculpture and/or burials and cemeteries.

There were already Christian communities in the Lothians when the Anglo-Saxons arrived. These communities are represented in the archaeological record by the numerous long-cist cemeteries that have been found, mainly in the Lothians, Fife, Angus and the Borders (see Proudfoot 1996 and Rees 2002 for useful summaries).

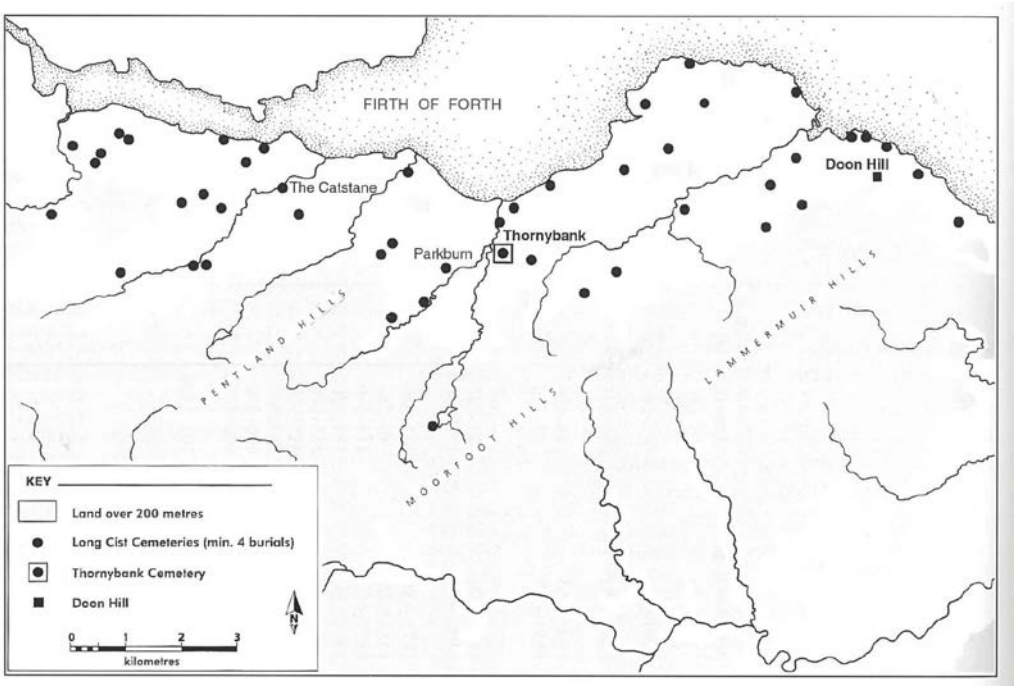


Figure 9: Long cist cemeteries in the Lothians

A good example of a long-cist cemetery is the one uncovered at Thornybank, Midlothian – the nearest known one to Aberlady is that at Kingston Common where around 20 burials were found (Rees 2002). But some of these cemeteries contained as many as 200 burials, and estimates of up to 500 burials have been made for some of the cemeteries. The cemeteries are characterised by burial in either stone-lined graves or simple dug graves which are generally aligned east-west, but with considerable variation to north and south of those cardinal points. The graves tend to be loosely organised in rows and there is rarely evidence of intercutting, suggesting either the use of grave markers and/or the presence of a custodian. The east-west alignment, the absence of grave goods, all point to a Christian burial rite. The radiocarbon dates indicate burial activity from the mid-5th to 9th centuries AD.

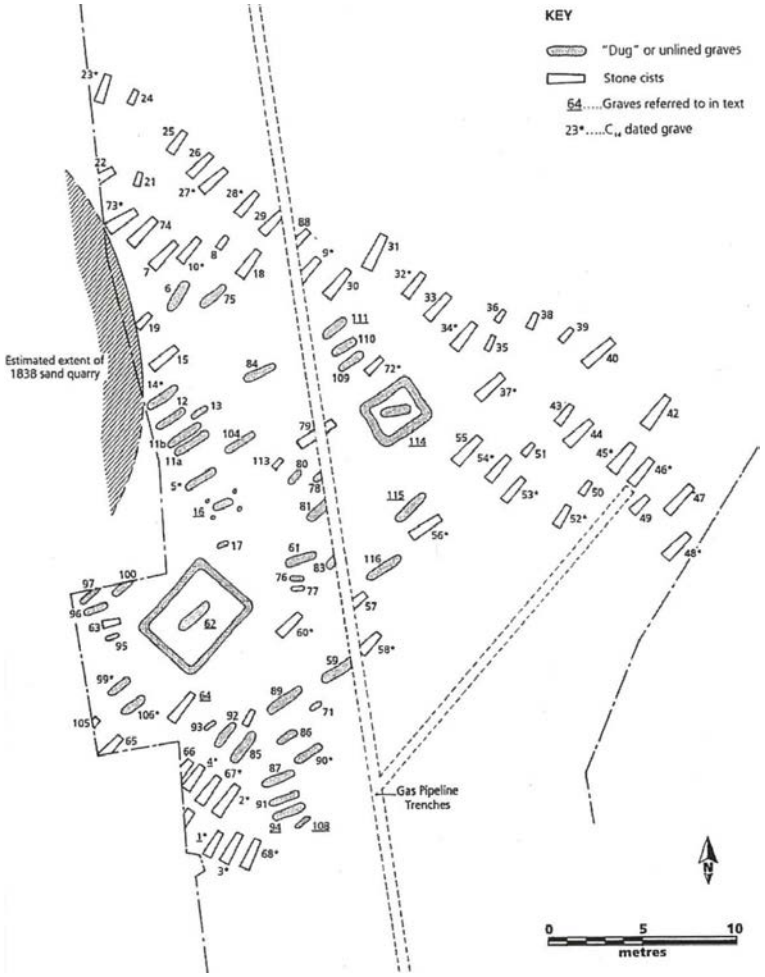


Figure 10: The long cist cemetery at Thornybank

Clearly then, there were thriving Christian communities in the Lothians by the time the Northumbrians arrived. The concentration of long-cist cemeteries on the Lothian plain reflects a large settled, organised population, amongst whom Christianity was widespread. Although we cannot estimate what proportion of the British population was Christian it is clear that by *circa* AD 600 their leaders had converted; the British leader of the *Goddodin* who fought at Catterick were Christian, their battle there portrayed to some extent as a religious war against the heathen Northumbrians.

The radiocarbon dated examples indicate that long-cist cemeteries continued in use until the 9th century AD which implies that the Northumbrian overlords in Lothian must either have allowed the practice of an indigenous British Christianity alongside their own particular brand, or adopted the burial rite themselves.

Of those ecclesiastical centres that the Northumbrians established in East Lothian, we have 3 examples from the Lothians: Abercorn, Tyninghame, and now also at Auldhame.

Abercorn was the location of a short-lived episcopal see established in AD 681 – and fragments of two richly sculptured crosses of mid- to late 9th century date suggest that there was still a functioning church at Abercorn several centuries later. Limited excavations there revealed what may be the foundation trench of an apsidal-ended church just inside a bank which might have formed the *vallum monasterii*.

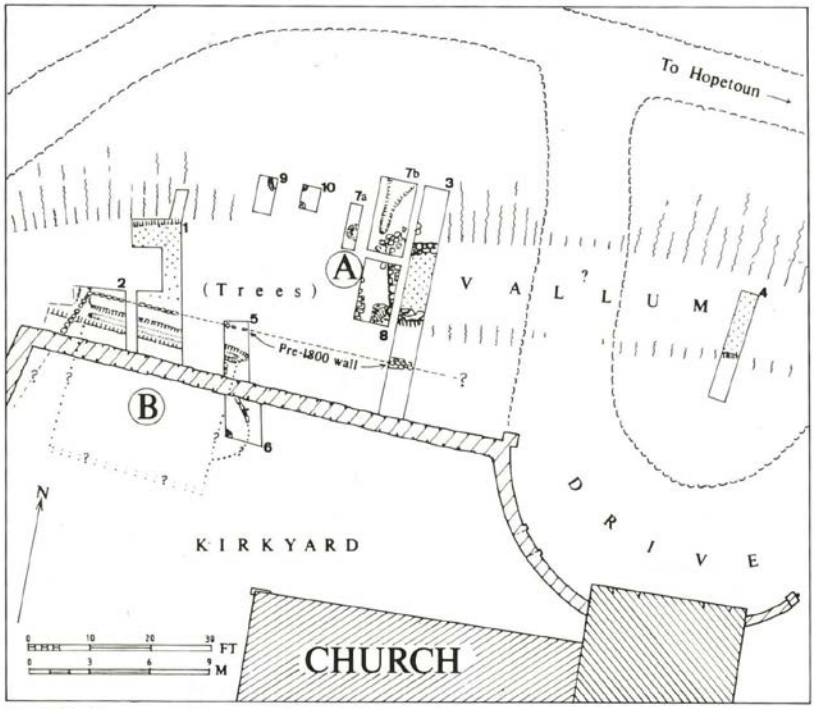


Fig. 19.4. Abercorn: trial excavations, 1964-65 (individual cuttings numbered), outside NW corner of kirkyard. *A* = entrance in 7th-century vallum (?) — see Fig. 19.5. *B* = hypothetical structure below N wall of Kirkyard — see Fig. 19.6

Figure 11: Excavations at Abercorn

There are also 9th century cross fragments from Tyninghame which were found within the remains of what was a fine Romanesque church of 12th century date, locally known as St Baldred's Church,. As we have already seen the placename implies an early 7th century Anglian settlement - it incorporates the 'ingaham' element which means 'village of the people'. Tyninghame is also mentioned in early sources as the location of an ecclesiastical settlement which was certainly in existence in the 9th century, if not before, and which was wealthy and powerful enough in the mid-10th century to warrant sacking by the Norse king of Northumbria.

And finally we can add the site of Auldhame to the ever-expanding corpus. Auldhame is the most recently excavated of Anglo-Saxon sites in East Lothian, and, in fact, the most extensively excavated Anglo-Saxon site to date.

On the headland at Auldhame AOC uncovered a church and graveyard enclosed within a large *vallum*, or ditch. Radiocarbon dates for the burials spanned the 7th to 17th centuries AD but this document is concerned only with Phase 1: the Anglo-Saxon activity (see Crone et al 2016 for full publication). The body of evidence from the site suggests that this was originally a monastic settlement possibly established by St Baldred (see discussion below).

The earliest building for which we have evidence is represented by a short length of a narrow bedding trench, which was probably a small earth-fast timber oratory. Physical evidence for the earliest churches in northern Britain is scant, mainly because they lie under the footprint of standing churches but we do know that the first churches built by the Northumbrian Angles were wooden.

Figure 12: The chapel, graveyard and ditch uncovered at Auldhame

This small timber church was replaced by Building 2, a simple one chambered chapel with clay-bonded drystone foundations, probably sometime between the mid-8th and mid-9th century. It may have looked something like St Orans on Iona, with a door in the west gable wall.

Auldhame has not produced anything like the decorated cross fragments from Aberlady, Tyninghame & Abercorn but two socket stones have been found which probably originally supported free-standing stone crosses. We have also found several simple cross-incised stones which are likely to have been grave-markers.

The evidence for a *scriptorium* at Auldhame is perhaps the most significant of the strands in the case for a monastic settlement. A scriptorium is where books were produced and this invariably happened within a monastic context.

Firstly, there is the glass inkwell fragment found in the ploughsoil. Only six other examples of Anglo-Saxon inkwells are known in Britain, and of these four were found in monastic contexts. Adding weight to the theory that there was a *scriptorium* on the headland is the presence of large quantities of dog whelk shells in one of the earliest deposits on the site. The significance of the dog whelk shells lies in their use for producing purple dyes and pigments, which may have been used in the marking of parchment.

A monastic settlement would have needed cells for its brethren and ancillary buildings for its agricultural and craft activities. The evidence for buildings at Auldhame is slight but there, nonetheless. A cluster of postholes and bedding trench in the very northeastern corner must surely represent a building, although too little was exposed to ascertain its nature. Animal bone from two of the postholes produced Phase 1 dates. Also in the northern part of the site is the circular base

of a hearth or oven. This is not directly dated but such a structure would have been more at home in a settlement than a graveyard.

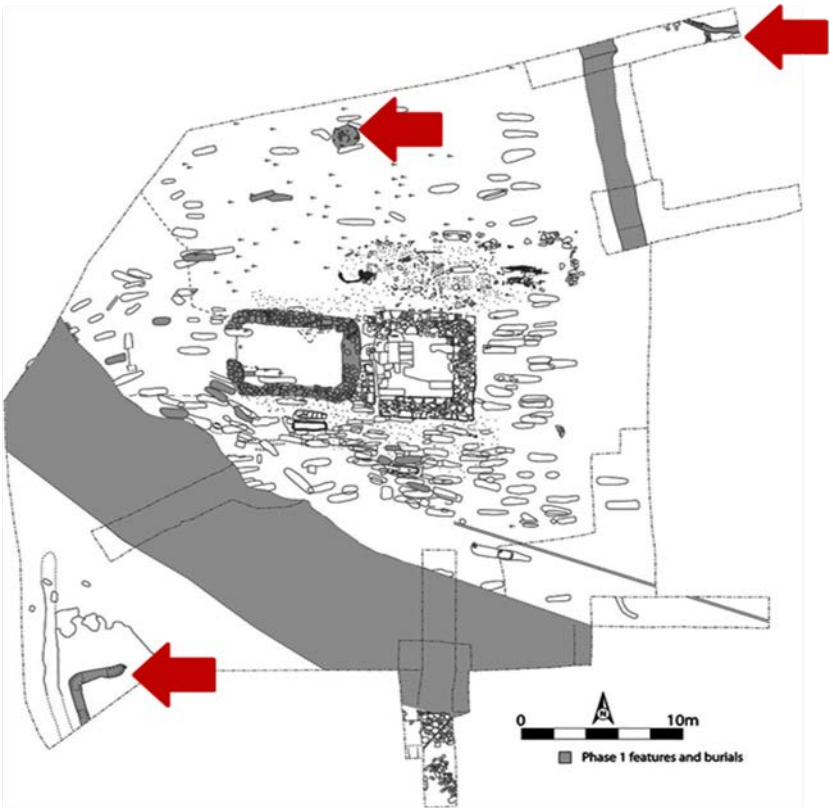


Figure 13: Probable ancillary buildings discovered at Auldhame

Another cluster of features provides more convincing evidence for a contemporary building, in the form of a bedding trench for a rectangular structure. Again, animal bone from the fill of the trench produced Phase 1 dates. However, these features lie outside the *vallum* and thus may represent a secular settlement rather than the monastic settlement. This may be where the women & children buried in the graveyard lived.

The excavators also recovered a good deal of food residues, in the form of animal bone, charred cereals and shellfish in the ditch fills and postholes. Cattle, sheep and some pig were present, together with very small amounts of fish and birdbone. Barley, wheat and oats were present, as were weed seeds – implying that cereal processing was being undertaken on the site. A dense layer of periwinkles was found in the ditch and this probably also represents food debris. Comparable deposits of periwinkles have been found at the Northumbrian monastery at Jarrow and it has been suggested that they would have provided a good source of protein on the meatless days of the Christian calendar. Perhaps the periwinkles in the ditch represent the residue from such a day.

In conclusion then there is good archaeological evidence for a monastic settlement at Auldhame - and there is both toponymic and documentary evidence which bears upon this interpretation. Recent research by Alan James suggests that in Anglo-Saxon Scotland the suffix *hām* denoted an ecclesiastical centre, the *hām* representing the 'estate dependent on a minster'. Thus, together with the prefix *Auld* the placename probably signifies an old minster estate – it was referred to as Auldhame in a mid-9th century document so it was already old by that time.

Unlike Auldhame, Tyninghame has always featured in any history of Anglian East Lothian (cf Woolf 2007, 235) and has always been associated with St Balthere, or Baldred as he is now more

familiarly known. Symeon of Durham, in his *Historia Dunelmensis Ecclesiae* writes of Balthere '…who had led in Tyningham the life of an anchorite…' (Anderson 1908, 56). Tyninghame was clearly an important establishment by the mid-10th century because it attracted the attention of the Norse king of Northumbria, Amlaib, son of Gothfrith (*Olaf Godfreyson*) who *'..laid waste the church of St Baldred and burned Tyninghame'* in AD 941 (according to Symeon of Durham in his *Historia Regum*; Anderson 1908, 73). This event is then later reported in the Melrose Chronicle as '*Immediately after burning and looting the church of St. Baldred in Tyninghame, Amlaib died*'. Symeon appears to distinguish two locations, the church of St Baldred and Tyninghame, a distinction that is lost in the later text, but which is perhaps significant in the light of the evidence we have uncovered for an early church at Auldhame.

Both Tyninghame and Auldhame are listed amongst the manors owned by the bishopric of Lindisfarne in AD 854 suggesting that these places were monasteries which may have been members of a confederation of which Lindisfarne was the head. However, by the late 10th century, when the territories of the bishopric of Lindisfarne are once again listed, this time in the *Historia de Sancto Cuthberto* (Johnson South 2002; and see Woolf 2007, 235), only Tyninghame is mentioned, as in '…all the land that pertains to the monastery of Saint Balthere which is called Tynningham, from the Lammermuir Hills to the mouth of the Esk' (Johnson South 2002, 80). So, although there may have been monastic settlements at both Tyninghame and Auldhame in the mid-9th century, it would appear that by the late 10th century Tyninghame has assumed the more pre-eminent position.

Aberlady

The final site with evidence of Anglian activity in the Lothians is the Aberlady, the area on which the *Aberlady Angles* project is set.

Aberlady clearly has prehistoric origins, as shown by the recovery of, for example, cists and food vessels. Aberlady's history also extends back to a time before Scotland, to the days of Roman occupation and native Gododdin Britons; recent work has confirmed evidence of iron-age fort earthworks and a putative souterrain, the first discovered in East Lothian.

The town is, however, best known for its Early Historic connections, particularly within the context of the aforementioned Anglian occupation and settlement of the Lothians and the establishment of Christianity. As we have seen above the period is roughly defined by two documented historical events; it begins with the siege of Edinburgh by Oswald, king of Northumbria in AD 638 and ends in AD 973 when Edgar of Wessex ceded Lothian to the Scottish king, Kenneth II. Certainly, by the time of the siege of Edinburgh in AD 638 we can assume that at least those parts of Lothian to the south and east of Edinburgh (including Aberlady) had been effectively annexed by the Angles. Again, the presence of early English placenames in East Lothian, such as the *–ingaham* element in Whittinghame, Tyninghame and Coldingham, as well the *–ham* element in Auldhame supports this claim.

The evidence for Early Historic activity in Aberlady, however, comes not in the form of buildings, settlements, churches or burials. It comes in the form of objects.

Sculpture and metalwork

In 1867 a beautifully carved 8th century Northumbrian cross was discovered in the Manse garden, - now reconstructed in the Aberlady village Memorial Garden. The intricate carving on the cross fragment bears strong Celtic and Northumbrian influences; the carving is described by the British Library as the closest sculptural representation that exists of the intricate artwork within the celebrated Lindisfarne Gospels. Indeed, Aberlady is often referred to as a daughter-house of Lindisfarne and it is possible that Aberlady may have been an Early Christian centre on the

pilgrimage route between the monastic powerhouses of Iona and Lindisfarne (see also above). Until the Reformation, Aberlady was a detached parish of Dunkeld, where a new monastic community was established by the early Celtic church, and to where Columba's relics were moved, in the face of continued Viking raids on Iona.

Figure 14: Section of Anglo-Saxon stone sculptured cross shaft from Aberlady

In addition to the Northumbrian cross Aberlady also hosts the largest concentration of stray Anglo-Saxon metal finds discovered anywhere in Scotland. For example finds from the vicinity of Aberlady include an Anglo-Saxon lobed copper alloy sword pommel of late 9th to early 10th century AD and an insular enamelled disc mount of 8th to 9th century AD (recovered by metal detecting at Luffness (Hunter 2002, 34)); two strap-ends; and a zoomorphic buckle (Shiel 2001, 30).

One area within modern day Aberlady that is of particular note for the recovery of Anglo-Saxon objects is Kilspindie, the name given to the coastal strip between the modern village and the bay. The name– Kilspindie - offers another significant pointer to an ecclesiastic presence from at least the 8th Century (the Gaelic term 'Cille' means, cell, church or chapel). A chapel dedicated to the Blessed Virgin Mary lay within the north-west corner of the old kirkyard. Although there are now no surface remains possible foundations have been encountered from time to time during grave digging. Professor Michelle Brown, long-serving curator of the Lindisfarne Gospels opined that the resemblance of the site to the sacred earthworks at Lindisfarne must be more than co-incidental.

Drilling further down into the Kilspindie area, another area is of particular note - the Glebe Field. Metal-detecting surveys undertaken by Roger McWee during the 1990s recovered a remarkable collection of metallic objects from the field. During his fieldwork Roger discovered many finds that date to the post 10th century. He also discovered a Roman period brooch. But Roger also found a stunning collection of Anglo-Saxon material from across the Glebe Field. The author is grateful to Mr McWee for walking the Glebe Field with him and the ACHS Chairman, Ian Malcolm on February 19th 2016, whereby the general recovery locations of the finds were located.

This beautiful 8th century bronze gilt openwork mount was found during Mr McWee's work at the Glebe Field.

Figure 15: Bronze gilt openwork mount found at the Glebe, Aberlady East Lothian 8th century

Mr MacWee also recovered various pins of various sizes and Anglo-Saxon types, such as a copper-alloy pin with globular head and ring-and-dot decoration (Hunter 2001; 30).

Figure 16: Early medieval Anglian ring and dot decorated pin from Aberlady East Lothian

A copper alloy polygonal-headed pin with traces of inlay was also recovered from the Glebe Field.

Figure 17: Copper alloy polygonal-headed pin with traces of inlay from the Glebe Field

This wonderful fragment of a disc-headed pin of copper alloy, with animal interlace ornament, was also recovered from the Glebe Field.

Figure 18: Fragment of a disc-headed pin of copper alloy, with animal interlace ornament, from the Glebe Field

According to Mr MacWee (pers. Comm. Feb 2016) all of the pins were found in the area between the current coastline and Kilspindie Castle.

Mr MacWee also uncovered a fragment of decorated metalwork, possibly from a copper alloy brooch, again from the Glebe Field.

Figure 19: Fragment of decorated metalwork, possibly from a copper alloy brooch from the Glebe Field

The ecclesiastical relationships beyond the 8th century (and into the 10th) with the Glebe fields is also shown by the recovery of a copper alloy mount, probably from a monk's crozier.

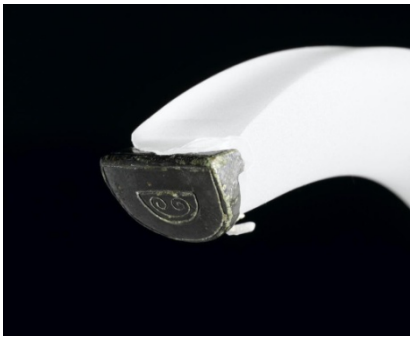


Figure 20: Cast bronze crosier drop or terminal, from the Glebe Field 10th century

This crosier fragment was found between the church and the Kilspindie Castle (see figure X).

Figure 21: Approximate location of the crozier (1994 finder W McWee marks the spot, Feb 2016)

In addition to these wonderful finds Mr MacWee also recovered Northumbrian styca coins – a coin for King Eanred (*c.*810–830), and another for Aethelred II (*c.*841–844) (Perry 2000: 168). These were found just south of the modern day remains of Kilspindie Castle (McWee pers comm 2016).

Figure 22: Approximate location of the Anglo-Saxon coins (1994 finder W McWee marks the spot, Feb 2016)

In discussing the finds from Glebe Field Alice Blackwell (see Blackwell 2004 for thorough review) stated

> '...the metallic finds represent the largest single concentration of Anglo-Saxon stray finds found in Scotland. They indicate activity in the vicinity of the Glebe Field probably during the 8th and 9th centuries'.

It is perhaps of interest to note that no Anglo-Saxon finds were found in either the adjoining Kirk Field or Butcher's Field (R. MacWee, pers comm Feb 2016). Following the recovery of these finds the site was scheduled in 1994 and the field is currently in set-aside.

Survey

Spurred on by the recovery of these remarkable finds a range of non-intrusive archaeological work and historical research has been conducted in and around the Glebe Fields over the last two decades.

Geophysical surveys undertaken in the 1990s (Neighbour *et al*. 1995; Tulloch and Davies 1998) suggested a number of possible archaeological remains, particularly structures. Some linear features may be prehistoric; perhaps Iron Age ring-houses (Tulloch and Davies 1998, 3, 8; this assertion may be supported by the recovery of a Roman brooch from Glebe field) but others may indicate Early Historic (possibly Anglian) activity. These include two putative timber buildings / halls of a series of ditch defined enclosures and what appears to be a pear-shaped enclosure with double palisade (Tulloch and Davies 1998, 32).

During the 1995 work Neighbour, Shaw & Cavanah (1995, 7) stated that

'At the south of the survey area a rectangular anomaly (a) shows up. This feature intersects with a differently aligned, linear anomaly (b)

During the 1998 work Neighbour, Tulloch and Davis (1998, 8, Fig 2 E) stated:

'Three low resistance anomalies (E, F & G) are the most interesting of the anomalies detected. The Southernmost feature (E) measures approximately 40 metres by 20 metres and may represent the remains of two Anglian, or perhaps earlier, timber halls one overlying the other at right angles..the westernmost anomaly (G) appears to be a series of ditch defined enclosures. The shape of these is consistent with the outlines of Anglian recorded by the late Ian Smith at Sprouston (1991). Roger MacWee (pers.comm) has indicated that it was in this vicinity of these features that he recovered the Anglian coins and the Roman brooch'.

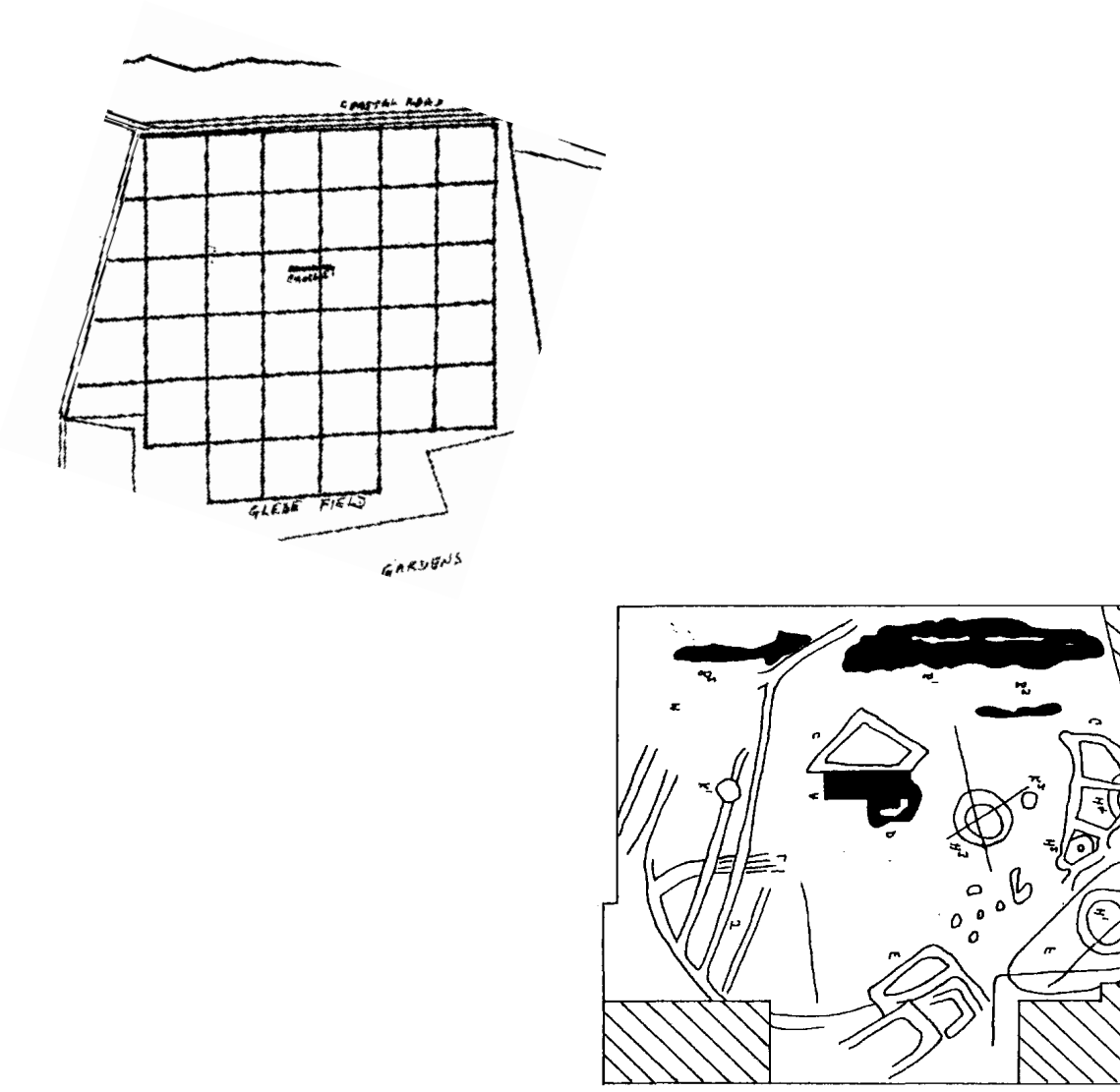


Figure 23: The geophysics results from the 1995 and 1998 survey

The geophysical surveys of the Glebe Field Undertaken by CFA Archaeology in 1995 and 1998 – which detected anomalies suggestive of Anglian period timber halls – led many to believe that the field was a place of importance during the first millennium AD, possibly the Anglian period (see Malcolm 2007, 2).

In 2008 further geophysical surveys were undertaken by Alice Blackwell (2008). These too uncovered structures that looked rectilinear in nature.

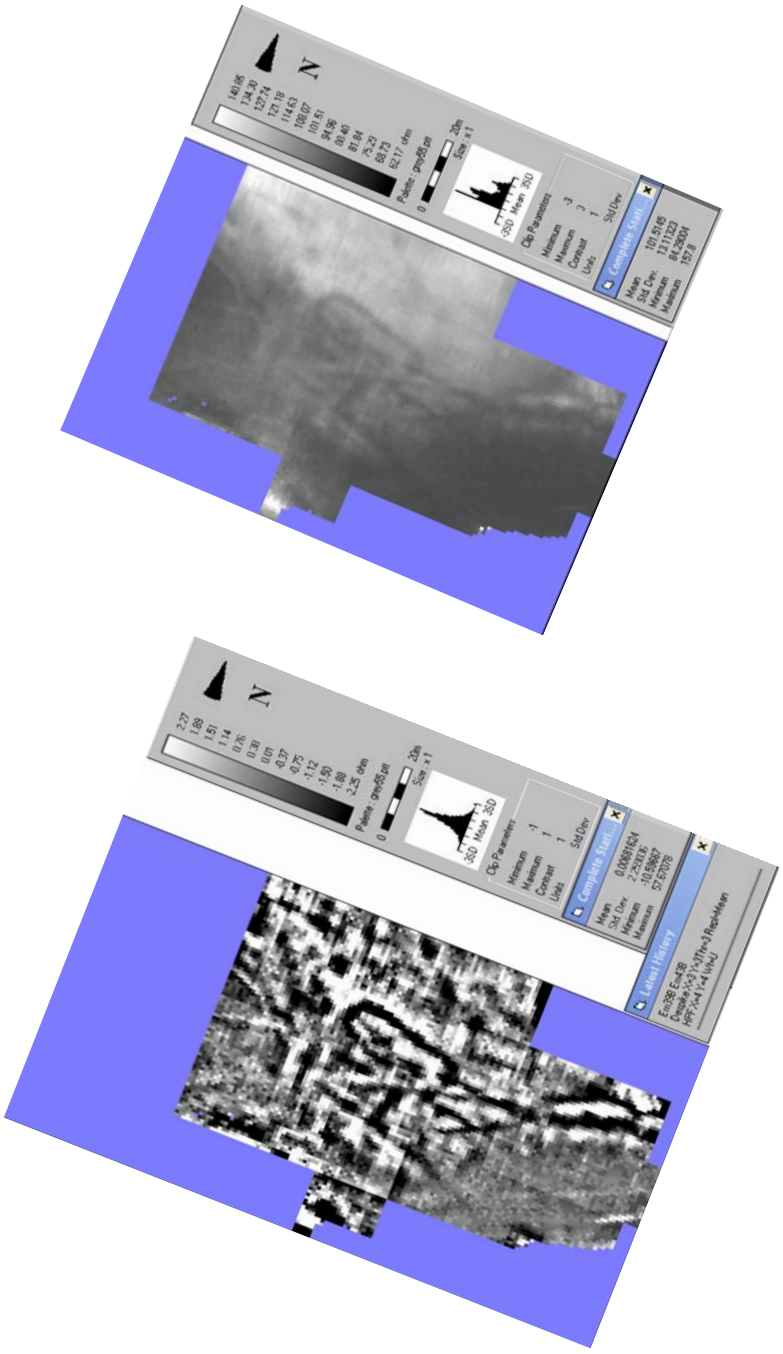


Figure 24: The geophysics results from the 2008 survey

Two main groups of anomalies stood out in the resistivity results, identified as the two possible trench-built structures in the previous 1998 survey.

The southern-most group of anomalies consist of strong low-resistance linear features, 25m and 15m in length, which appear to join and form a sharply defined right-angle (Blackwell 2008, 14, fig 14, A). Running parallel to the longer linear feature (A), 20m distant, is a second linear anomaly of similar magnitude (fig 14, B). Another feature (C) may also be related with A & B.

The second group of anomalies are located adjacent to B & C, identified by another low resistance anomaly (E). Possibly associated with E is a long curving low-resistance anomaly (G).

However, in discussing the findings (Blackwell 2008, 5, 22) Blackwell identified some issues with the results, in relation to their interpretation as Anglo-Saxon. Indeed, she was more equivocal in her conclusions, suggesting that the structures may not be Anglian in date.

First, while one series of anomalies (A, B & C) looks morphologically like trench-built timber structures characteristic of the Anglo-Saxon period, it would be uniquely large compared to other known examples. Indeed, the site may relate to a different, perhaps prehistoric date (Blackwell 2008, 19). Second, the interpretation of the characteristic feature of these structures - the additional annexe at one end of the main hall - is rendered somewhat ambiguous because of interference from crossing features (which may be modern drains). Third, the second series of anomalies (E & G) believed to be another trench-built timber hall has rounded rather than sharp corners; again these features may indicate prehistoric rather than Early Historic structures (Blackwell 2008, 19-20). Finally, the ditched enclosure – similar to that identified at the Anglo-Saxon site at Sprouston - may also be prehistoric in date.

Blackwell (2008, 22) concludes that:

> 'Two areas were re-surveyed in the scheduled Glebe Field in order to target features identified in the surveys undertaken in 1995 and 1998. The 2008 survey has cast some doubt over the identification of two-hall structures suggested to be Anglo-Saxon in date... While one series of anomalies looks morphologically like trench-built timber structures characteristic of the Anglo-Saxon period, it would be uniquely large compared with other known examples...The second series of anomalies appear to relate to a second trench-built timber hall, but in terms of its proportions and morphology, it resembles prehistoric examples more than early historic structures. Excavation of these two adjacent possible structures would be desirable but as the field is scheduled this seems unlikely'

Few would disagree with a sober analysis of the evidence that there is a good chance that there was Anglian activity in the area, if not in Glebe Field itself. The Anglian cross was discovered in the Manse garden wall just to the south of Glebe Field. The Anglo-Saxon finds from the Glebe field suggest some activity (if only deposition) during the period. Indeed, Neighbour *et al* (1995, 4) suggested that the '…quantity and range of finds suggest that there is settlement in this [Glebe] field from at least the Anglian period to the 17th century'. As we have seen four years prior to her geophysical survey on the site Blackwell (2004) stated that,

> 'The metallic finds represent the largest single concentration of Anglo-Saxon stray finds found in Scotland. They indicate activity in the vicinity of Glebe Field probably during the 8th and 9th centuries, and seemingly beyond, but they are not a great deal of help identifying what that activity was. Clearly, there is an ecclesiastical element in Aberlady given the sculptured 8thC Christian cross fragment and other Christian finds, but whether these metallic finds relate to that, or whether there is other activity too, is not clear at the present time'.

Excavation

Because of the ambiguities in the survey results all previous surveyors concluded that further work was necessary on the site to ascertain what the anomalies were (see above).

To date only very small-scale work has taken place in the Glebe Field and not, apparently, in the area of the timber anomalies. In 2000 AOC undertook a small-scale watching brief associated with the laying of a field drain (as shown by the red line on the figure below). Several archaeological features of interest were noted including a mortared wall, a cobbled surface, animal bones and a semi-circular arrangement of stones (Knowles Jackson 2000).

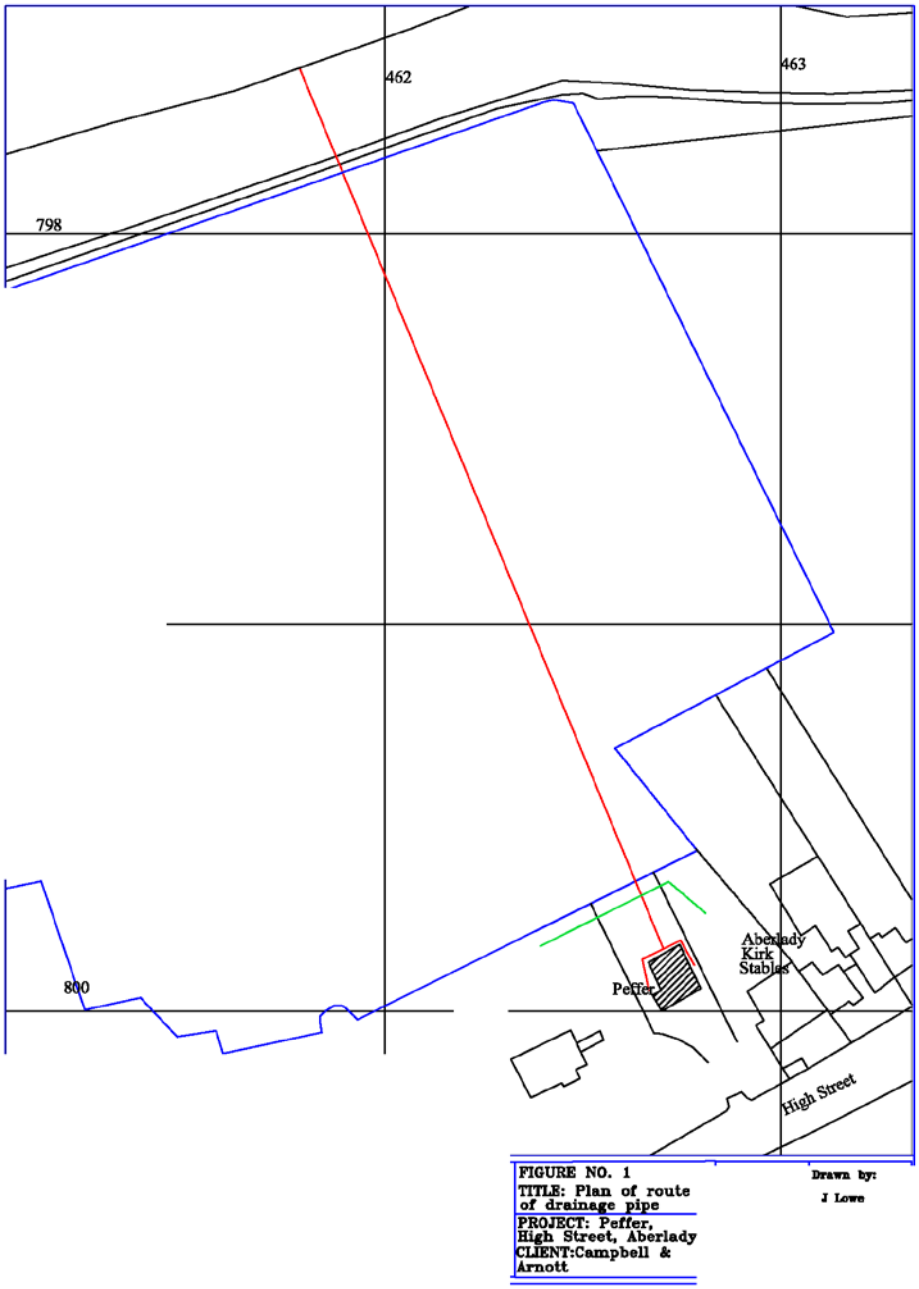


Figure 25: The excavations in 2000 in Glebe Field, the red line is the pipe line

The wall lay approximately 90m from the road. This continued to run along the west side of the trench for 10m before it started to curve towards the east side of the trench. There was evidence of mortar on some of the stones; the wall was approximately 0.5m wide and still existed to a depth of 0.7m. The wall appears to consist of a 0.3m deep base of small stones/rubble and is topped by the larger stones, to the depth of only one stone now surviving. No finds were associated with this feature.

Approximately 139m from the road a cobbled surface, possibly a path was located. A two metre length of this was exposed and cleaned by hand. The cobbles appeared to be approximately 0.7m wide, but their direction was unclear. The main body of the cobbles appeared to cross the trench from north to west. Larger stones were noted above the level of the cobbles at both edges of the

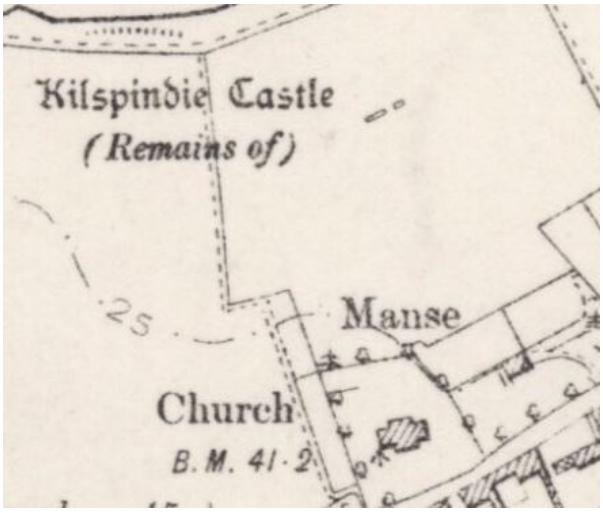
trench. The relationship of these to the cobbles is not known. The cobbles themselves were up to 280x200x10mm and irregular shapes, although mostly flat. There were many smaller stones, up to 100x90x70mm. Again, there were no finds associated with this feature.

Approximately 3m to the south of the cobbles, some disarticulated animal bones were noted in the west section of the trench, including a spine and ribs, probably from a cow

Finally, a cluster of stones, which appeared to have a semi-circular arrangement going into the western side of the trench, was noted approximately 150m from the road. Due to the small area exposed (about 1x0.6m) the nature of this feature is inconclusive. There were some animal bones found in this general area, but their relationship, if any, to the stones is unknown.

Although inconclusive on a number of levels the excavation none-the-less highlighted points of interest that will need to be considered during the proposed project, particularly in relation to soil depth and type.

The 2000 excavators found that the topsoil was generally between 0.23 and 0.44m deep, becoming deeper towards the midpoint of the trench. Approximately 40m from the garden wall of Peffer, the topsoil filled the entire depth of the trench, being up to 0.88m deep. The subsoil consisted of coarse sand and gravel with layers of shell throughout the length of the trench. Fine grey damp sand was noted 150m from the road for approximately 10m.



Analysis of OS Maps suggests that there is no evidence for buildings in the Glebe Field from 1853 until the present day, other than the Church , Kilspindie Castle (remains) and the Manse. The indication of the presence of a Manse is shown in both the 1853 and 1892 OS Maps, but at slightly different position. After consulting the British Listed Building register, the current Manse (HES ID No. 6504) is listed, and this change in location is referenced as a rebuild where the old Manse may have been incorporated into the new. Due to the location of the current Manse (now sold after the joining of Aberlady and Gullane Parish), it is unlikely this older structure form part of our excavation area.

The project in context (2): Glebe Field and current research agendas

The sculpture and metal finds from Aberlady (and particularly the area in and around Glebe Field) suggests that the area was an important location during the Early Medieval period in northern Britain. Nevertheless, the various activities which took place over time are not well understood and very piecemeal. First, although there is significant evidence for ecclesiastical activity in the Lothians from at least the 8th Century the nature of this activity is ill-defined within Aberlady. The high cross surely indicates some ecclesiastical presence and is Michelle Brown's suggestion that the resemblance of the Aberlady site to the sacred earthworks at Lindisfarne must be more than co-incidental, true? Was there also secular settlement at Aberlady and if so, what was everyday secular life like in Early Historic Aberlady and her hinterland? Further, what do the numerous Anglo-Saxon finds tell us about the area? Are these cultural indicators of incoming settlers or mere gifts to native Britons? Further, we have little contextual understanding of what happened in the pre- and post-Anglian period in the area. Was an ecclesiastical settlement established here simply because it was on the route between Iona and Lindisfarne? What were the precursors for the Anglian activity? What happened after? Many questions remain unanswered.

These are some of the big research questions that ACHS and their associates hope to investigate during the *Aberlady Angles* project (see further discussion below) with a specific concentration on the Glebe Field.

ACHS have chosen to focus on Glebe Field as it is the only location in Aberlady to date to have a unique concentration of two attributes: the collection of Anglo-Saxon finds and possible structures and buildings that *could* be Anglo-Saxon in date. In particular, ACHS hope to undertake a targeted excavation on the rectangular buildings previously identified during the geophysical survey work.

Their overall aims and objectives of the instructive work are to:

- Establish the nature, date, purpose and state of preservation of the rectangular buried features, (interpreted from previous geophysical survey images) in the Glebe Field;
- Establish the extent of the archaeological deposits within the Glebe Field rectangular structures;
- Establish the relationship between the different rectangular structures interpreted from the geophysical surveys;
- Excavate a sufficient area of the site to establish the extent and character of the archaeological remains present in order to identify individual structures, internal features and deposits;
- Recover environmental samples and artefacts which will assist interpretation and chronology of the past activities within the site and the function of the structures;

- Obtain secure dating material / artefactual evidence from the site to be used in chronological interpretation;
- Enhance the historic environment records;
- Contribute to the Scottish Archaeological Research Framework and the emerging Scottish Archaeology Strategy;
- Inform the long-term conservation management of the site;
- Provide opportunities through the provision of community outreach and archaeological training in excavation and recording;
- Provide high-quality outreach and educational opportunities;
- Assess the success of the project;
- Produce both an academic report and a popular publication; and
- Provide tourism and economic benefits to the local community.

As noted, the working hypothesis is that the Glebe Field has evidence for Early Historic / Medieval settlement, possibly in the form of timber buildings. Excavation at Glebe Field may, therefore, provide a rare and much needed opportunity to investigate an Early Historic settlement and contribute to wider questions, such as:

- Is Glebe Field a complex of Early Historic timber halls?
- Is Glebe Field a high status settlement, the populous of which had a wide range of economic and social contacts?
- Did specialised craft production take place at Aberlady?
- Were other non-specialised domestic activities taking place within Aberlady?
- What do the numerous Anglo-Saxon finds tell us about the area and its cultural links with its neighbours?
- Are the artefacts and features cultural indicators of incoming settlers or mere gifts to native Britons?
- What was everyday life like in Glebe Field in the Early Historic period?
- What were the precursors for the Anglian activity? What happened after?

Excavation will hopefully provide the answer to many of these questions and this information will be the basis for a clearer interpretation to help people learn about and understand their hidden heritage. As highlighted above although there are tantalising suggestions of Anglian activity and perhaps settlement in the area (particularly the Glebe Field) we currently have no way of verifying this. That further excavation of possible Anglian sites in the Lothians is necessary is highlighted by Alcock (2003, 248). In discussing the existing evidence of Anglian halls in southern Scotland he concludes: 'The obvious conclusion from this brief survey… at least as far as the evidence of air photography takes us, is that we still have much to learn about the repertory of the king's architects in Early Historic Bernicia. Moreover, excavation of the crop-mark indications at both Milfield and Sprouston may confidently be expected to lead to further surprises, as well as some answers to existing problems'.

The writers are also fully aware that the suggested buildings may be earlier or later in date. Timber buildings have been recovered from parts of Scotland and dated to the Neolithic. Many rectangular buildings, of course, date to the later- and post-medieval periods and the modern era. Given the location of Kilspindie Castle in the Glebe Field it is likely that contemporary buildings may be uncovered within the area. Indeed, the mortared walls uncovered durign the 2000 excavations may relate to such a period. If during excavation it appears that the buildings are earlier or later in date then full cognisance of other period specific research agendas will be adhered to.

The proposed archaeological work will help this exciting heritage to be identified and recorded and make that information available to local people and to the wider public. It will allow fresh insight into the characteristics of Glebe Field's heritage and will aim to provide information about life in

Aberlady during the historic period. The project will change our understanding of Aberlady's past by locating, uncovering and recording the important archaeology. Heritage that was previously hidden will be made accessible to local, regional and national communities. As a result of our project, there will be a record of the heritage of Glebe Field available to people now and in the future.

The work in Glebe Field is entirely consistent with current research agendas, particularly the *Scottish Archaeological Research Framework*. The project represents an exciting opportunity to provide new research information on a number of areas pertinent to Scottish Early Historic and Medieval period. More specifically the Project has the capacity to inform some key issues raised by the recent Scottish Archaeological Research Framework (ScARF). The ScARF Medieval Research document identifies a number of key research areas with regard to first millennium BC/AD Early Historic period including:

1. **From North Britain to the Idea of Scotland**: Understanding why, where and how 'Scotland' emerges provides a focal point of research. Investigating state formation requires work from a variety of sources, exploring the relationships between centres of consumption - royal, ecclesiastical and urban - and their hinterlands. Working from site-specific work to regional analysis, researchers can explore how what would become 'Scotland' came to be and whence sprang its inspiration.
2. **Lifestyles and Living Spaces**: Holistic approaches to exploring medieval settlement should be promoted, combining landscape studies with artefactual, environmental, and documentary work. Understanding the role of individual sites within wider local, regional and national settlement systems should be promoted, and chronological frameworks developed to chart the changing nature of Medieval settlement.
3. **Mentalities**: The holistic understanding of medieval belief (particularly, but not exclusively, in its early medieval or early historic phase) needs to broaden its contextual understanding with reference to prehistoric or inherited belief systems and frames of reference. Collaborative approaches should draw on international parallels and analogues in pursuit of defining and contrasting local or regional belief systems through integrated studies of portable material culture, monumentality and landscape.
4. **Empowerment**: Revisiting museum collections and renewing the study of newly retrieved artefacts is vital to a broader understanding of the dynamics of writing within society. Text needs to be seen less as a metaphor and more as a technological and social innovation in material culture which will help the understanding of it as an experienced, imaginatively rich reality of life. In archaeological terms, the study of the relatively neglected cultural areas of sensory perception, memory, learning and play needs to be promoted to enrich the understanding of past social behaviours.
5. **Parameters**: Multi-disciplinary, collaborative, and cross-sector approaches should be encouraged in order to release the research potential of all sectors of archaeology. Creative solutions should be sought to the challenges of transmitting the importance of archaeological work and conserving the resource for current and future research.

It is argued that Aberlady Angles addresses all of these areas, but particularly 1, 2, 4 & 5.

Specifically, *Aberlady Angles* is of relevance to the following key future research areas, issues and recommendations:

From North Britain to the Idea of Scotland

1. Investigating the formation of polities will require considerable amounts of data to be gathered and integrated, and considerable advances can be made. This will hinge on understanding and questioning the relationships between centres of consumption, royal,

ecclesiastical and urban and their hinterlands and the recognition that integrated economic activity underpins social identities and trajectories. Active critique of the concepts of progress and chronological development underpinning these trajectories on a national scale should be encouraged.

2. Examining other regional foci and considering how and why they rise and fall should be promoted. The development of regional frameworks investigating other areas is to be endorsed in order to develop a more rounded picture of the trajectory of power across Scotland. Studies into the nature of the interaction between polities, and how this is materially manifested, should be encouraged. Taking the arrival of the Vikings as an example, the available evidence and the potential areas for further research can be sub-divided into three main areas: the Picto-Norse interface; the Viking-age and the Late Norse period, with the main research questions revolving around the location of relevant sites, issues of political and social interaction, maritime supply networks, the introduction of new crops, the transformation of the fishing industries and the assimilation or otherwise of artefactual forms.

Lifestyles and Living spaces

1. The broad range of medieval settlement should be approached holistically, incorporating the diverse nature of different types of site through appropriate scales of fieldwork. Attention to under-studied areas, the incorporation of material studies, the examination of literary sources, the promotion of collaborative working and the study of the environmental and land-use context of settlement are all prerequisites to further progress.
2. The lack of early medieval settlement is a critical gap and high status later Medieval settlement, such as castles, should be approached as sites within the wider medieval landscape. More work is required to consider what our expectations of settlement are - parallels with areas such as Ireland and Scandinavia should be employed to help consider the range of possibilities.
3. Future investigations of Scottish burghs should include collaborative work on the provisioning of burghs, analysis of the nature of their origin and subsequent development, and consideration of their role within the wider settlement system, including work on more inland settlements. Monastic granges remain little studied but have a huge potential for understanding the contribution of the reformed monasteries to agriculture and industry. Coastal sites, such as beachmarkets, with the potential for evidence of trade and other kinds of contact should be researched in the context of coastal erosion/sea level rise. Fuller hinterland studies of Scottish burghs should include assessments on how burgh needs impacted on animal husbandry, crop and woodland management and the production of raw materials for example.

Mentalities

1. Knowledge of the prehistoric period is fundamental to the protohistoric period: these must be studied together. “Early historic” or early medieval projects, whether driven by research or by site-threat mitigation, must, in addition have a strong prehistoric programme. For example, medieval sites, including monastic enclosures and burials, should be studied with prehistoric ritual practices in mind.
2. Belief was regional and creative until at least the later 8th century. In this first protohistoric period research should be seeking to define, compare and contrast these local systems through integrated studies of portable material culture, monumentality and landscape. This will lead to an intellectual mapping and history of this most inventive religious phase in Scotland.
3. The study, survey and excavation of a number of types of site would considerably improve our understanding of Medieval Scotland, including:
   - Cemeteries – full excavation of an early medieval cemetery with well-preserved skeletal remains, an extensive programme of dating (incorporating first millennium AD to explore continuities/discontinuities with the Iron Age), and subsequent post-excavation analysis

taking account of the fluidity of their ethnic signals (e.g. Pictish, British, Gaelic/Scots, Scandinavian etc.).

- Early churches - excavation of early churches particularly where they are not overlain by medieval structures is a priority as there are almost no pre-12th century stone church buildings. An abandoned church, with documentary or carved stone evidence of early medieval origins would represent an ideal site for exploration.

Empowerment

1. Scottish studies of material culture and monumentality need to develop a greater understanding of the ways in which they reflect sensory perception, memory and play cultures at work. In archaeological terms these are relatively neglected areas that offer the potential to enrich understanding of past social behaviours.

Parameters

1. Collaborative approaches should be encouraged, both within archaeology, and with those working in other disciplines including history and the environmental sciences. The discipline needs to consider how it can best release the research potential of information from all sectors and address gaps in knowledge.
2. Access to data should be promoted and creative solutions are required to record, make available and disseminate a range of types of data to different audiences.
3. The existing material in museums and new material retrieved through the Treasure Trove procedure are a major resource of largely untapped potential. Addressing this should include systematic scientific analyses (such as the current work on the Monymusk reliquary) and dating programmes.
4. Given the chronological problems, priority should be given to obtaining large suites of well-contexted and identified samples in order to obtain dates from well-stratified sites with plentiful artefacts. This would be a very cost-effective strategy.

The project in context (3): national and local policies, needs and opportunities

Accessing and celebrating our shared heritage

The idea for the project emerged from a number of areas central to ACHS's visions and aims: understanding our heritage; accessing our heritage and conserving our heritage. As noted above ACHS was established in 2001 to help conserve and improve the built environment of the historic village of Aberlady and to research and promote its rich heritage. Over the last two decades the Society has undertaken a number of initiatives to promote the heritage of Aberlady. All of ACHS's work is founded on sound academic research but one that also explores and promotes their heritage, for the benefit of the local community and wider interests. In summary, the numerous activities undertaken by ACHS since its inception (please see www.aberladyheritage.com) have demonstrated that local people want to access, discover and appreciate their Aberlady heritage. ACHS believe that local communities within East Lothian should have the opportunity to develop an understanding of the historical context which shapes 21st century East Lothian. All of ACHS's projects create numerous opportunities for local community volunteers to access and engage with their heritage, and *Aberlady Angles* is no different.

The different strands of learning and activities suggested throughout *Aberlady Angles* (from excavation through to arts and music; see below) will encourage a wider audience to explore their past in exciting and innovative ways and achieve more advanced levels of historical understanding. As part of the project a series of on- and off-site activities are being suggested, tailored to allow a range of individuals to experience heritage in ways that meet their needs and interests. Target groups include: primary children, secondary children, older age groups, heritage enthusiasts, artists, crafts people and musicians. A wider audience will engage with the project through the evening lectures, use of the website and by following the project through social media.

On-site and off-site training and engagement

Thus, as well as looking for evidence of Anglian activity, over the course of the excavation people will be given the opportunity to get actively involved and will be encouraged to undertake a range of hand-on activities designed to encourage their interest, develop existing skills or to learn new ones. Suggested workshops include:

1. Archaeological topographic surveying
2. 3D laser scanning surveying
3. Archaeological excavation
4. Archaeological photography
5. Archaeological recording
6. Small finds recognition
7. Archaeological Curation and Conservation
8. Soil analysis

It is hoped that on-site training will be accompanied by a series of workshops in Aberlady Kirk Stables. These will be practical workshops aimed at 'hands on' learning. Importantly, the aim is to use a range of topics and themes that may encourage new groups that do not usually work together to become interested in heritage (eg artists, musicians, craftspeople). Further, these groups would have been key influences in the Anglo-Saxon period. Thus, artists are learning about archaeology, and archaeologists are learning about art, and so on. Current suggested workshops include:

<u>Piecing together the Past</u>

With the help of East Lothian Council local groups and individuals will undertake desk based research to learn more about Aberlady and East Lothian and the contribution the area has made to Early Historic Scotland. This will be achieved through a series of teaching sessions in Haddington and Aberlady delivered in partnership with East Lothian Council Heritage Services.

<u>Digging Up the Past: Beginner's guide to archaeological excavations and recording.</u>

A hands-on workshop where groups work together to excavate their own archaeological site without getting dirty! Groups will use their own work benches to excavate a mock-up site, learn about stratigraphy, recording and drawing. Essential activities prior to going out in the field.

<u>What do Objects Tell Us?</u>

A practical workshop will be held by qualified artefact specialists. Using actual archaeological objects individuals will learn about the range, type and chronology of objects. By interrogating the materials, patterns and shapes of artefacts the community will also begin to understand how to build up life histories of the objects. Volunteers will learn that an Anglo-Saxon pin can tell us a great deal: how it was made; where and even who may have worn it.

<u>It's all in the soil: Recognising differences in the dirt through a practical 'dirty' workshop</u>

A leading archaeological soil specialist will help groups learn about how to 'read' and appreciate soils. Often it is the differences in soil texture, colour and even smell that help archaeologists unpick the past. Following a practical lecture the groups will go and dig outside to put their theories into practice.

<u>Looking after our Past: Conservation of archaeological artefacts</u>

A qualified Conservator will work with individuals to show how Conservators look after and curate heritage. Particular attention will be with the materials that one would expect to discover on Anglo-Saxon sites, for example metals and wood.

The Devil's in the Detail

Many community projects begin and end with the excavation. However, we will ensure that the volunteers are actively involved during the post-excavation process. Under trained supervision volunteers will pick through the soil samples and the residues they collected during the excavation looking for important microscopic details and finds (charcoal, wood, burnt bones etc).

So what did *our* objects tell us?

This workshop will build on the earlier workshop '*What Do Object's Tell Us?* '(see above).
A practical workshop will be held by qualified artefact specialists using the actual objects discovered by the volunteers during the excavation. As well as handling the objects again volunteers will be taught how to catalogue, record and curate their objects.

Houses, Halls and Homes:

This workshop will encourage individuals to build their own mini structures of the Anglo-Saxon communities through practical reconstructions using wood, turf and stone. By building their own mini replicas individuals will learn more about the construction techniques of Dark Age Scotland. The replicas will be exhibited at the project closing event.

Glittering Prizes: Arts, crafts and clothing of Anglo-Saxon Scotland

Up to three workshops run by local craftspeople will be constructed around the crafts of Anglo-Saxon Scotland. The workshops will be open to both adults and children. They will design and make Anglo-Saxon clothing, jewellery and replica pots that will be worn and used or displayed at the project closing event, the Anglo-Saxon Feast and subsequent short term exhibition at a local village venue. The artefacts produced will form the basis of an artefact handling kit to be used in conjunction with information and worksheets on the Teachers Resource page of the website. The kit will be held by East Lothian Council museums service for lending to schools throughout East Lothian.

Music and Poetry of Dark Age Britain

Local musicians will be engaged to run up to three workshops working with groups of local children to make instruments and to compose a musical score centred on the historical texts and poetry of the Anglo-Saxon period. Working with various instruments pupils will compose and perform their own songs for performance at the project closing event and Anglo-Saxon Feast. The pupils will record and receive a CD of their performances and it will be played on local radio. Each school will be given copies of the CD and the instruments will be made available as part of the Classroom Kit for schools to use as a teaching resource in conjunction with the online heritage resource.

Anglo-Saxon Feast

At the end of the project an Anglo-Saxon feast will take place in Aberlady. The crafts, music and poetry created during the earlier workshops will be used and performed during the feast. Such feasts would have taken place in the suggested Anglo-Saxon hall lurking beneath the ground in Glebe Field and the feast will celebrate all the skills, activities and learning developed during the project.

This outreach programme will also be complimented by guided tours of Aberlady. ACHS will organise and deliver 4 guided history walks around Aberlady. This will place the current project within its local context. Four evening lectures will also take place at local venues. Current lecture suggestions include:

Out of Darkness Comes Light

What is Dark Age Scotland and where does Aberlady fit into wider discussions?

Centre of the Universe
Aberlady and Glebe Field: past finds and future possibilities.

What did we find?
An update on the excavations

The Sum of All its Parts
Final presentation outlining the results of the excavations.

Presentations will also be offered at the Edinburgh, East Lothian and Borders *Annual Archaeological Conference* in November 2014 as well as the Society of Antiquaries of Scotland and Archaeology Scotland *Archaeological Research in Progress* 2016 conference, ensuring that the project results are communicated to as wide a group as possible on a local, regional and national level.

Schools programme
As with all ACHS's projects a key component of the current project is to actively engage with children. Past projects undertaken by ACHS have demonstrated the need and desire of school children and their teachers to learn about local and East Lothian heritage and this current project is no different. In addition to their involvement in the community excavation programme in the Glebe site (through designated on-site school activities and school visits), a schools activity programme will be developed. The details of the programme are currently being developed in partnership between schools in the North Berwick High School cluster area, ACHS, AOC Archaeology Group and East Lothian Council. The project includes:

- Professional Development for teachers about the Anglo-Saxons;
- Outreach workshops in schools about the project;
- Visits to the archaeological site with hands-on activities for pupils;
- Workshops on Anglo-Saxon poetry, song and music which would involve children making and using instruments of the time to compose their own songs, and perform at the Anglo-Saxon feast;
- Scale construction of model Anglian timber halls;
- Multidisciplinary projects by High School pupils; and
- Public events detailing the finds of the project, involving local classes in a number of different ways.

The workshops will be designed in such a way that they could be adapted to cover a variety of different topics linked to prior knowledge and learning. For each of the five primary schools, the workshops will be supported by participating teachers at levels P4-7 pupils and linked into the topics of a local study. For North Berwick High School, the project will give junior pupils a real-life context to planned cross-curricular work between disciplines and encourage a creative approach. The project will also be of great benefit to senior pupils interested in a career in archaeology and the opportunity to experience the profession first-hand. North Berwick High School has a very strong history department at and they are in no doubt that involvement in this project will further enhance that record.

The content and aims of these workshops will be led by the *Curriculum for Excellence* and in particular the document 'CfE Social Studies: Principles and Practice' and prepared in consultation with education staff. The workshops, delivered in partnership by the local authority, the schools, AOC and ACHS will:

- Develop pupils' understanding of the history, heritage and culture of Scotland (particularly their local area), and an appreciation of their local and national heritage

- Explore and evaluate different types of sources and evidence
- Allow pupils to uncover the history of the Anglo-Saxon period in the project area and its links with the formation of the Scottish nation.

The programme will culminate in the creation of a teacher's resource for use in all schools within East Lothian in partnership with East Lothian Council.

Heritage will be better interpreted and explained

Visitors and tourists frequently ask about the history of the area but, while there are tantalising glimpses, there is little information on the Early Historic communities that lived here or their history. ACHS is continually exploring options for increasing heritage visitor numbers and improving direct and indirect access to the area's heritage. This project makes every effort to do this.

Information uncovered during the project – through geophysical survey, exploratory excavation, background research and post-excavation results - will be used to offer clearer explanations and improved ways to help people to make sense of Aberlady's heritage. An online heritage resource will provide an easily accessible source of information about the project, Glebe Field and about the Anglo-Saxon heritage of Aberlady while also referencing other sites of interest in the area. The site will also host a Teachers Page (see above) with resource information and worksheets to be used in conjunction with an artefact handling kit comprising objects produced at the workshops.

An archaeological report will be produced and made accessible to the local community through the project website. It will also be distributed to local libraries. Using information from the project, the site will also be interpreted and explained through pop-up exhibition panels that will be used in Aberlady and across East Lothian and likely beyond during the life of the project and after.

To attract the widest possible audience a project diary and social media will be regularly updated and widely used throughout the project and a series of public presentations and workshops will help people make better sense of their heritage and contribute to their community pride, sense of place and identity. As noted above ACHS will organise and deliver four guided history walks around Aberlady to place the proposed project within the local context.

As noted earlier, if the archaeology remains turn out to be earlier or later than the Anglian period then all of the above activities will still be produced with emphasis, of course, on the uncovered remains.

Developing Skills

The different approaches used throughout the project and the learning opportunities detailed below will equip volunteers, ACHS members and others within the community with a range of new and varied skills. Individuals will have gained skills relevant to ensuring heritage is maintained, managed, understood and shared and the learning (both directly and indirectly) will hopefully lead to new heritage initiatives in the area.

Further, ACHS has learned a great deal since being formed in 2001. Undertaking the *Aberlady Heritage Project provided ACHS* great experience in terms of project and financial management and delivering a community project in general and used this to advantage in the 8thC *Anglian Cross Reconstruction Project* which followed immediately afterwards. Undertaking a second project supported through HLF will develop and improve our skills sets, to the benefit of Aberlady and East Lothian heritage. The strong emphasis on partnership working that runs through this current proposal (e.g. East Lothian Council; Historic Scotland; local schools, crafts groups) will continue to strengthen ACHS and its capacity to design and deliver other innovative heritage projects in the

future. Further, it is hoped that many individuals who take part in the different aspects of the project will join ACHS in some capacity, enabling us to grow our membership, contribute to our sustainability and strengthen the community's sense of common purpose.

A key element of the project is to encourage people to participate in project activities and to assess how many individuals who normally do not take part in ACHS or heritage related activities get involved in the project in one way or another. At the end of the project we hope to show how our audience profile has changed to include a wider range of ages, social backgrounds and people who have never generally engaged with heritage before.

Conserving and Managing our Heritage

As noted, the proposed excavation area is in a field that is scheduled under the Ancient Monuments and Archaeological Areas Act 1979. The suggested project will assess the condition of the surviving archaeology, the solid depth and the possible impacts from past and future (if any) land-use, with particular emphasis on the impact of cultivation using the risk assessment and mitigation model presented in COSMIC (OA 2006) as a reference point. From here, a future management plan for the site could be drawn up in association with the landowner, tenant and Historic Environment Scotland, should this be desired by all parties.

National Policy

Aberlady Angles is in-keeping with a number of current wider national, local, and regional policies. These policies cover areas including Planning: Cultural Heritage strategies: Tourism: Economy: Education: Outreach and Access. Further, the project is very much in-keeping with latest national and regional policy, particularly the Scottish Government's *Our Place in Time: the Historic Environment Strategy for Scotland.* Scotland's National Cultural Strategy; Historic Scotland's Corporate Plan; Scottish Historic Environment Policy (SHEP); Scottish Planning Policy (SPP); It also fits in with the Scottish Archaeological Research Framework (2013) and the Historic Scotland Archaeology Strategy Review.

National Policy Context

The Culture and Heritage Directorate

The Culture and Heritage Directorate identifies its key responsibilities (http://www.scotland.gov.uk/About/People/Directorates/Culture-Digital). This project will be aligned to many of these, including:

- To promote and develop the contribution of culture, heritage and creativity to sustainable economic growth and to improving the health, wellbeing and quality of life of our communities
- To increase access to and participation in all forms of cultural and creative activity
- To safeguard the nation's historic environment and promote understanding and enjoyment of our diverse heritage
- To create the conditions that support new, high quality and innovative activity – both in relation to arts & creativity but also in relation to the creative industries as a growth sector of the Scottish economy and to promote heritage and ancestral tourism as drivers of economic growth
- To maintain and promote a world-class record of the historic and built environment to local, national and international audiences

Our Place in Time **The Historic Environment Strategy for Scotland**

Our Place in Time: the Historic Environment Strategy for Scotland (2014) notes that the Scottish Government has as a vision for Scotland's historic environment and that is '…that it is understood

and valued, cared for and protected, enjoyed and enhanced. It is at the heart of a flourishing and sustainable Scotland and will be passed on with pride to benefit future generations' (2014, Strategy Cycle). It notes that this vision will be reached through the aims of understanding, protecting and valuing Scotland's historic environment and a number of strategic priorities which are relevant to the *Aberlady Angles* project are outlined. These include:

- **Cross-cutting Strategic Priorities:**
    - Ensuring that decision making is informed and that sound evidence-based information is available at all levels of decision making
    - Encouraging high-quality leadership and collaborative working at all levels and facilitate the creation of partnerships to achieve outcomes that enhance the economic, social and environmental wellbeing of Scotland.
    - Develop the skills and capacity at all levels that are needed to manage, nurture and enjoy the historic environment across all our communities
    - Mainstream the historic environment—ensuring the historic environment lies at the heart of a modern, dynamic Scotland.
- **Strategic Priorities**
    - **Understand: Investigate and Record:**
        - Continue to develop knowledge and apply new technologies and techniques to improve what we know, often through strategic partnerships, to aid our understanding of the historic environment.
        - To make knowledge about our historic environment as accessible and useful as possible to the widest audience—and to ensure its long term preservation for future generations.
    - **Protect - Care and Protect:**
        - Continue to develop a holistic and sustainable approach to the management of the historic environment.
        - Continue to apply (and develop) effective and proportionate protection and regulation with controls and incentives
        - Ensure capacity by supporting and enabling people to engage with the historic environment, making the values of the historic environment accessible to everyone.
    - **Value - Share and Celebrate:**
        - Enhance participation through encouraging greater access to and interpretation and understanding of the significance of the historic environment.
        - Continue to develop a broad-ranging approach to learning to grow understanding and active participation across all groups in society.
        - Support historic environment tourism and encourage access by making full use of our heritage assets to promote Scotland to domestic and international audiences.

Historic Scotland's Corporate Plan 2012-15

ACHS and AOC are aware that Historic Environment Scotland is currently consulting regarding their new Corporate Plan. This document, therefore, deals with the existing Historic Scotland Corporate Plan (2012-15) and how the *Aberlady Angles* project could contribute to the following key points as set out in the HS Corporate Plan 2012-2105 document:

- Increasing levels of collaboration and partnership between organisations and individuals with an interest in the historic environment, in the public, private and voluntary sectors, with Historic Scotland taking a major enabling role towards the common purpose of maximising the benefit of the historic environment (p7)
- Growing opportunities for all people to use, enjoy and understand the value of the historic environment, now and in the future (p7)
- Support creative ways for communities to engage with their local historic environment (p26)

Scottish Historic Environment Policy (2011)

In our view the *Aberlady Angles* project meets two of the three *key outcomes* identified by the Scottish Historic Environment Strategy and Policy (SHEP):

- It seeks to involve the public in the professional research of the possible Anglian buildings at Glebe Field in order realise and better understand the archaeological potential (and inform the ongoing protection and conservation management).
- The project aims to promote the educational aspects of the site, improving understanding and reinforcing local identity and sense of place.

It is also consistent with Section 3 of SHEP, particularly sections 3.16 and 3.22:

- The suggested intervention of the Glebe Field is less than 5% of the total scheduled area. Thus the project is in keeping with section 3.16 of SHEP whereby works on scheduled monuments should therefore normally be the minimum level of intervention that is consistent with conserving what is culturally significant in a monument.
- The research design, the methodology and the use of a CIFA accredited archaeological organisation will ensure that 3.22 of SHEP is met.

Scotland's Archaeology Strategy

The Aberlady Angles project is also in keeping with the recently announced (Sep 2015) *Scotland's Archaeology Strategy* 5 Strategic Aims. In particular we feel that the *Aberlady Angles* project relates to:

Aim One - Delivering Archaeology

To broaden and deepen the impact and public benefit of archaeology within and beyond Scotland

OBJECTIVES

a. Through communication and innovative practice, to foster a culture of collaboration and ambition locally, nationally and internationally

b. To upgrade the way that archaeological projects are structured, funded and delivered. To achieve proper resourcing, planning, execution, archiving and dissemination and to raise standards and ethics.

We should pursue and promote good practice in archaeology to maximise public benefit. Anyone undertaking archaeological activities should be encouraged to uphold appropriate standards in their conduct. Their work should be compliant with the Chartered Institute for Archaeologists' (CIfA) Standards and Guidance and any other relevant standards. Compliance with the key principles of the CIfA *Code of Conduct*, which defines the ethical responsibilities of all archaeologists, should be emphasised: to record reliably; to report promptly and to avoid

unnecessary damage to or destruction of the historic environment.

Scotland's archaeological resource is world-class but finite. To keep it outward facing and to encourage synergies with parties elsewhere in the world, we should disseminate research findings at international conferences and encourage and host workshops. Promoting an international dimension to archaeology in Scotland recognises her contribution not only to the development of our understanding but to the practice of European and world archaeology. International partnerships enable global perspectives to be rooted in local delivery.

Aim Two - Enhancing Understanding

To increase knowledge, understanding and interpretation of the past

OBJECTIVES

a. To promote and support research and ensure that all investigations into our past are clearly underpinned by research objectives

b. To make knowledge discoverable, accessible, referable and reusable now and for future generations.

We should continue to develop and support research frameworks and strategies at local, regional and national scales which encompass all aspects of archaeology. This helps us target knowledge gaps with appropriate activities and resources. Existing research frameworks and strategies should be acknowledged and used whenever applicable.

Relevant, sustainable archaeology for all means encouraging cross-sector and multi- disciplinary approaches and using international frameworks and collaboration where appropriate. This will emphasise and promote the international quality of Scotland's archaeology and provide maximum public benefit.

To ensure that research is innovative and useful, we should explore and promote accessibility, quality of knowledge and engagement across society. This should facilitate connections between everyone interested in archaeology in Scotland and support new audiences. By acknowledging the pool of expertise across archaeological practitioners and communities, we will increase our knowledge and understanding of Scotland's past and make interpretation more engaging and relevant.

Aim Three – Caring and Protecting

To ensure that the material evidence of the human past is valued and cared for by society and managed sustainably for present and future generations

OBJECTIVES

a. To enhance existing and develop new methods that encourage the sustainable management and protection of our archaeological resource

b. To ensure those managing change have access to expert advice and data

c. To ensure that, where an archaeological asset is subject to change, the information that it contains is transformed into high quality, accessible knowledge and enhanced understanding

d. To ensure the management of collections in museums and archives supports their accessibility for learning, research, creativity and participation.

The historic environment is a finite resource. Managing and protecting sites and landscapes

requires knowledge and understanding.

Managing these impacts, and protecting assets and the information they contain, often requires active intervention which should be led by expert advice. Historic environment managers, archaeological curators and, often, community-based interests will inform change and protection, sustainably manage those changes, and seek opportunities to collaborate with those managing other pressures. Those undertaking and managing change need access to suitably qualified experts who are able to keep abreast of new discoveries, ideas, innovations and research as they evolve and provide advice based on current best practice. This should be informed by Historic Environment Records, supporting the Scottish Historic Environment Data Strategy.

Museums and archives provide collections of material culture which provide a resource for study as well as enjoyment. Such collections need to be cared for, presented and managed by curatorial experts. Linkages between people, place and objects must be developed and maintained, along with creative strategies to promote and enhance links between national and local museums and archives, and between such collections with learning, research and creativity.

Aim Four - Encouraging Greater Engagement

To enable and encourage engagement with our past through creative and collaborative working, active involvement, learning for all ages and enhanced archaeological presentation

OBJECTIVES

a. To encourage creative and collaborative archaeological activities, developing better ways of engaging people with the process and results

b. To maximise the role archaeology can play in learning for people of all ages, benefiting from everyone's contribution towards valuing, understanding and promoting our past

c. To increase and improve the presentation and interpretation of archaeological information.

Archaeology has a significant role to play in enriching and improving people's lives. Engagement with, and participation in, archaeology creates powerful cultural bonds between people and places. People engage in different ways and at different levels and in order for Scotland to achieve the maximum benefit from its archaeology, more creative and collaborative working should be encouraged for all, enriching access and generating valuable, long-term legacies.

Scottish archaeology has long enabled learning and discovery, contributing to knowledge and skills development and encouraging community engagement. Formal and informal learning has helped people of all ages to understand, appreciate and enjoy aspects of our past. By promoting a wide range of learning and active involvement opportunities we can broaden participation, encourage people of all ages and abilities to join Scotland's archaeological community, and ensure that archaeology continues to make a major contribution to the nation's wellbeing. Archaeology has the capacity to make a significant contribution to the *Curriculum for Excellence* so that opportunities to learn and participate in a variety of ways can continue throughout people's lives.

We can also increase the impact of the study of the past by promoting and improving presentation and interpretation, conveying our collective enthusiasm for heritage to a wider audience. Sharing and celebrating the value of archaeology can take many different forms, ranging from scientific publication and innovative visualisation to storytelling and the creative arts. By increasing and enhancing the communication of archaeological work we will continue to contribute to the cultural, environmental, economic and social life of Scotland. By enhancing the

protection, investigation and presentation of our archaeological heritage we can hope to encourage greater engagement by current and future generations.

Aim Five – Innovation and Skills

To ensure that people have the opportunity to acquire and use the archaeological skills that they need or desire, and that those skills provide the underpinning for innovation in the understanding, interrogation, learning and funding of archaeology

OBJECTIVES

a. To develop and promote the supply of training and learning resources and opportunities at all levels to equip current and future generations

b. To demonstrate the importance of archaeological skills to employers and clients in order to promote demand

c. To improve collaborative links, knowledge transfer and creative synergies between universities, communities, museums, businesses, local authorities and the arts sector

d. To support the innovation, development and application of cutting-edge scientific techniques, more creative ways of funding, organising and managing archaeological projects, and new approaches to communicating and teaching archaeology.

Archaeology requires the application of a wide range of skills, from the discovery and interpretation of historic environment features and artefacts to engagement, communication and teaching. An adequate skills base and effective succession planning are essential to ensure that archaeology makes an effective contribution to society. Employers and clients paying for archaeological activity must be confident in the quality of the services they procure, including the accredited skills and competence of suppliers. Opportunities should be made available to *everyone* who has an interest in acquiring the skills to practise archaeology; everyone interested in archaeology has a role to play.

Exploring new ways of thinking about the past, gathering and maximising knowledge, and developing and adopting emerging technologies, will open up new avenues of funding, expand the knowledge base, improve interpretation of the past and capture everyone's interest and imagination. Archaeology can be a fertile development ground for innovative scientific methods, new technologies and the creative arts, and we should seek to improve links, synergies and collaborations between Scotland's creative industries, businesses, museums, scientists and communities. Developing new approaches to funding, organising and managing projects, and thinking creatively about how to share archaeological skills and knowledge accessibly and inclusively, will maximise the public benefit of archaeological and heritage resources.

The project is also relevant to other national policies including: **Community Learning and Development Regulations (Scotland) 2013,** particularly in relation to: **a**chievement through building community capacity, and building community capacity and influence by enabling people to develop the confidence, understanding and skills required to influence decision making and service delivery.

The project is also relevant to local policies including East Lothian's Single Outcome Agreement 2009; East Lothian Structure Plan; The East Lothian Local Plan; East Lothian Council Corporate Plan 2008 - 2012; *East Lothian Heritage Strategy* 2007 – 2010; and the East Lothian Tourism Strategy.

Consultation with stakeholders to date

To date, ACHS has spoken to a range of stakeholders about the project. Specific to this application they have consulted with the landowner and tenants of the Glebe Field, all of whom are supportive of the project and have given permission to allow the fieldwork to take place. ACHS and AOC have also spoken with HES during the scoping and funding of the project. HES are, in principle, supportive of the project. ACHS also have wide support from the local community, including local trust and heritage groups as well as local schools.

SECTION 2: SUGGESTED PROGRAMME OF WORKS

This section identifies how AOC intend to deliver the key research deliverables of the proposed excavations in Glebe Field. This section is, in essence a Method Statement and a Written Scheme of Works.

Project Set Up

Infrastructure and logistics
Prior to any onsite works taking place there will be a series of pre-off site programmes of work undertaken. This inaugural stage of the project will involve the initial set-up meeting for the project, including initial meetings with the client and other stakeholders to discuss the wider details of the project (including project management, staff arrangements and delivery programme).

During this off-site phase emphasis will also be on dealing with logistical and infrastructural issues that need to be addressed prior to any onsite works. An onsite meeting with HES (and other stakeholders) would be undertaken to discuss wider infrastructural logistics as well as probable trench layouts, spoil management etc. Issues of access and services will also be discussed.

On site facilities will comprise two serviced portaloos which will be located in north of the field, beside the gate.

AOC acknowledges that adequate site reinstatement is a key issue. As such, AOC will employ specialist reinstatement contractors. They will be on site and advise AOC on the reinstatement process (see below).

AOC staff involved in this set up stage will be Andy Heald, John Barber and Martin Cook.

Production of Risk Assessment and Health & Safety Plan
A draft Risk Assessment and a Health and Safety Plan has already been produced.

A final Risk Assessment covering all on and off-site works will be produced 2 weeks prior to the commencement of the fieldwork project and every member of staff and on-site volunteers will be required to read it prior to starting work.

A final Health and Safety plan will also be produced prior to the start of any fieldwork. This document will then be available on site for consultation. Given the volume of lifting involved in any excavation a key focus on this will be manual handling, the use of boots, gloves and TILE (Task, Individual, Load, Environment).

All known services will be identified and marked using a buffer zone.

AOC staff involved in this Stage 2 will be Martin Cook (AOC's NEEBOSH accredited Director), who will also be responsible for all aspects of H&S throughout the project (see below).

On-site work - evaluation to determine the character, nature, extent and quality of the buried remains

Survey

A grid, laid out with a total station, will be set up prior to any works starting. The grid will be employed over the whole site and all trenches and archaeological features will be related to this grid. This grid will be related to Ordnance Datum.

A programme of geophysics will be undertaken to compliment the earlier surveys undertaken in 1995, 1998 and 2008.

The trenches

As currently envisaged the archaeological works will comprise the machine excavation of one main trench across the two putative timber halls (figure 26). The precise trench locations will be determined in consultation with ACHT, HES and the landowner/tenant. In essence, the project will be a strip, map, record process, followed by a sample evaluation.

The proposed trench measures 30m x 50m. It is currently envisaged that the total area stripped will be 1500m in total area. The total field is approximately 40000m in total area. Thus, approximately 4% of the Glebe Field will be stripped during the project.

Prior to stripping 8 test pits will be hand-excavated across a sample of the trench to ascertain the depth of topsoil. It should be noted however that although the turf and topsoil will be removed from all of the suggested areas not all of the features in the trench will be excavated. Following stripping an on-site meeting with HES will take place to agree an appropriate excavation and sampling strategy.

At present it is currently envisaged that up to 50% of all linear features will be investigated, 100-50% of all post holes and pits, and an appropriate section across any interior deposits, should they survive. This will determine the character, function, condition, nature and date of the full suite(s) of features present. All of the features (following top soil stripping) will be hand cleaned and hand excavated.

The trench will establish the extent, condition, character, quality and date of any archaeological features present. The surrounding area will also be geophysical surveyed to attempt to identify other features within the area.

The trench will seek to explore the stratigraphic relationship, chronology and function of the possible buildings identified during the previous geophysical surveys. Specifically:

The structure

- Parts of a large rectangular building(s) of grandiose appearance and dimensions?
- Structure material – wood, stone or mortar?
- Trench foundations?
- Axial layout?
- Courts?
- End-chambers?
- Thickness of timbers and the great depth they were sunk into the ground?
- Buttresses?
- Wooden floors?

The interior

- Rooms large enough for setting out feasting benches? Perhaps with a raised platform?
- Areas of sleeping? Areas to accommodate sleeping warriors at night; king and the family sleeping chambers?
- Large central hearth for warmth and cooking – the symbol of the hosts hospitality.

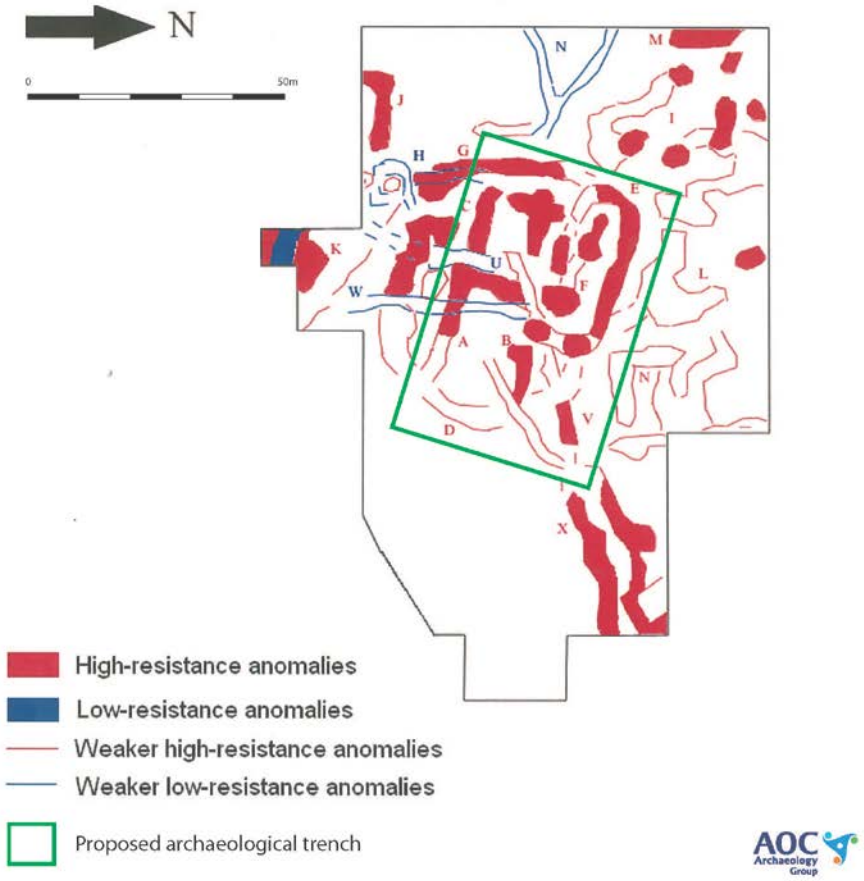


Figure 26: Suggested trench across the Glebe Field focussing on possible building 1 (A,B,C,D) and building 2 (E).

Excavation Methodology

Guiding Principles for onsite excavation
At this juncture it is important to stress that the fieldwork, and all accompanying components, will conform to current best archaeological practice and local and national standards and guidelines, for example:

- Chartered Institute for Archaeologists – Standards and Guidance for Archaeological Investigation and Recording of Standing Buildings and Structures (IfA 2008a).
- Chartered Institute for Archaeologists – Standards and Guidance and Guidelines for Finds Work (IfA 2008b).
- Chartered Institute for Archaeologists – Standards and Guidance for Archaeological Field Evaluations (IfA 2009).
- Chartered Institute for Archaeologists – Code of Conduct (IfA 2010).
- Chartered Institute for Archaeologists – Standards and Guidance for Geophysical Survey (IfA 2011).
- United Kingdom Institute for Conservation – Conservation Guidelines No.2 (UKIC 1983).
- United Kingdom Institute for Conservation – Guidance for Archaeological Conservation Practice (UKIC 1990).

All works will also be informed by:

- Council for British Archaeology – First Aid for Finds (Second Edition) (CBA 1987).

Below is a summary of the key guiding principles for AOC's onsite work.

<u>Deturfing and spoil management</u>
The areas will be excavated using a 360 tracked excavator. Following the hand-excavated test pits (see above) the topsoil will then be removed by machine under constant supervision by a qualified AOC archaeologist in spits. The area will then be hand-cleaned to the first archaeological horizon or the natural gravel geology, whichever is encountered first.

Once the archaeological interface has been exposed, all excavation will be by hand. All hand excavation will be undertaken according to IfA standard operating procedures.

All excavated soil and sediment will also be temporarily bunded next to the trench of origin for subsequent re-instatement. All stone will be kept separate to ensure satisfactory site reinstatement.

At the end of each working day the excavation area will be covered by a geotextile layer (Terram) to protect the trench base and over the sections.

<u>Metal-detecting</u>
Subject to agreement all the trenches and deposits will be subject to a metal detecting survey. All the soil removed from the site will be metal detected. The metal-detecting survey will be undertaken in line with national guidance, for example Treasure Trove law and CIfA guidance Standard and Guidance for Archaeological Field Evaluation (2013a). All metal detector surveying will be undertaken using Whites M1 metal detectors (primary detector and smaller unit for detailed location). This will allow for a degree of overlap between transects in ensuring ground is

not missed. Artefacts will be bagged by artefact category and find spots will be marked and surveyed and tied into the Ordnance Survey Nation Grid using survey-grade RTK GPS equipment.

Trenching

Trenching will be undertaken according to AOC Archaeology Group's standard operating procedures.

Trenches will not exceed 1.2 m in depth. If deeper excavation is required, the trenching will be stepped to make them accessible and safe.

Trenches will be left open so that Historic Environment Scotland have the opportunity to inspect them. In preventing damage to ground surfaces, movement of the Plant across the site will be kept to an absolute minimum. Overnight the total area will be covered by terram.

Field recording

Field recording will be in accordance with standards of the MoLAS Archaeological Field Manual and current CIfA standards and practices.

Records will be produced using both pro-forma context and trench record sheets using the single context planning method. Individual finds, sample and drawing registers will be maintained for each phase of the project, with each trench being provided with an individual folder. In addition, a general site daybook, and more specifically a trench daybook will be maintained throughout. Separate samples forms will be used for all environmental records including radiocarbon dates. A separate survey book will be maintained.

All features will be allocated individual numbers and blocks of numbers will be used for individual trenches to easily distinguish different excavation areas. A record of the full sequence of all archaeological deposits as revealed will be made. Plans and sections of features will be drawn at an appropriate scale of 1:10 or 1:20, with all sections drawn at 1:10. Burials, if found, will be recorded at 1:10. In addition, a 3D digital survey record of each intervention will be recorded and presented within the interim and final reports. All drawings will be allocated unique numbers and recorded in a register. All drawings will show the scale, north arrow, a key, site code, date and author and will be drawn on drawing film. All drawings will be located on the site grid (tied to the National Grid). All levels on plans and sections and all drawings will be related to Ordnance Datum.

Photographs will be taken throughout the project and will include record shots of all features, structures and working shots. Prior to any the excavation, the area will be photographed for recording purposes, particularly pre-excavation condition shots. Subsequently, following the backfilling of the trenches, the area will again be photographed to provide a complete record of the works. Photographs will be taken and stored as .jpeg files, as per RCAHMS recommendations. If deemed appropriate by SP, and in order to provide aerial images of the excavation as it progresses, AOC will periodically take aerial images of the site and excavated areas using a drone quadcopter. As well as providing a record of the excavations as they progress, the images will also be used for publicity.

A total station will be utilized for the duration of the fieldwork. As well as using the total station for setting out the site grid (see above) it will also be used for recording all significant finds in three dimensions. All three dimensional data and all site plans will be entered into a GIS system, thus enabling complex spatial interrogation of all the datasets. 3D location of all finds and provision of site levels will be undertaken on site using a total station working on the Ordnance Survey grid,

established using differential GPS.

Sampling

Bulk samples - 10L for wet and 40L-60L for dry - will be taken from appropriate contexts for the recovery and assessment of environmental data and dating (see below; post-excavation section). Provision will also be made for column and other appropriate samples to be taken if appropriate. Collapse and abandonment deposits will be sampled in order to provide comparative data for *in situ* occupation deposits and buried ground surfaces. All contexts will be dry-sieved to ensure the recovery of all artefacts. If waterlogged or charred organic material survive these will be collected (on-site advice will be taken from AOC specialists Anne Crone and Gretel Evans; see below). Routine soil samples of at least 500g will be collected from all deposits other than turf. These samples will then be utilised for pollen analysis, pH analysis, and phosphate, loss on ignition or particle size analysis and for characterisation of the sediment during the post- excavation phases. Particular attention will also be paid to the recovery of charcoal from key stratigraphic locations: for radiocarbon dating (see associated strategy, below).

Human remains

Any finds of human remains will be left *in situ*, covered and protected, and the police informed. The handling of human remains will be undertaken with the greatest respect. No remains will lie exposed for any longer than absolutely necessary. All works will be in strict accord with Historic Scotland's policy document, The *Treatment of Human Remains in Archaeology* (1997). Every measure will be taken in assessing every stage of work involving the exposure, handling, removal and packaging of human remains so that work can be carried out in as prompt and respectful manner as possible. In addition the *Code of Ethics and Code of Practice* produced by the British Association for Biological Anthropology and Osteoarchaeology will be adhered to http://www.babao.org.uk/index/ethics-and- standards. AOC currently hold the HS Human Remains call off contract and are well-versed in the appropriate standards to adhere to. If appropriate AOC's in-house human remains expert (Melissa Melikian) will be consulted during any human remains discovery.

Artefacts

All identified artefacts will be treated as small finds, collected and retained, and located in three dimensions. All hand retrieved finds will be assigned a small find number in the field. This will include metal detected finds, each of which will be assigned an individual number in the field and the context and location of discovery recorded. The finds will be processed on site by volunteers under the guidance of the on-site find specialist Andy Heald. Surface soil will be removed by careful washing or dry brushing. Once dry, the finds will be bagged and labelled and where necessary, individually packed to ensure long-term stability. All finds will be numbered, recorded by context and material type within the finds register. All finds will also be 3D surveyed into the site grid.

Finds will be examined on site initially to assess the possible date range of the assemblage with particular reference to pottery and metalwork.

All finds and samples will be treated in a proper manner and to agreed standards. Finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in United Kingdom Institute for Conservation's Conservation Guidelines No. 2 (UKIC 1983). Any high value finds (e.g. items of non-ferrous metal) or special/particularly fragile finds (e.g. glass etc.) will be packed using conservation standard materials. Such finds will be removed from site at the end of each day and returned to AOC secure premises.

Identification of finds from the site is critical as, in the absence of immediate radiocarbon dates;

the team will be relying on artefacts to guide interpretations of site chronology and use. Thus, AOC's in-house finds specialists Drs Andy Heald and Dawn McLaren (former curator and post-excavation manager at NMS) will be on-call during the whole excavation stages to undertake spot identifications of finds. Where appropriate AOC will liaise with George Haggarty, the leading medieval and post-medieval pottery expert in Scotland. Further, prior to excavation, Andy Heald will provide a short onsite community training workshop on artefacts for the volunteer participants to provide an introduction to the types of artefacts that might be encountered during excavation and what to look out for during the dig. Andy will use examples of objects from our handling collection and images allowing the volunteers first-hand experience of engaging with artefacts. In addition, at this workshop, basic find's retrieval procedures will be discussed so that volunteers with little to no previous excavation experience are aware of the 'do's and don'ts' of recovering artefacts. How to record finds in the field will also be outlined so that on- site processes can be better understood.

Conservation

As noted, provision for onsite conservation and finds treatment, in addition to any scientific dating of materials uncovered, will be undertaken where appropriate. This will include the provision of AOC's in house conservation team (led by Gretel Evans) to site in the event that significant and delicate artefacts or delicate charred *in situ* timbers are discovered. Basic conservation of artefacts (slow drying out, packaging, finds washing/dry brushing etc) will be undertaken within the site precinct. However, if more specialist conservation of objects is required this will be carried out within AOC's Loanhead conservation laboratory; AOC is the only commercial unit in Scotland to have such a designated Conservation laboratory and associated staff.

Security

Site records and artefacts will be removed from site at the end of each day and will not be left on site unattended. As per their existing HES contracts (Human Remains and Conservation call off contracts) AOC guarantee the safe and appropriate storage of all artefacts and samples in appropriate conditions until deposition into archive.

Immediate Data Structure Reporting

A report will be produced in the form of a Data Structure Report, prepared in accordance with current standard Historic Scotland procedural requirements and IFA standard procedures. Specifically the Data Structure Report will contain the following:

- the location and National Grid Reference of the site;
- a non technical summary describing briefly the work undertaken and a brief outline of the phasing and history of the site;
- a full descriptive text detailing the archaeological features identified as part of the evaluation and an interpretation of their date and purpose;
- appropriate lists and diagrams summarising the contexts and artefacts recovered and the records made of them;
- a selection of digital photographs to illustrate the written report;
- fully referenced bibliography;
- photographic print and slide registers as an Appendix;
- '*Discovery and Excavation in Scotland*' (DES) Entry as an Appendix;
- analysis of the results of the works, including any appropriate post-excavation appraisals.

Post-excavation

A costed Post-Excavation Design will be prepared immediately after the excavations and in close consultation with Historic Environment Scotland. All post-excavation analyses will be completed to AOC's standard operating procedures (available on request).

Artefacts

The artefact assemblage from Glebe Field is likely to be fairly small in size but wide ranging in the types of artefact recovered based on the artefacts recovered from excavation on other later prehistoric/early historic sites. Artefacts from the site are likely to be largely domestic in character, spanning a broad date range from the later Bronze Age into the medieval period. In addition to the later prehistoric/early historic material culture that is anticipated, there are likely to be traces of earlier activity on the site in the form of scatters of struck lithics as well as the potential for post-medieval and modern finds (such as clay pipe fragments) indicative of visitors to the site over the last few centuries.

Despite the largely domestic character anticipated by the finds, this material has the potential to provide a great deal of information about the site which will enhance our understanding of the nature, density and longevity of settlement at Glebe Field as well as enabling glimpses into the crafts and activities undertaken at the site. Tools indicative of textile or leatherworking, or even waste material from the production of metal objects may be encountered. Other nearby sites have produced small quantities of struck lithics and coarse stone tools such as whetstones and quern fragments as well as sherds of coarse handmade pottery, metal finds (including iron and copper alloy), metalworking waste & ceramic mould fragments. There is also the possibility for glass and stone beads and other personal ornaments such as pins and brooches which can tell us about aspects of dress and concepts of personal identity. E ware ceramics as well as imported glass and insular metalwork may also be anticipated. The soil overlying the site may not be conducive to the good preservation of bone, incl. animal bone/human bone but where pockets of deep archaeological deposits are preserved, the survival of organics may be encountered.

Specific questions that should be addressed throughout the post-excavation analysis include:

- Are the artefacts from Glebe Field largely domestic in character? If so, what can they tell us about the nature of activities taking place on site?
- Can any distinction in material culture be determined in different areas of the site?
- Can any distinction in material culture be determined between different structures?
- Do the artefacts provide any information on the potential date of activity on site?
- If so, are there differences in the composition of the artefact assemblage between distinct phases?
- Are any objects present which indicate craft activities were taking place on site? If so, what type of crafts are indicated?
- If so, can any craft zones, in or out-with the site be determined. E.g. if metalworking is in evidence, is it restricted to a particular area within the fort?
- Are any foundation or 'special' deposits present?
- Do any finds suggest contact out-with the locale of the site? E.g. contacts with other Early Historic areas?
- What do the finds tell us about the site occupant's access to raw material and resources?
- How does the Glebe Field artefact assemblage contribute to our understanding of the role, function and date of Scottish Early Historic settlement?

The artefact report will be produced by Dr Dawn McLaren. Where appropriate additional advice will be taken from Dr Andy Heald. If necessary other external specialists will also be included.

Environmental samples

Sampling is critical to the entire project. Thus, all significant and relevant bulk samples collected during the onsite fieldwork programme (estimated as 80 bulk samples) will be processed by flotation in AOC's Edinburgh office by AOC's inhouse specialist Jack Robertson. Flotation will follow standard procedures.

The sample residues will then be processed, again by Jack Robertson. Retrieval of artefacts from said bulk sample residues will form part of the wider artefact analysis undertaken by Dawn McLaren (see above).

Further, particular attention will be paid to the recovery of burnt material from key stratigraphic locations for radiocarbon dating (see below),

An environmental assessment will be completed and recommendations will be made for analysis of, for example, animal bone; pollen analysis, pH analysis, and phosphate, loss on ignition or particle size analysis and for characterisation of the sediment. A summary report on the animal bones and archaeobotany will also be undertaken. In keeping with the artefactual analysis this report will focus on key research questions such as:

- If animal bones are present, do these represent food debris? And if so, what species of animal are represented? Are they largely 'domestic' species?
- If cereals are present, what species are represented and what does this tell us about arable farming in the locale of the site?
- How does the Glebe Field ecofactual assemblage contribute to our understanding of the role, function and date of Scottish Early Historic settlements?

Dating

As stressed throughout this document the development of a considered strategy for absolute dating of relevant contexts is an essential part of the overall project.

Appropriate radiocarbon dating strategies must be adaptive to the conditions encountered on site, the nature and context of available samples and responsive to emerging research questions. AOC have a close and well-established relationship with colleagues at SUERC, who will be consulted closely in the design of the radiometric dating strategy and subsequent modelling of the results.

Radiocarbon Dating – Strategies

The radiocarbon dating strategy must be designed in response to the wider academic research questions being investigated. With this in mind, contexts will be selected for radiocarbon dating that are considered by the project directors and advisors to address answerable questions relevant to date/duration of use, to chronologically bracket phases of activity or to provide a likely date for abandonment.

During the excavation, contexts will be identified that are considered likely to provide meaningful dates, and strategies for the identification of suitable samples will be specified in the *PERD.* The selection of contexts and samples will be peer reviewed by HES and other advisors. Organic materials selected for radiocarbon dating will be identified by AOC's specialist staff, Anne Crone (wood/charcoal) and Jackaline Robertson (bone, cereals, plant macrofossils).

Single-entity samples for radiocarbon dating will be selected in accordance with good practice guidelines specified by Historic Environment Scotland and SUERC and, where necessary, in consultation with SUERC staff.

Bayesian Modelling

It is envisaged that High precision accelerator mass spectrometry (AMS) radiocarbon dating will be undertaken at the Scottish Universities Environmental Research Centre (SUERC) using well-established techniques. These single dates will be modelled within an interpretative Bayesian statistical framework. Bayesian modelling is an innovative and groundbreaking method that may allow us to reliably date finer aspects of the Glebe Field's history.

Bayesian statistics provides an explicit, probabilistic method for estimating the dates of events that happened in the past, while also quantifying the uncertainties on those estimates. This methodology will be applied using the program OxCal v4.2, which uses a form of Markov Chain Monte Carlo sampling. Details and algorithms used in this process are described in Bronk Ramsey (1995, 1998, 2001, and 2009). Buck et al. (1996) introduce the approach from an archaeological point-of-view, and Bayliss et al. (2007) provide an introduction to building Bayesian chronologies in archaeology. It is possible, through this approach, to calculate indices of agreement for individual dates, as well as the overall model, to test the sensitivity of the modelled information to different assumptions, interpretations, and even the introduction of new data. Bayliss et al. (2007) has shown through simulation that the method produces reliable and robust results.

While the Glebe Field archaeology is currently undated, excavation of similar sites broadly indicates that the site may have been built and occupied sometime between AD500 and AD 900.

Final reporting

Following all of these stages (interim DSR, PERD, and artefact, environmental and dating projects) a final publication report will be created and submitted to ACHS and HES. It is envisaged that this will be written in the format suitable for publication in *Proceedings of the Society of Antiquaries Scotland*.

In addition Summary Reports on the works and its findings will be submitted to *'Discovery and Excavation in Scotland'* and the *OASIS* online archaeological reporting facility.

Four paper copies and one digital copy of the report will be supplied to the client.

Paper and digital copies of the report and post-excavation design will be supplied to Historic Environment Scotland and East Lothian Archaeology Service (ELCAS).

Archive Deposition

The archive from these works will be prepared for deposition in the National Monuments Record of Scotland within 6 months of the completion of all fieldwork.

The disposal of small finds will be conducted in accordance with Scottish legal requirements and according to CIFA standard procedures.

SECTION 3: THE TEAM

Introduction

This section of the document details the background, experience and responsibility of key team members AOC will use to carry out the work. All of the individuals have already been named throughout this document. This section demonstrates their suitability for the task.

As stated earlier all work carried out by AOC Archaeology Group is underpinned by the critical application of precise planning, careful risk management, and professionalism. This is all underpinned by our wide-pool of experienced staff. AOC Archaeology Group is a Registered Archaeological Organisation (RAO) through the Chartered Institute for Archaeologists (CIfA). This means that all work carried out by AOC staff is carried out in compliance with the codes of practice of the CIfA. AOC Archaeology Group is also accredited with ISO 9001:2008, a reflection of the Quality Management Systems that AOC has in place and a system (independently audited) that all staff have to adhere to.

AOC has over 60 highly qualified and specialist staff. They have an exceptional portfolio of talents drawn through decades of experience in the private, public and third sectors. As highlighted below key sectors include: consultancy, fieldwork, HBR, geophysics, laser scanning, post-excavation, conservation, community outreach and research publications. Whilst AOC cover all chronological aspects of Scottish prehistory, we have an excellent knowledge of first millennium AD projects, with AOC completing, as noted earlier, excavations at a variety of sites, often in collaboration with other heritage groups, including the Moredun Hillfort (with the Tayside Landscape Partnership), Dun Cromar (Forestry Commission), Craig Phadraig (Forestry Commission), the SERF Project, the Hillforts of Strathdon Project. AOC staff also have considerable experience in delivering community projects. AOC's Outreach work was very highly commended in the March 2014 inspection of the Company by the Institute of Archaeologists.

Key staff members who will be involved in the project are:

- Dr Andrew Heald MCIfA (Director / Managing Director): Overall Project Manager and Quality Assurance.
- John Barber MCIFA (Chairman): Overall Project Director of fieldwork
- Lindsay Dunbar MCIFA (Project Manager), Project Manager of fieldwork
- Jamie Humble ACIFA (Project Officer): Management of all aspects of measured survey and also evaluation.
- Charlotte Douglas (Project Officer): Management and co-ordination of all aspects of public engagement and community archaeology including marketing.
- Alice James (Project Manager): Management of the geophysical survey aspects of the project, including training, data collection, interpretation and presentation of the results.
- Dr Ciara Clarke MCIfA (Director / Post-Excavation Director): Overall management and co-ordination of the artefacts and post-excavation recommendations.
- Dr Dawn McLaren MCIFA (Project Manager): Overall co-ordination of artefact analysis and on site artefact works, with specialisms in coarse stone, metal, glass, prehistoric ceramic.
- Gretel Evans (Conservation Project Manager): Overall co-ordination of conservation and on site conservation.
- Dr Anne Crone: (Project Manager): Dendrochronology and wood id.
- Jackaline Robertson: (Project Officer): Environmental sampling, charcoal id.

- Pat Buchanan: (Project Manager): Management and co-ordination of the evaluation of the whole project.

All of the key staff outlined above have a proven track record in relevant areas to the commission particularly:

- Designing and delivering successful Iron Age and Early Historic research led projects, including working on Auldhame project.
- Delivery of survey, excavation, post-excavation, conservation of archaeological sites, monuments and artefacts.
- Design and delivery of successful Community Projects, including training volunteers, as recently commended in their 2014 IfA Inspection.
- Design and delivery of successful Outreach programmes, particularly in relation to school projects.
- Project managing and evaluating Heritage Lottery funded projects.
- Exemplary Project Management, Financial and Communication skills as shown by their recent ISO 9001:2008 award, and passing of their subsequent inspections.

Other Specialists

AOC staff have a good relationship with a number of respected scholars, academics and other site specialists who we would seek to employ during the course of the project.

- Fiona McGibbon (Geologist) On site advice on geology (if required)
- Welfare will be provided by Nixon Plant Hire.
- Conservation and Reinstatement: Upland Access, specialists in rural reinstatement will backfill the site in conjunction with AOC.
- George Haggarty (Leading ceramic specialist) may be involved if post-medieval pottery is found. It is possible that he could run a workshop on medieval and post-medieval ceramics.

Commitment to Quality Management

To ensure that the project is completed on time and on budget the overall Contract Manager will be **Dr Andrew Heald** (MCIfA). Andy is AOC's Managing Director and has extensive experience at project / contract / quality / financial management of large-scale, complex projects for a variety of public, private and third sector clients. Andy has overall responsibility for the financial and fiscal performance of AOC Archaeology Group and the Company's annual turnover of c£2.5 million. Andy will take overall responsibility for the AOC operation of the contract to ensure that professional standards in all areas (health and safety, fieldwork, sampling, post excavation, time and budget control) are always maintained in line with ACHS's aspirations and AOC's various accreditations including RAO, ISO 9001:2008, ACHILLES and SAFECONTRACTOR. If, in exceptional circumstances (eg illness) Andy is unavailable, responsibility for management of the contract will pass to **Dr Ciara Clarke** (MCIfA). Ciara is a Director of AOC and the Deputy Managing Director.

Andy or Ciara will respond to any enquiry from the ACHS and HES Project Manager within 1 hour of notification (phone or email). Andy or Ciara will be available for face-to-face meetings in Edinburgh within 24 hours of notification (phone or email) at any point on the project.

Summary CVs

Dr Andy Heald, AOC's Managing Director, will be responsible for quality assurance of all AOC outputs (see above)

John Barber

John has over thirty-five years experience within varying aspects of the heritage industry ranging from field excavation to the presentation of archaeological sites. He worked for Historic Scotland for fourteen years, latterly as Senior Field Archaeologist, managing their Central Excavation Unit. During this time he directed many large-scale field projects and pursued his research interests in archaeological science, theory and practice, the Later Bronze Age, the Early Christian Period and early wood technology, publishing widely on these subjects. He left in 1991 to form AOC Archaeology Group and as Chairman, determines the strategic direction of the company. He is an acknowledged expert in the area of archaeology, heritage and planning legislation and is an experienced Expert Witness at public inquiries regarding archaeology. John is also a specialist in the field of Cultural Resource Management and acts as archaeological consultant to a wide client portfolio, on projects ranging from commercial developments to Heritage Lottery funded projects. John is active in raising the public profile of archaeology more widely and has given many public presentations, including several television appearances and a number of invited lectures at international conferences and business gatherings. John is currently undertaking reseach into the engineering, architecture and conservation of Iron Age structures with the University of Edinburgh.

Lindsay Dunbar
Lindsay has been based in Edinburgh since graduating and was joined AOC in May 2000. In the years between graduation and this full time post he worked as self employed field archaeologist. He has gained experience of a full range of fieldwork techniques and worked on many types of projects and sites from field surveys to full excavations.

Lindsay has coordinated numerous large scale projects, including a multi-phase excavation at Kintore, Aberdeenshire, for more than seven months during 2000 and the complete excavation of a prehistoric enclosure at Braehead, Glasgow during summer 2001. One of our most experienced managers, Lindsay has also excavated a number of significant monuments, including an upstanding Middle Bronze Age roundhouse at Helmsdale, Sutherland, and an early Christian Pictish long cist cemetery at Auchterforfar, by Forfar, Angus. The latter was udertaken as part of the Historic Environment Scotland Human Remains Call-Off Contract. He has excavated Roman burials and Medieval backland features in Wetherby and led a multiphase evaluation and excavation of a Iron Age ladder settlement at a 40 ha site close to Starr Carr, Scarborough. In the last couple of years Lindsay has led the excavation of a medieval site in Edinburgh's Old Town, a barrow cemetery at Forres, an unenclosed prehistoric settlement at MacAllan Distillery and in 2014 undertook the excavation of a limekiln complex and quarry at Draffen, Stewarton.

'*Ritual, Roundhouses & Romans, Excavations at Forest Road, Kintore*' a joint publication with co-author Murray Cook was released in August 2008 with Vol.2 on the later Kintore Excavations due out in 2016. The Society of Antiquaries published his article on the Helmsdale roundhouse in 2008 with the Auchterforfar Pictish cemetery and MBA settlement at Arbroath both published in TAFAC in 2012. SAIR publications of excavations at MacAllan Distillery and Cowgate Fire Site are both forthcoming, as is as a joint paper on two long barrow cemetery excavations with co-author Martin Cook.

Jamie Humble
Since graduating from the University of Glasgow in 2006 Jamie has been employed on a wide range of excavations and other commercial projects in Scotland and England. He has directed a number of excavations, notable amongst these are: the excavation of a Mesolithic and later prehistoric settlement at Echline, South Queensferry; the excavation of the Nave and Sacristy of the Cistercian abbey at Furness, Cumbria ahead of stabilisation works, a project which required close co-ordination between the archaeologists, English Heritage and structural engineers. Jamie has carried out research excavations in Aberdeenshire at Cairn More, a Pictish enclosed settlement and in Babithan Wood, investigating Bronze Age hut circles and cairns. Jamie joined AOC in 2013 as part

of the company's survey and geomatics department. Recent projects have included survey of chambered cairns on Arran; survey and excavations at the Moncreiffe hillfort and the survey of two Iron Age brochs of Dun Suladale and Dun an Ruaigh Ruadh.

Martin Cook
Martin is a Director of AOC and is AOC's Fieldwork Project Manager. Martin has directed over 30 sites including elements of the 1560 fort defences around Leith, the historic Tron Church in Edinburgh, and the 2013 Comiston Roman community Dig, on behalf of Archaeology Scotland and City of Edinburgh Council. Martin also manages the long running Cramond Management Plan Project, which includes the community excavations at Cramond Roman fort. In addition to his own projects, Martin has also project managed the excavations at The Fort, Edinburgh which included a community element (open weekends, workshops), and the recent Victoria Primary Excavations, Leith which involved the pupils of the school. Martin has worked on several hillfort and enclosed settlement sites, directing the evaluations at the Bronze Age enclosure at Aird (Dum and Galloway), the Iron Age enclosures at West Prestonpans (East Lothian) and Easter Langlee (Scott Borders) and the Dryburn Enclosure (East Lothian), as well as working as an excavator at the Brown Cathertun and Braehead defended settlement. Martin has carried out research excavations as co-director in Moray (Moray Enclosures Project) and Aberdeenshire (Cairn More) and has spoken widely on the results of his excavations and research. Many of these sites have been published. Martin will be responsible for the overall project management of the entire project and will aid FC during the fieldwork season, following their specific instructions and direction. Martin will be responsible for the overall project management of the entire project. Martin has a NEBOSH qualification and will also be responsible for all Heath and Safety on site.

Katie Roper
Katie is AOC's Public Archaeology Officer, and has sound experience in public archaeology projects. Katie is integral to AOC's strategy for promoting public archaeology and disseminating the results of archaeological research to the general public, particularly through social media. Katie will take part in the excavation work and will aid with the community liaison and training part of the project.

Dawn McLaren
Dr Dawn McLaren is AOC's material culture specialist. From 2003 to 2012 Dawn worked as a research assistant, and latterly, Post-Excavation Officer within the Archaeology Department at National Museums Scotland in Edinburgh. During this period she developed expertise in identifying, recording and reporting on prehistoric to post-medieval artefacts. She joined AOC in 2012 where she is engaged in artefact analysis as well as assisting with the management of a variety of post-excavation projects. Dawn has recently completed artefact analysis for the Broxmouth hillfort publication. Dawn will play a key role in all artefact components of the project, particularly during the post-excavation programme.

Gretel Evans
Gretel is a hugely experienced conservator, having worked for the National Museums of Scotland and the Riverside Museum, Glasgow. As AOC's Senior Conservator, Gretel is responsible for all aspects of the conservation of the objects in the care of AOC Archaeology. Gretel manages the allocation of conservation projects and the work schedules of members of the conservation team ensuring that the quality of work is maintained over all projects. Gretel is an accredited member of ICON. Gretel would be on hand to provide instant advice on any queries related to the condition of artefact assemblages, should such assemblages be forthcoming.

Alice James
Alice is a highly experienced geophysicist, having worked extensively on both commercial and research-based geophysical surveys in both Britain and continental Europe. Alice manages all

aspects of AOC's Geophysical Survey team, scheduling and reporting. Alice is familiar with various survey methodologies (gradiometer survey, magnetic susceptibility survey, resistance survey, ground penetrating radar, electrical resistance tomography survey and topographic survey), as well as developing skills using a range of software packages used to process and visualised geophysical survey results.

Pat Buchanan
Pat has over 20 years tourism and economic development experience across public and private sectors. She has worked on strategy development at national, regional and local area levels, developing and facilitating multi-agency and public/private sector approaches to translate strategy into progress on the ground. Her particular strength lies in the development of new tourism and heritage products. Pat has worked with national agencies, local communities and business to develop tourism based on cultural and natural heritage. She was a Member of the Scottish Government's Rural Development Council. Pat has worked with Turizem Bohinji, Slovenia for a number of years. She contributed to a report on the Dynamics of Rural areas funded under the EU Forth Framework Programme. Pat has a particular strong track record in fundraising for heritage projects from various sources (European funders, particularly Leader and HLF). She is also integral to the evaluation of all of AOC and our clients' projects and led, for example, the River of Stone and North of Scotland Archaeology Society evaluation reviews.

Health and Safety

AOC Archaeology maintains the high standards of health and safety, both on-site and in our premises, and a copy of our Health and Safety policy can be supplied on request. AOC recognise the difficulty in working at high altitude, in an exposed location, and this will be taken in to account in all Risk Assessments and Method Statements. Prior to any work taking place AOC Archaeology will prepare a detailed site specific Risk Assessment for the project. Martin Cook, our Health and Safety Director, is NEBOSH qualified and will manage all the H & S during the project, and on site.

AOC Archaeology is accredited within the Contractors Health and Safety Assessment Scheme (CHAS), has SAFE contractor accreditation and is Achilles registered.

All AOC Archaeology site staff working on the project will be qualified First Aiders, accredited under the CSCS workplace safety scheme, and be CRB checked.

All areas of excavation will be fenced with orange hazard fencing and hazard tape by AOC Archaeology in order to minimise any potential risk to bystanders and community participants. AOC Archaeology will also provide hi-visibility clothing and other personal protective equipment (PPE) where required.

The project will be carried out in accordance with safe working practices and under the defined Health and Safety Policy. The Construction (Design and Management) Regulations 1994 (CDM) may apply to the archaeological work depending on whether contractors other than the archaeological team are present on the site.

A separate Risk Assessment/Method Statement (RAMS) will be prepared prior to the commencement of the project, and for each element of the project including one specific to the community groups and schools visits. All personnel will attend an induction meeting where risks and procedures will be explained and will be required to notify the directorship/site supervisor of any health issues relevant to their participation on site. Emergency procedures, including provision for restricted telecommunications will be made clear to everyone on site in the site induction. Special care and attention will be taken whenever younger children are on site.

Staff present on site will be required to wear the appropriate Personal Protective Equipment (PPE), which will be issued as necessary. Facilities will be made available on site for washing.

Welfare facilities including washing facilities and toilets will be made available to all participants.

AOC Archaeology Group will provide all staff on the project with copies of all health and safety documentation produced by AOC. Sub-contractors health and safety performance will be kept under review and action taken if necessary.

Regular audits of health and safety practices will be carried out during the course of the project by the AOC Project Manager in consultation with the workforce. Toolbox talks on health and safety issues will be conducted at minimum during both weekends and/or after changes in working practices or identification of new threats or risk.

Community Volunteers

The project is being run as a community excavation. AOC will have 5 members of staff on site durign the proposed excavations. One (Katie) will be responsible for a large part of the time co-ordinating school visits and general tours; the remaining 4 staff (John, Lindsay, Jamie and Andy) will be supervising the community volunteers. The amount of volunteers is being capped at 15; respresenting a professional to volnteer ration of 1: 3.75; rising to 1:3 when Katie is not undertaking school visits (currently shceduled for 50% of the excavation time).

SECTION 4 ORGANISATION DETAILS

This section outlines the Organisation and Contact details of AOC Archaeology Group.

Full name of organisation tendering
AOC Archaeology Group

Registered office address
AOC Archaeology Group, Edgefield Industrial Estate, Loanhead, Midlothian, EH20 9SY

Main contact for this contract
Name: Dr Andrew Heald, Managing Director, MCIFA, FSA Scot
Address: (as above)
Email: andy.heald@aocarchaeology.com
Phone: 0131 440 3593
Mobile: 07824562186

Company or charity registration number
SC196924

VAT registration number
GB593120452

Type of Organisation
A Limited company

Total number of employees employed
61 employees

Length of time AOC has been operating
August 1991

Insurance
AOC Archaeology holds Employers Liability Insurance (£10 million), Public Liability Insurance (£10million) and Professional Indemnity Insurance (£5 million). Copies of our insurance details can be supplied on request.

ISO 9001: Commitment to Quality Project and Financial Management
AOC understands that managing a community project requires sound project management and organisational capacity. AOC has developed its standard operational procedures, organisational structure, quality assurance and associated policies to ensure that the undertaking and management of all commissioned heritage projects are brought to a conclusion within the agreed time frame and budget, achieving client satisfaction as well as professionally collating and preserving data and finds.

All work carried out by AOC is underpinned by the critical application of precise planning, careful risk management and professionalism. AOC has been awarded status as a Registered Archaeological Organisation (RAO) through the Chartered Institute for Archaeologists (CIfA). This means that all work carried out by AOC is carried out in compliance with the codes of practice of

the CIfA. Further, AOC is accredited with ISO 9001:2008, an independent verification that all of our internal management systems conform to international standards of quality project and financial management. In February 2016 AOC passed their second external ISO 9001:2008 audit.

PREVIOUS EXPERIENCES IN THE SUCCESSUL DELIVERY OF SIMILAR PROJECTS

This section outlines AOC's previous experience in the successful delivery of projects similar to the Aberlady Angles project.

Summary

AOC has a strong track record in the successful delivery of projects similar to the Aberlady Angles project. In order to demonstrate this this section of AOC's ITT return has been subdivided into areas which AOC believe are pertinent to the ACHS project. Specifically:

Core heritage services

The scope of the ACHS project is varied and includes an understanding of, and track record in, the successful delivery of core heritage services including: writing SMC applications; production of Method Statements and WSIs; production of desk-based assessments; survey; geophysical survey; metal-detecting; archaeological fieldwork; recovery, curation and understanding of artefacts, human remains and ecofacts; conservation; post-excavation analysis (including dating); reporting; publication; archiving; and on-site logistics including site reinstatement. The tender also requires demonstration of working well with external specialists.

Understanding of Early Historic archaeology with a focus on the Angles and Britons

Given that the project is centred on the excavation of a possible Anglian settlement, it is expected that the applicant must have a good track record in the understanding of this period and successful delivery of similar period specific projects, research and publications.

Public Outreach

The Aberlady Angles project has a significant public outreach focus and, therefore, it is expected that the applicant must have a sound track record in the successful management and implementation of similar community archaeology / educational outreach programmes.

Experience in the management and evaluation of similar projects

Further, the project requires experienced individuals with a track record in the management of heritage teams and a sound understanding of associated administrative tasks and logistical arrangements. It also requires a track record in the running, funding and evaluation of public-funded, particularly Heritage Lottery Fund (HLF), projects.

Core heritage services

The services required by ACHS for the Aberlady Angles project insist on a sound knowledge of almost every aspect of professional heritage consultancy (see above). AOC can provide all of these services (please also refer to www.aocarchaeology.com for further information and case studies).

Consultancy

AOC undertakes all forms of Consultancy work, ranging from desk-based assessments through to public inquiries. Over the last decade AOC has undertaken hundreds of desk-based heritage research and many SMC applications and can, therefore, fulfil the requirements of ACHS.

Field Archaeology

AOC undertakes all forms of archaeological fieldwork, including excavation, evaluation and watching briefs. We are able to undertake both rural and urban work, and have extensive experience of both. Over the last few decades we have excavated and published hundreds of archaeological sites ranging from the Mesolithic through to the post-medieval and industrial periods. We have extensive experience in excavating in the Lothians and Borders and the excavation of first millennium BC/AD sites is an area we are particularly experienced in (see below). As well as carrying out the actual on-site work our team are incredibly experienced in the creation of WSIs and SMC applications (see also above). In addition, AOC have particular experience in reinstating Scheduled Monuments including most recently at Dun Deardail, Fort William where we worked with specialist re-instatement contractors to ensure the site was reinstated to the landowner's, client's and Historic Scotland's satisfaction. AOC staff have also worked on many other Scheduled Monuments (eg Traprain Law hillfort, East Lothian, Auldhame Anglo-Saxon cemetery, East Lothian) and SSSIs (eg Dunnet Bay, Caithness) where reinstatement was critical to the project, with reinstatement inspected by third parties, including Historic Scotland, Forestry Commission and Scottish Natural Heritage.

Built Heritage, Survey and Geomatics

AOC Archaeology Group has wide experience of recording, analysing and providing advice on building and the historic environment. We have worked on buildings as diverse as the standing Neolithic houses of Skara Brae to Second World War pillboxes. Our expertise covers all standing buildings, including ecclesiastical buildings, commercial and public buildings, vernacular houses and farmsteads, stately homes and fortifications.

Our professional team all have extensive experience of all aspects of building recording: these include Building Design Briefs & Listed Building Applications, Building and Conservation Area Appraisals and Building Recording Surveys. We carry out archive research, identify original

features within buildings and record buildings during demolition works. Together with our Consultancy team we also are experts at writing Conservation Management Plans.

We also offer a wide range of landscape and building surveying services tailored to the assessment and recording of archaeological and built heritage. From walkover GPS surveys to millimetre-resolution laser scans, AOC Archaeology Group's experienced surveyors can undertake a variety of landscape, archaeological and building surveys. We are leading the way in the use of laser and digital on-site recording. AOC are also market leaders in the use of LiDAR technology (see www.aocarchaeology.com/Baillie).

Geophysics

AOC also has its own in-house geophysical survey team. We routinely undertake many geophysical surveys across Britain and offer the full range of services, including magnatometry, resistivity and ground penetrating- radar. We have worked on many high profile projects including the recent discovery of a Viking hoard site in southern Scotland, commissioned by Historic Scotland.

Post-excavation and Conservation

AOC Archaeology provides a comprehensive post-excavation service. We have a dedicated team to take an archaeological project from initial project design and management through assessment and analyses of sediments, bio-materials and artefacts, to interpretation, reporting and publication. Our post-excavation team ensures that once in from the field archaeological samples and artefacts are swiftly assessed and evaluated, facilitating a seamless transition in project stages, and ensuring a fast turnaround time for our clients.

In addition to serving the requirements of our own field projects, our specialists provide analysis for other archaeologists, professionals, museums and Universities. Our in-house expertise includes sedimentology, soil micromorphology, soil chemistry, dendrochronology, palaeobotany, palynology, faunal analysis, osteoarchaeology, artefact conservation and analysis, building materials and lithics. AOC post-excavation staff are highly skilled with exceptional pedigree; many of our staff are upheld as experts in their field (see section 3) with decades of

experience in post-excavation. Many of the individuals used to work for National Museums Scotland's Archaeology Dept. We also have a strong association with other highly regarded organisations (eg National Museums Scotland) and individuals (George Haggarty, the leading post-medieval pottery expert) and Dr David Clarke (former Keeper of Archaeology, National Museums Scotland and author of the recently published *Early Medieval Scotland: Individuals Communities and Ideas*) and we can cover the entire spectrum of artefact and ecofactual analysis. AOC currently hold the Historic Scotland Human Remains call-off contract. AOC also employ Dr Andy Heald who used to be Early Historic curator at NMS and post-doctorate supervisor of Alice Blackwell who studied Anglo-Saxon finds from Scotland, including the assemblage from Aberlady. AOC also employ Dr Anne Crone, lead author of the *Excavations at Auldhame, East Lothian* publication (which is currently in press).

AOC also houses a conservation laboratory – one of the few in Scotland – offering immediate practical conservation and artefact care for archaeological material, ethnographic artefacts and social history collections. We undertake on-site conservation and recovery; freeze drying of waterlogged woods; conservation of artefacts and materials; x-radiography and cleaning and stabilisation of public art, monuments and memorials.

Our conservators are currently working on some of the most important recent finds in Scotland including the Balmaghie Viking Hoard; Glasgow School of Art Recovery project; Links of Noltland figurine; the Iron Age warrior burials from Dunbar; the Bronze Age dagger burial from Forteviot; the organic and inorganic remains from Medieval Aberdeen and the Roman altars from Lewisvale Park, Musselburgh. AOC currently hold the Historic Scotland Conservation call-off contract.

<u>Interpretation</u>
AOC has good experience in the design and delivery of heritage interpretation in various guises ranging from Museum displays through to landscape interpretations. Our Managing Director, Andy Heald, has over a decade working in these fields being integral to the museum displays at, for example, Iona, Portmahomack and Kilmartin. Andy was also involved in the Dunbeath Heritage Museum display and the recently opened Caithness Broch Centre.

In 2011 AOC were involved in the largest landscape heritage interpretation project in Scotland, as part of the Dalriada Landscape Project – an ambitious interpretation project that covered some 260km2 of Mid-Argyll and covered the natural and cultural heritage. AOC is currently involved in the delivery of a new interpretation scheme for the *Yarrows Archaeological Trail*.

<u>Multi-media; education and virtual tours</u>
AOC are one of the few archaeological companies to have designed and delivered free educational heritage interpretation / resources. For example, in the last three years AOC has delivered educational resources associated with Caithness brochs; Early Historic Whithorn, and two northern Highland landscapes: Baillie (*A Window on Caithness' Past)*, and the *Yarrows Landscape Project*. AOC is currently working on a Scottish-wide digital initiative - *Crafting the Past* - with Society of Antiquaries of Scotland, the aim to create a free educational resource (based on Minecraft) for children to explore and enjoy Scotland's shared heritage. These innovative partnerships between heritage and digital technology (including LiDAR survey) have broadened the way individuals and communities (particularly school children) engage with their heritage. AOC staff have also worked on many teacher's resources, packs and artefact kits.

<u>Summary</u>
AOC has one of the most-experienced heritage divisions in Britain. We are veterans in investigating all periods and types of archaeological remains across Britain; ranging from early prehistoric up to relatively recent industrial archaeology and 20th century wartime remains. This includes both

buried remains and standing building structures. We also have a specialist Built Heritage and Survey team that not only record monuments but undertake ground-breaking landscape surveys that include geophysics, laser-scanning technology and LiDAR. Further, our post-excavation division has a wide range of specialised staff skilled in all aspects of artefactual and ecofactual analysis, and publication of all archaeological periods. We are the only field unit in Scotland to have a designated conservation department. Unlike many other heritage companies we also have a strong track record in the design and delivery of ambitious community projects (see below). We also undertake interpretation and educational projects that include digital multi-media, teachers' packs and artefact handling collections. In summary, AOC feel we can deliver all the core heritage services required by ACHS as part of the Aberlady Angles project.

Understanding of 1st millennium BC/AD archaeology

AOC has a long tradition in studying the first millennium BC/AD of Scotland. Over the last two decades AOC staff have been involved in the excavation, survey and post-excavation of complete Iron Age / Early Historic landscapes (eg Assynt; Arran; Lairg); brochs (eg Clachtoll; Nybster, Thrumster), hut circles (eg Helmsdale; Kintore), roundhouses (eg Port Seton, East Lothian, Kintore, Beechwood, Grantown Road) and souterains (e.g. Grantown Road).

Specifically to the Aberlady project, as either the main contractor, or through our staff collaborating on external projects, AOC has also been involved in many Early Historic / Anglian excavations and surveys, for example:

Auldhame

In 2005 routine farm work uncovered exciting archaeological finds at Auldhame, East Lothian. Assisted by local volunteers AOC revealed remarkable new evidence of early life in East Lothian, discovering the remains of a previously unknown early medieval chapel and graveyard, which overlay an earlier Iron Age promontory fort. Over 5 months the team recovered 240 individuals from the graveyard; the earliest date to between AD680 to AD880, the assumed time period of the archaeology in Glebe Field. Finds from the site were of national importance and included Anglo-Saxon jewellery, glass and an ink well, probably part of a monk's toolkit. Working with leading historical experts AOC staff believe that Auldhame is linked to Saint Baldred, who found a monastery at nearby Tyningham and lived a life of solitude on the Bass Rock.

The site will be published as a *Society of Antiquaries of Scotland* monograph in 2016. As well as excavating the site AOC staff, particularly Drs Anne Crone, Andy Heald and Dawn McLaren were integral to writing up the site and monograph. Their analysis included a thorough review of the Early Historic period in southern Scotland / northern England and, more particularly, the Anglian advance into East Lothian and Edinburgh during the first millennium AD. Thus, they are well-placed to discuss the wider context of the Glebe field finds.

Craig Phadrig

In January 2015, severe winter storms caused damage to the Early Historic Craig Phadrig hillfort and two windblown trees exposed a section of the inner rampart. Prior to consolidation and reinstatement of the damaged area, an archaeological evaluation was conducted on behalf of Forestry Commission Scotland in order to assess the level of damage and record the nature of surviving archaeological deposits within the tree exposures.

Rampart under excavation at Craig Phadrig

Clean-up of the exposures revealed that the tree root plates had damaged the core of the upper rampart bank and the inner wall face of the main rampart. The evaluation trench revealed that the main rampart consisted of a 6.5m-wide wall with interior and exterior built faces supporting loose wall core. A 'V'-shaped trench, interpreted as a probable palisade slot, cut through the top of the rampart. An upper rubble bank built next to the top of the ditch and possible post-settings on the rampart surface may represent secondary phases of use of the rampart. Considerable vitrified and heat-affected stone was noted throughout the upper rampart but was not continuous. On the interior, a possible fire-pit cut through collapsed stone may also relate to later occupation of the hillfort.

In recent years AOC has also worked on Dun Deardail hillfort and within the Scottish Borders, both projects focussed on the first millennium AD (please see the 'Public Outreach' section below for further details).

Post-Excavation Analyses of Early Historic finds

As well as excavating many important Early Historic finds AOC staff are similarly experienced in the post- excavation analyses of Early Historic assemblages, having worked on both our own projects and external examples. This has included the post-excavation analyses for the aforementioned Auldhame site (see above), as well as working on the Jedburgh cross-slab. As noted earlier AOC employ Drs Andy Heald and Dawn McLaren. Both have extensive experience of publishing Early Historic finds. The former used to be Early Historic and Viking curator at National Museums Scotland, has a PhD on first millennium AD metalworking, and has published extensively on Early Historic finds, including in the recently published *Picts in Progress* book.

Public Outreach

Like the ACHS AOC has a strong passion for involving local communities in their heritage. In the last 4 years we have worked on almost 30 community archaeology projects, all centred on training volunteers in a range of archaeological techniques to the highest possible standards. These inclusive community projects have included training in survey, excavations, post-excavation, conservation, educational resources, museum displays and archival analysis. During these projects we have trained 1012 volunteers during excavations; hosted 48 school visits to the excavations (to 1145 pupils); undertaken 21 off-site school visits (to 315 pupils); undertaken 21 post-excavation workshops (to 308 volunteers); undertaken 34 lectures (to 1068 people) and

undertaken 8 guided walks (to 135 people). Our community programmes involve both on- and off-site training. We routinely work with sub-contractors to help us facilitate our community projects including experts in ancient crafts and technologies.

In our most recent IFA inspection (March 2014) AOC was highly commended for our '...excellent level of public outreach, impressive programme of community archaeology and public outreach, solidified by the permanent appointment of a Community Archaeologist'. IFA concluded that '...community archaeology, public outreach and communication can now be seen as being at the forefront of its [AOC's] organisational output'. Throughout our Community Projects we have developed a substantial body of followers through our social media network and now have over 5000 social media followers who keep up to date with AOC's public facing projects. AOC has four designated Public Archaeology employees and public archaeology is integral to all staff's training and ethos.

All of our community projects can be reviewed at www.aocarchaeology.com. Of relevance for the ACHS project are our current HLF projects: Dun Deardail Partnership Project (www.aocarchaeology.com/news/breaking-new-ground-at-dun-deardail-hillfort); Inner Forth Landscape Initiative (www.innerforthlandscape.co.uk); Moncrieffe hillforts (www.taylp.org), Saughton (www.aocarchaeology.com/news/explore-saughton-park); Dig Portobello (www.aocarchaeology.com/news/dig-portobello-29-31-august-2014); Borders Hidden History (www.aocarchaeology.com/hiddenhistory); and Assynt's Hidden Lives (www.aocarchaeology.com/ldap). These not only demonstrate the community archaeology services that AOC can deliver but also the strong relationship AOC has with many local groups across Edinburgh, Lothians and the Borders (eg Inner Forth, Portobello, Saughton, Scottish Borders) – groups who may wish to take part in the Aberlady Angles project.

<u>Dun Deardail</u>

In August 2015, AOC Archaeology worked with Nevis Landscape Partnership and Forestry Commission Scotland to undertake a community archaeology project at the possible Pictish stronghold at Dun Deardail, near Fort William. Together with a team of local volunteers AOC staff conducted the first survey and excavation of this enigmatic site. Dun Deardail is a vitrified hillfort; its wooden and stone defences were burned at such high temperatures, and for such a long time, that the stone fused together.

Having never been dug before, very little was known about the hillfort at Dun Deardail and the people who built it. The first phase of excavations revealed new information about the fort, from details about the construction of the defences to uncovering traces of buildings in the interior. Secure dating was also recovered that will allow the vitrified fort to be dated. The project runs over three years, and the results of 2015's excavations will inform further work which will take place in 2016 and 2017.

The community outreach programme was a huge success. Over the 2 weeks AOC trained over 30 volunteers who received training in a range of archaeological skills. Over 250 school pupils visited the site and learnt about archaeology and the people of the Highland hillforts. Open days and guided tours also took place.

<u>Inner Forth Landscape Initiative</u>

The Inner Forth Landscape Initative is a Heritage Lottery funded Landscape Partnership Scheme, taking place over a 200km area of the upper reaches of the Firth of Forth. The IFLI Partnership vision is of an Inner Forth Landscape where the natural, cultural and historical wealth of the area is revealed, valued, enhanced and made accessible to both residents and visitors. The

programme includes several heritage projects focussing on community research into different aspects of the area's rich mining and trading heritage.

In Nov 2014 AOC was commissioned to support the numerous community groups involved in the various projects, and help them gain the skills and confidence to deliver their ambitions. The contract runs for just under 3 years until March 2017. AOC is responsible for: liaising with local heritage groups and partner organisations to scope out and agree a programme of training workshops. AOC designed the course agenda which included a range of interactive training materials and practical examples. AOC is also working with the IFLI Cultural Heritage Officer to organise and promote events, and deliver over 30 workshops including training centred on oral history, survey, excavation, artefact analysis, and publications. The workshops will be run more than once and in different venues across the landscape, to ensure broad attendance. AOC will also be integral to the evaluation of the community project at the end of the course. Throughout the 3 years AOC will also provide follow up mentoring and support to participants and local heritage groups as required.

Moncrieffe and Moredun

In 2014 AOC was commissoned to aid the Tayside Landscape Partnership to undertake 3 years of community excavations at Moncrieffe Hill. Moncreiffe Hill was long believed to have the remains of two hillforts on its summits, but this had never been proven through excavation. In September 2014 and April/May 2015, a team of Tay Landscape Partnership (TayLP) volunteers worked with AOC staff and excavated at the smaller of the two, Moncreiffe Hillfort, on the southern side of the hill. The larger hillfort of Moredun Top is currently being excavated by AOC and local volunteers.

Work in 2014-15 represented the first opportunity to explore this site, with the aim of gaining valuable dating evidence and enhancing our understanding of the character of the features. Similar to Dun Deardail valuable new evidence was uncovered related to the construction and use of the site. Again, an extensive volunteer training programme took place, including hands-on training workshops on site.

Hidden History of the Borders

Summer 2013 saw the launch of an exciting new community project, *Hidden History of the Scottish Borders*. Together with volunteers from Peeblesshire Archaeology Society and Biggar Archaeological Society AOC Archaeology Group, undertook a series of surveys and targeted excavations that aimed to shed new light on life in the Scottish Borders in the Dark Ages (c.4th to 9th centuries AD). Again, the project had a strong community focus, with free outreach activities and public participation throughout. Over the course of the project over 30 volunteers were trained in various survey and excavation techniques. A series of off-site workshops and lectures also took place.

Dig Portobello

Last August AOC worked with the Portobello Heritage Trust to run the community archaeology project - *Dig Portobello!* Portobello was once a centre for industry, with a thriving ceramics trade. Dig Portobello aimed to find out more about Portobello's industrial past through a series of small excavations across the town. Portobello residents dug test pits in their gardens, and almost 100 people took part in excavations on

selected areas of Council-owned land. AOC provided tools, training and support throughout the weekend, as well as working with PHT to deliver archaeological workshops to around 150 pupils from two local primary schools. As well as the excavations PHT and AOC led guided walks around the town; there were workshops on archaeological artefacts and Portobello's ceramics industry; and for budding young archaeologists, *Wee Pottery Workshops* were led by one of Portobello's talented local potters.

Saughton, Edinburgh

AOC recently worked with City of Edinburgh Council to deliver a phase of community research, excavation and survey at Saughton Park, as part of the Council's wider Saughton Park Restoration Project. The project was delivered as part of the Council's first round bid to the Heritage Lottery Fund (HLF) Park's for People grant programme. Explore Saughton Park aimed to identify the remains of Saughton Hall, and evaluate the nature and extent of those remains. AOC activities comprised: an opening lecture on the history of the park and the aims of the project; a local history research session at the Royal Commission on the Ancient and Historical Monuments of Scotland's Search Room; excavations over two weekends; a series of hands-on workshops (historic buildings recording, artefacts, conservation, post-medieval ceramics, geophysical survey and aerial kite photography); and a schools programme that saw pupils from three local primary schools visit and take part in the excavations. Around 90 pupils with 11 teachers/accompanying adults participated in Explore Saughton Park through their schools; 75 people of all ages participated in the research session, weekend excavations and workshops.

Assynt's Hidden Lives

In 2009 AOC were awarded a contract by community archaeology group Historic Assynt to undertake a major programme of survey of archaeological sites in the parish of Assynt, Sutherland. Funded by HLF and Leader + the project aimed to better document the range, extent and condition of the archaeology of the parish. Between November 2009 and March 2010 over 220 sites were recorded by a field team composed of AOC staff and members of the local community, compiling a detailed database suitable for integration into local and national sites and monuments records.

A concurrent programme of training was run for project volunteers, introducing participants to techniques of archaeological topographic survey using GPS, total stations and laser scanning as well as tradtitional manual techniques. A concurrent schools workshop series, including the preparation of a schools pack was organised, and the project was disseminated via a website and press releases. AOC are currently involved in further stages of the community project with Historic Assynt.

Community survey in Assynt (left) and John Barber lecturing to Historic Assynt on the archaeology of the Neolithic (right).

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APPENDIX 1

Desk-top assessment

The sources consulted as part of the desk-top study will depend on the type and level of data required and the material that is available to provide that information. Sources used may include, where available, all or some of the following listed below:

i) Walkover survey (Appendix 5).
ii) The relevant Local Sites and Monuments Record(s) and the National Monuments Record.
iii) British Geological Survey maps.
iv) Ordnance Survey maps of the site and its locality.
v) Tithe, Apportionment and Parish maps.
vi) Historic (pre-Ordnance Survey) and Estate maps of the area.
vii) Appropriate archaeological and historical journals and books.
viii) Historical documents held in local museums, libraries, record offices and other archives. This may be a selective survey given the scope of potential historic documentation for some sites.
ix) Unpublished material held by local professional and amateur archaeological organisations and museums.
x) Aerial photographs held by local authorities, Sites and Monuments Record, the National Library of Aerial Photographs, Cambridge University Collection of Aerial Photographs and other local parties.
xi) Scheduled Monuments Lists; listed building lists; registers of parks and gardens and battlefields; any local authority constraint designations (eg conservation Areas).
xii) All available borehole, trial pit and geotechnical data from the site and its immediate environs.
xiii) Plans of services locations held by statutory undertakers.
xiv) Fire insurance maps.
xv) Old and New Statistical Accounts (in Scotland).
xvi) Building Control Records.
xvii) Standing Building Assessment (Appendix 10).

APPENDIX 2
Geophysical survey

2.1 All geophysical survey work will be sub-contracted to an appropriate professional organisation but directly managed by AOC Archaeology.
2.2 Selection of techniques will be made in consultation with the survey organisation taking into account land use, geology, complicating factors (eg metal pipes and fences), known and/or suspected archaeology.
2.3 The report will contain background information on the site (as above) and a description of any anomalies located. An interpretation of the anomalies will also be given.
2.4 At least one plot of the data will be included, normally of dot density or grey scale type. Any enhancement of the image will be explicitly stated and the likely affect of the processing described.
2.5 Clear interpretative plans will be provided in a form that a non-technical reader can understand.
2.6 Plots and interpretative diagrams will be reproduced at a scale from which exact measurements can be taken. These will normally be 1:1000 for detailed survey and 1:2500 for other plans.
2.7 The basic computerised data will form part of the site archive.

APPENDIX 3
Surface collection survey (fieldwalking)

3.1 This type of survey will only be carried out in suitable ground visibility conditions. This effectively restricts the technique to arable land which has been ploughed, harrowed and left to weather for several weeks in autumn to early spring.
3.2 The collection grid will align with the Ordnance Survey grid unless surveying for a linear scheme when the transects will be parallel to the centre of the scheme. The grid will be established using measured survey techniques.
3.3 The spacing of transects and length of collection units will be as specified in the main part of the Written Scheme of Investigation. Each transect will be 2m wide. Collection units will be logged using a numeric 12 figure National Grid Reference which will identify the southern end of the unit.
3.4 Transects will be measured cumulatively on the ground using fixed-length strings to avoid variation in individual pace. Sighting poles will be placed at opposite ends of the land parcel to mark transects.
3.5 All material considered to be man-made or not local to the area will be collected and recorded by the individual collection unit. The exception to this is where dense concentrations of building material are present when a representative sample is retained per collection unit.
3.6 Stone scatters, areas of soil discolouration and outcrops of natural substrata will be recorded and plotted by stint.
3.7 Pro-forma sheets will be used to record details of walker, soil/crop conditions, slope/topography, and lighting/weather conditions for each transect and presence/absence of finds for each collection unit.
3.8 Finds will be washed and sorted into groups in order to facilitate identification. Finds will be bagged according to artefact class within each collection unit.
3.9 Finds will be identified, quantified and recorded directly on to computer. The results will be plotted using a CAD graphics programme.
3.10 All significant artefact distributions will be plotted by field, group of fields or appropriate length for a linear scheme, at 1:2500, with separate plans for each period or relevant subdivision, indicating the numbers of artefacts per stint.
3.11 The pottery and other relevant artefacts will be scanned to assess the date range of the assemblage.
3.12 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum or other body. These will be cleaned, conserved, bagged and boxed in accordance with the guidelines set out in UKIC's "*Conservation Guidelines No 2*".

APPENDIX 4
Earthwork surveys

4.1 Base points will be established using a Total Station.
4.2 Hachured plans will normally be prepared at 1:1250 or 1:2500 for most classes of earthwork. In certain cases more detailed survey by contouring will be carried out.
4.3 Appropriately experienced personnel will undertake the survey work.
4.4 All prepared plans will be presented with an accompanying descriptive text.

APPENDIX 5
Walkover Survey

5.1 The proposed study area will be walked over in a systematic manner. Approximately 30m wide transects will be used, although this can be reduced where conditions demand.
5.2 All features identified (including modern features) will be given a unique number. The location of each feature will be marked on a 1:10,000 map. A photographic and written record will be compiled.

APPENDIX 6
Test pits

6.1 Spacing and size of test pits will vary according to local topography, geology, and known or potential archaeology. Spacing and size will be as specified in the Written Scheme of Investigation.
6.2 Test pits will be laid out in relation to the Ordnance Survey national grid.
6.3 The most appropriate tools will be used taking into account the prevailing conditions at the time of the work.
6.4 A specified volume of topsoil from each test pit will be sieved through a 10mm mesh.
6.5 Conditions, contexts and artefact totals will be recorded on pro-forma sheets.
6.6 Subdivisions within the excavated material will be based on soil stratigraphy and spits of 100mm within each stratigraphical unit.
6.7 All artefact totals will be recorded by class.
6.8 Finds will be washed and sorted into groups in order to facilitate identification. Finds will be bagged according to artefact class within each collection unit.
6.9 Finds will be identified, quantified and recorded directly onto computer where appropriate. The results will be plotted using a CAD graphics programme when appropriate.
6.10 All significant artefact distributions will be plotted by field, group of fields or appropriate length for a linear scheme at 1:2500, with separate plans for each period or relevant subdivision, indicating the numbers of artefacts per test pit.
6.11 The pottery and other relevant artefacts will be scanned to assess the date range of the assemblage.
6.12 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum or other body. These will be cleaned, conserved, bagged and boxed in accordance with the guidelines set out in UKIC's "*Conservation Guidelines No 2*".

APPENDIX 7
Machine excavated trenches

Excavation
7.1 The entire site will be visually inspected before the commencement of any machine excavation. This will include the examination of any available exposures (eg recently cut ditches and geo-technical test pits).
7.2 Normally trench positions will be accurately surveyed prior to excavation and related to the National Grid. It may be necessary to survey the positions after excavation in some instances.
7.3 All machining will be carried out by plant of an appropriate size. Normally, this will be a JCB 3CX (or similar) or 360^{O} tracked excavator with a 1.4 or 1.8m wide toothless bucket. Where access or working space is restricted a mini excavator such as a Kubota KH 90 will be used.
7.4 All machining will be carried out under direct control of an experienced archaeologist.
7.5 Undifferentiated topsoil or overburden of recent origin will be removed in successive level spits (approximately <0.5m) down to the first significant archaeological horizon.
7.6 Excavated material will be examined in order to retrieve artefacts to assist in the analysis of the spatial distribution of artefacts.
7.7 On completion of machine excavation, all faces of the trench that require examination or recording will be cleaned using appropriate hand tools.
7.8 All investigation of archaeological horizons will be by hand, with cleaning, inspection, and recording both in plan and section.

7.9 Within each significant archaeological horizon a minimum number of features required to meet the aims of the project will be hand excavated. Pits and postholes normally will be sampled by half-sectioning although some features may require complete excavation. Linear features will be sectioned as appropriate. Features not suited to excavation within the confines of narrow trenches will not be sampled. No deposits will be entirely removed unless this is unavoidable. As the objective is to define remains it will not necessarily be the intention to fully excavated all trenches to natural stratigraphy. However, the full depth of archaeological deposits across the entire site will be assessed. Even in the case where no remains have been located the stratigraphy of all evaluation trenches will be recorded.

7.10 Any excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features or deposits which appear to be demonstrably worthy of preservation *in situ*.

7.11 For palaeoenvironmental research different sampling strategies will be employed according to established research targets and the perceived importance of the strata under investigation. AOC Archaeology conventionally recovers three main categories of sample;

i) Routine Soil Samples; a representative 500g sample from every excavated soil context on site. This sample is used in the characterisation of the sediment, potentially through pollen analysis, particle size analysis, pH analysis, phosphate analysis and loss-on-ignition;

ii) Standard Bulk Samples; a representative 10 litre sample from every excavated soil context on site. This sample is used, through floatation sieving, to recover a sub-sample of charred macroplant material, faunal remains and artefacts;

iii) Purposive or Special Samples; a sample from a sediment which is determined, in field, to either have the potential for dating (wood charcoal for radiocarbon dating or *in situ* hearths for magnetic susceptibility dating) or for the recovery of enhanced palaeoenvironmental information (waterlogged sediments, peat columns, etc).

7.12 Any finds of human remains will be left *in situ*, covered and protected. In Scotland the local police will be informed. If removal is essential this will only take place with police approval, and in compliance with Historic Scotland's Operational Policy Paper '*The Treatment of Human Remains in Archaeology*'. In England and Wales the coroner's office will be informed. If removal is essential it will only take place under the relevant Home Office licence and local authority environmental health regulations.

7.13 All finds of gold and silver will be moved to a safe place. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage. In Scotland the recovery of such material, along with all other finds, will be reported to the Queen's and Lord Treasurer's Remembrancer. In England and Wales the recovery of such material will be reported to the coroner's office according to the procedures relating to Treasure Trove.

7.14 After recording, the trenches will be backfilled with excavated material.

Recording

7.15 For each trench, a block of numbers in a continuous sequence will be allocated.

7.16 Written descriptions, comprising both factual data and interpretative elements, will be recorded on standardised sheets.

7.17 Where stratified deposits are encountered a 'Harris'-type matrix will be compiled during the course of the excavation.

7.18 The site grid will be accurately tied into the National Grid and located on the 1:2500 or 1:1250 map of the area.

7.19 Plans will normally be drawn at a scale of 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Burials will be drawn at 1:10. Other detailed plans will be drawn at an appropriate scale.

7.20 Long sections of trenches showing layers and any cut features will be drawn at 1:50. Sections of features or short lengths of trenches will be drawn at 1:20.

7.21 Generally all sections will be accurately related to Ordnance Datum. There may, occasionally, be instances where this is unnecessary when it will be agreed with the local authority's archaeological representative in advance.

7.22 Registers of sections and plans will be kept.
7.23 A full colour print and colour transparency photographic record will be maintained. This will illustrate the principal features and finds both in detail and in a general context. The photographic record will also include working shots to represent more generally the nature of the fieldwork.
7.24 A register of all photographs taken will be kept on standardised forms.
7.25 All recording will be in accordance with the standards and requirements of the *Archaeological Field Manual* (Museum of London Archaeology Service 3rd edition 1994).

Finds
7.26 All identified finds and artefacts will be collected and retained. Certain classes of material, ie post-medieval pottery and building material, may on occasion be discarded after recording if a representative sample is kept. No finds will be discarded without the prior approval of the archaeological representative of the local authority and the receiving museum.
7.27 Finds will be scanned to assess the date range of the assemblage with particular reference to pottery. In addition the artefacts will be used to characterise the site, and to establish the potential for all categories of finds should further archaeological work be necessary.
7.28 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum. Finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in United Kingdom Institute for Conservation's *Conservation Guidelines No. 2*.
7.29 In England and Wales, at the beginning of the project (prior to commencement of fieldwork) the landowner and the relevant museum will be contacted regarding the preparation, ownership and deposition of the archive and finds. In Scotland all archaeological material recovered belongs to the Crown and its disposal is administered by the Queen's and Lord Treasurer's Remembrancer.

APPENDIX 8
Evaluation reports

8.1 The style and format of the evaluation report will be determined by AOC Archaeology, but will be compliant with Historic Scotland's issued guidance on Data Structure Reports. The report will include as a minimum the following;

i) A location plan of the site.
ii) A location plan of the trenches and/or other type of fieldwork strategy employed.
iii) Plans and sections of features and/or extent of archaeology located. These will be at an appropriate scale.
iv) A summary statement of the results.
v) A table summarising per trench the deposits, features, classes and numbers of artefacts encountered and spot dating of significant finds.
vi) Consideration to the methodology will be given along with a confidence rating for the results.

8.2 When an evaluation is followed by an excavation the procedures defined in English Heritage's *Management of Archaeological Projects* 2nd edition 1991 will be followed for immediate post-field archive preparation and initial assessment. It will then be agreed with the local authority's archaeological advisor which aspects will need to be taken forward to the report stage.

APPENDIX 9
Area excavation

9.1 Prior to the stripping of any area excavation, all appropriate surveys (eg geophysical, earthwork, contour) or sampling strategies (eg for topsoil artefact densities, metal detecting, phosphate analysis) will be undertaken.

9.2 In most cases sites will be mechanically stripped of topsoil and other overburden. An appropriate machine will always be used. This will normally be a 360^{o} tracked excavator with a between 1.4 and 2.4m wide toothless bucket. In other cases a JCB 3CX (or similar), or for work with restricted access or working room a mini-excavator such as a Kubota KH 90 will be used. Suitably sized dumpers or lorries will be employed to remove spoil. No plant will be allowed to cross stripped areas.

9.3 All machining will be undertaken under the direct control of experienced archaeologists.

9.4 All undifferentiated topsoil or overburden will be removed down to the first significant archaeological horizon in level spits. The archaeological horizon to which the material will be cleared will have first been established by an evaluation or by the digging of test pits.

9.5 Depending on the aims of the project, the excavated spoil may be monitored in order to recover artefacts. Where their findspots are plotted this will usually be on a 2m grid.

9.6 The surface exposed by the stripping will be cleaned using appropriate hand tools.

9.7 Should the site grid not have already been established it will be done at the cleaning stage. The grid will normally be based on a 10m spacing and related to the National Grid. A temporary bench mark related to Ordnance Datum will be founded

9.8 After the cleaning and planning of the excavation area the sampling strategy will be finalised. This will take into account the project aims (which may need modifying at this stage) and the type, quality and quantity of remains revealed. The sampling strategy will normally seek to maintain at least the following levels;

i) all structures and all zones of specialised activity (eg funerary, ceremonial, industrial, agricultural processing) will be fully excavated and all relationships recorded;

ii) ditches and gullies will have all relationships defined, investigated and recorded. All terminals will be excavated. Sufficient lengths of the feature will be excavated to determine the character of the feature over its entire course; the possibility of re-cuts of parts of the feature, and not the whole, will be considered. This will be achieved by a minimum 10% sample of each feature (usually a 1m section every 10m).

iii) Sufficient artefact assemblages will be recovered (where possible) to assist in dating the stratigraphic sequence and for obtaining ample ceramic groups for comparison with other sites;

iv) all pits, as a minimum, will be half-sectioned. Usually at least 50% (by number) of the pits will be fully excavated. Decisions as to which pits will be fully excavated will be taken in the light of information gained in the half-sectioning taking into consideration, amongst other things; pit function, artefact content and location;

v) for post and stake holes where they are clearly not forming part of a structure (see above) 100% (by number) will be half-sectioned ensuring that all relationships are investigated. Where deemed necessary, by artefact content, a number may demand full excavation;

vi) for other types of feature such as working hollows, quarry pits, etc the basic requirement will be that all relationships are ascertained. Further investigation will be a matter of on-site judgement, but will seek to establish as a minimum their extent, date and function;

vii) for layers, an on-site decision will be made as to the limits of their excavation. The factors governing the judgement will include the possibility that they mask earlier remains, the need to understand function and depositional processes, and the necessity to recover sufficient artefacts to date the deposit and to meet the project aims.

9.9.1 For palaeoenvironmental research different sampling strategies will be employed according to established research targets and the perceived importance of the strata under investigation. AOC Archaeology conventionally recovers three main categories of sample;

i) Routine Soil Samples; a representative 500g sample from every excavated soil context on site. This sample is used in the characterisation of the sediment, potentially through pollen analysis, particle size analysis, pH analysis, phosphate analysis and loss-on-ignition;

ii) Standard Bulk Samples; a representative 10 litre sample from every excavated soil context on site. This sample is used, through floatation sieving, to recover a sub-sample of charred macroplant material, faunal remains and artefacts;

iii) Purposive or Special Samples; a sample from a sediment which is determined, in field, to either have the potential for dating (wood charcoal for radiocarbon dating or *in situ* hearths for magnetic susceptibility dating) or for the recovery of enhanced palaeoenvironmental information (waterlogged sediments, peat columns, etc).

9.10 Any finds of human remains will be left *in situ*, covered and protected. In Scotland the local police will be informed. If removal is essential this will only take place with police approval, and in compliance with Historic Scotland's Operational Policy Paper '*The Treatment of Human Remains in Archaeology*'. In England and Wales the coroner's office will be informed. If removal is essential it will only take place under the relevant Home Office licence and local authority environmental health regulations.

9.11 All finds of gold and silver will be moved to a safe place. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage. In Scotland the recovery of such material, along with all other finds, will be reported to the Queen's and Lord Treasurer's Remembrancer. In England and Wales the recovery of such material will be reported to the coroner's office according to the procedures relating to Treasure Trove.

Recording

9.12 All on-site recording will be undertaken in accordance with the standards and requirements of the *Archaeological Site Manual* (Museum of London 1994).

9.13 A continuous unique numbering system will be employed.

9.14 Written descriptions, comprising both factual data and interpretative elements, will be recorded on standardised sheets.

9.15 Where stratified deposits are encountered a 'Harris'-type matrix will be compiled during the course of the excavation.

9.16 The site grid will be accurately tied into the National Grid and located on the 1:2500 or 1:1250 map of the area.

9.17 Plans will normally be drawn at a scale of 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Burials will be drawn at 1:10. Other detailed plans will be drawn at an appropriate scale.

9.18 Long sections of trench edges or internal baulks showing layers and any cut features will be drawn at 1:50 or 1:20 depending on amount of detail contained. Sections of features will be drawn at 1:20.

9.19 All sections will be accurately related to Ordnance Datum.

9.20 Registers of sections and plans will be kept.

9.21 A full colour print and colour transparency photographic record will be maintained. This will illustrate the principal features and finds both in detail and in a general context. The photographic record will also include working shots to represent more generally the nature of the fieldwork.

9.22 A register of all photographs taken will be kept on standardised forms.

Finds

9.23 All identified finds and artefacts will be collected and retained. Certain classes of material, ie post-medieval pottery and building material may on occasion be discarded after recording if a representative sample is kept. No finds will be discarded without the prior approval of the archaeological representative of the local authority and the receiving museum.

9.24 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum. Finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in United Kingdom Institute for Conservation's *Conservation Guidelines No. 2*.

9.25 In England and Wales, at the beginning of the project (prior to commencement of fieldwork) the landowner and the relevant museum will be contacted regarding the preparation, ownership and deposition of the archive and finds. In Scotland all archaeological material recovered belongs to the Crown and its disposal is administered by the Queen's and Lord Treasurer's Remembrancer.

Archiving, post-excavation and publication

9.26 Following completion of each stage or the full extent of the fieldwork (as appropriate) the site archive will be prepared in the format agreed with the receiving institution.

9.27 On completion of the archive a summary report will be prepared. This will include;

i) an illustrated summary of the results to-date indicating to what extent the project aims were fulfilled;

ii) a summary of the quantities and potential for analysis of the information recovered for each category of site, artefact, dating and palaeoenvironmental data;

iv) proposals for analysis and publication.

9.28 The proposals for analysis and publication will include;

i) a list of the revised project aims arising from the fieldwork and post-excavation assessment;

ii) a method statement which will make clear how the methods advocated are those best suited to ensuring that the data-collection will fulfil the stated aims of the project;

iii) a list of all tasks involved in meeting the stated methods to achieve the aims and produce a report and research archive in the stated format;

iv) details of the research team and their projected work programmes in relation to the tasks. Allowance will be made for general project-related tasks such as project meetings, management, editorial and revision time;

v) a publication synopsis indicating publisher, report format and content shown by chapters, section and subheadings with the anticipated length of text sections and proposed number of illustrations.

9.29 The summary report embracing the analysis and publication proposals will be submitted to the client and the local authority's archaeological representative for approval.

9.30 Any significant variation in the project design, including timetables, proposed after the agreement of the proposals must be acceptable to the local authority's archaeological representative.

9.31 The results of the project will be published in an appropriate archaeological journal or monograph. The suitable level of publication will be dependent on the significance of the project results, but as a minimum the basic requirements of Appendix 7.1 of *Management of Archaeological Projects* (English Heritage 1991) will be met.

APPENDIX 10
Standing Building Assessment

10.1 A standing building assessment will normally take place in concordance with a Conservation Plan, but may also form part of a Desk-Based Assessment if required.

10.2 A visual inspection will be made of both the interior and exterior of the building(s) with a view to establishing the extent of the architecturally important elements that should be included in a later phase of historic building recording work.

10.3 A brief written record will be made in addition to digital photography of areas of interest to support recommendations and outline architectural features within the building(s).

APPENDIX 11

Historic Building Recording: The Written Record (Levels 0-6)

11.1 Pro forma building recording sheets will be used for the basic written record of the building(s) including comments on the condition, construction techniques, materials, fixtures and fittings and interpretation of function. A competent analysis will be made of all building phases and any relationship between buildings. Day Book records will also be kept for any levels of recording above Level 1.

11.2 At Level 4, the written record will encompass a thorough context description of each broad phase of construction and alteration with a view to formulating a stratigraphic matrix of the site.

APPENDIX 12

Historic Building Recording: Photography (Levels 1-5)

12.1 Photography will take place at all levels of building recording, and will be undertaken with a single lens reflex camera with through-the-lens (TTL) light metering. A standard 28-90mm lens will be used at all times except where wider or shorter angle lenses are required for longer elevation photography and detailed photography.

12.2 The camera will be placed at mid-height to the subject with due care and attention to lighting situations. Two shots will be taken of each feature, undertaken by a light-meter reading of a two-step change in aperture. This change up or down will depend on light conditions.

12.3 Interior photography will be undertaken with appropriate lighting conditions and the use of a tripod. Where light access is still quite minimal, an automatic flash will be used.

12.4 All photography will be taken on colour slide and black & white negative film, such as Kodak PLUS-X or Ilford FP4, or approved equivalent. It should be exposed and processed to an archival standard, i.e., fix and wash in accordance with the manufacturers specifications.

12.5 The use of a digital camera may be used as a reference to survey and drawn elevations and ground plans on-site.

APPENDIX 13

Historic Building Recording: Rectified Photography and Photogrammetry (Level 3)

13.1 An external contractor will carry out rectified photography and photogrammetry in compliance with the following guidelines:

i) All photography will be carried out with an approved type of camera. Details of the camera used may be supplied on completion of the project.

ii) The smallest permissible photographic negative scale will normally be defined as follows: for 1:50 scale plotting, negative scale should be no more than 1:200 and for 1:20 scale plotting, negative scale should be no more than 1:200.

iii) All rectified photography will be taken on black & white negative film, such as Kodak PLUS-X or Ilford FP4, or approved equivalent. It should be exposed and processed to an archival standard, i.e., fix and wash in accordance with the manufacturers specifications.

APPENDIX 14

Historic Building Recording: Elevation Recording (Level 2)

14.1 All elevations drawn or surveyed will be a 'preservation by record' of the current state of the building. The following categories will be recorded:

i) All architectural features with associated decorative detail including windows, doors, quoin stones, string courses, roof lines and other structural stonework and jointing.

ii) Fixtures and fittings such as drainpipes and guttering, signs, brackets and vents.

iii) Later modifications and/or damage to the building such as structural cracks, areas of erosion, patches of rendering, blocked doorways, windows and other openings.

14.2 Large or small repetitive features such as windows, capitals, mouldings, etc. sampling will be undertaken as appropriate.

14.3 Where the façade is of stone construction each individual stone may be recorded. However, in most instances, a representative area, usually 1m², will be sufficient, although windows, corner stones and other architectural details will always be fully recorded. The degree of recording for ashlar will be depend upon the scale with which the elevation is to be produced and will be determined in advance of the start of works. When drawings are carried out at 1:50, a single line between the joints of the stone will normally be considered satisfactory. However, if there is a considerable gap between the stones, both sides of the stone will be shown. At a scale of 1:20 or larger, then all joints will normally be shown except where the stone is very fine ashlar.

14.4 Elevation recording by hand will normally take place if it is inappropriate to do so by survey. The size and complexity of an elevation will determine what on-site scale will be required. In general, a scale of 1:50 will be deemed appropriate with a larger scale adopted if portions of this elevation are more complex. For highly detailed architectural detail a scale of 1:1 may be appropriate.

14.5 All hand-drawn measured elevations and detail will be drawn using water-resistant paper with a hard 4H – 6H pencil. A levelled datum line will be taken through the centre of the elevation with offset measurements. All datum points will be accurately positioned within the site either by hand or by survey.

APPENDIX 15
Historic Building Recording: Elevation Recording – By Survey (Levels 2-4)

15.1 Where appropriate, elevations may be recorded by radiation survey using a reflectorless EDM (REDM) Leica TCR 705. This method of survey allows the accurate capture of data of upper floor levels. If more than one elevation is to be recorded, then a traverse will be created around each building or group of buildings. Extra stations may be set up in places where there is limited access. Values in the traverse will be adjusted by Bowditch adjustment to compensate for any errors in measurement. The adjusted values will then be calculated using LisCAD Plus v5.0 (Surveying and Engineering Module). Co-ordinates will be located by resection from existing traverse points. The survey data will be downloaded to a laptop computer on-site via Leica Office software. All measurements taken by survey will consist of three-dimensional co-ordinates relating to the Ordnance Survey National Grid.

15.2 The recording of an elevation will not be carried out by survey equipment if:

i) There are too many obstructions;

ii) The surface of the building is too dark or mossy;

iii) There is too much curved architectural detail;

iv) The distance required to set up the survey equipment in front of the elevation is too large (i.e., more than 25m) or too short to capture data from the upper levels of the elevation.

15.3 Where appropriate, elevations carried out by survey will be supplemented by detail measured by hand.

APPENDIX 16
Historic Building Recording: Interior Recording (Levels 2-4)

16.1 The recording of the interior(s) of the building(s) will consist of a written record and, where appropriate, measured sketch plans of the ground plan and the roof elevations based on the following guidelines:

i) Critical analysis of the interior condition, construction, materials, fixtures and fittings will be made using *pro forma* recording sheets.

ii) Measured interior ground plans of each room of the interior will be carried out using tapes and a Leica Disto™ Classic electronic distance measurer.

iii) All measured plans will contain: notes on the size of structural members, and finishes; floor levels, change in levels, and ceiling heights; direction of stair rises in plan with each riser numbered; the positions of service entry points, plant and machinery and sanitary fittings; below-ground drainage; soil and vent stacks and rainwater pipes where appropriate.

APPENDIX 17
Historic Building Recording: Standard Report Illustrations (Level 6)

17.1 All final illustrations for archive will be produced digitally on the Computer-Aided Drawing package, AutoCAD 2000i/2000LT and/or Adobe Illustrator v9/v10. A standard methodology will be used with all drawings adhering to the following guidelines:
17.2 Line Weight. The appropriate line weight will depend on anticipated plot scale and may need editing if the output scale is to change. The degree of detail used will affect the line weight utilised in the finished drawing. All fine architectural detail (stonework, moulded stonework, brickwork, etc.) will be produced at a line weight of 0.05mm. More general architectural features (outlines of doors and windows, etc.) will be produced at a line weight of 0.09mm. A much heavier line will indicate the changing of plane in complex elevations.
17.3 Text. Text will be made clear and informative, with orientation, position, size and letter spacing remaining appropriate to the layout of the plotted sheets.
17.4 Scale. No archaeological or historic building survey will be carried out without a particular scale or range of scales in mind.
17.5 Layers. The layering system in Computer Aided Drawing packages allow the separation of data into specified criteria. To achieve this, there is an AOC standard layering system. This system is largely based on the coding system inherent in the use of the reflectorless EDM Leica TCR705.
17.6 Digital Archiving. All drawings are produced at a 1:1 scale for easy scaling in .dxf or .dwg format. At the end of a project, all data is stored on CD-ROM.

APPENDIX 18
Historic Building Recording: Dendrochronological Analysis (Level 3)

18.1 Dendrochronological analysis of timbers from standing building is primarily undertaken to provide accurate dates for its construction. Where appropriate, samples may be taken for analysis to provide information on the source and quality of the timber, thus informing on the social and economic context of the building.
18.2 Samples for analysis will take place under the following conditions:
i) That the timber sample taken is from a species where date chronologies already exist, namely oak and pine.
ii) A minimum of eight timbers per phase or building are required to cross-match results.
iii) The ring patterns inherent in a timber sample must be over a certain length, usually seventy rings.
18.3 The method of the removal of samples of timber will be to use a corer attached to a power-driven drill, removing a core leaving a hole in the timber 10mm in diameter. The core will be taken so that a maximum radius from pith to bark is taken, thus ensuring the maximum numbers of growth rings for analysis. Timbers will be selected which have retained a full ring sequence as possible (i.e., those where the outermost rings have not been trimmed off or destroyed by woodworm).
18.4 Where it is impossible to use this intrusive method of sample, for example, in the case of painted ceilings and carved panels, the ring sequence can be measured *in situ* using a hand lens. Silicone rubber casts can also be taken where the end grain is exposed.

APPENDIX 19
Historic Building Recording: Paint and Wallpaper Analysis (Level 3)

19.1 Paint and/or wallpaper analysis will usually only take place where layers that have been applied over the years have not been removed. Where appropriate, paint analysis can take place by methods of scraped samples or thin section analysis. Cross-sections may also be obtained from samples of paint to reveal a stratigraphy of paint layers.

APPENDIX 20
Historic Building Recording: Reporting (Levels 0-6)

20.1 The style and format of the final report on historic building recording works will be determined by AOC Archaeology, but will be compliant with Historic Scotland's issued guidance on Data Structure Reports. The content of this report will depend greatly in the level of works that have taken place but at minimum will include:

i) A location plan of the site showing the areas under investigation numbered and cross-referenced in the text;
ii) A summary statement of the results;
iii) An introduction, methodology and results of the works;
iv) Photographic plates to illustrate the text.

20.2 Where a programme of historic building recording has taken place at Level 2 or above, the Data Structure Report will contain a number of illustrations, the format of which is outlined in more detail in Appendix 17.

APPENDIX 21
Watching Briefs

21.1 Where the archaeologist (Watching Brief Officer) has no remit over the working methodology of the site (specification of machine or depth of excavation). The Watching Brief Officer will simply observe the works and record their nature and form. Where the Watching Brief Officer specifies the site methodology, ie type of machine and depth of excavation. AOC Archaeology's preferred approach is to consider the Watching Brief Area as a large evaluation trench and follows in general, Appendix 7.

21.1 It is important to stress that the client determines the area affected and unless instructed by a curator the Watching Brief Officer has no power to extend the area unless it is to fully excavate a human body that otherwise would have been truncated by the works.

21.2 In addition to the general principles outlines in Appendix 7 the following approaches will be undertaken:

i) a record will be made of all site attendances;
in general a written and photographic record will be kept of the excavated sediments;

ii) where archaeological features are identified and they can be dealt with in less than two hours this work will be undertaken by the Watching Brief Officer. Recording and excavation protocols will follow Appendices 7.9 –7.11;

iii) where archaeological remains requiring more than two hours of excavation and recording, the Watching Brief Officer will stop the works and both the curator and the client will be contacted to devise a mitigation strategy. All delays will be kept to a minimum. Any resultant excavation and recording work will be in keeping with the methods outlined in Appendix 9;

iv) the extent of the watching brief area will not be recorded unless specifically required by either the client or the curator. Where such recording is required the area will be accurately recorded by total station and linked into the Ordnance Datum;

v) Reporting of Watching Briefs will follow methods specified in Appendix 8.

APPENDIX 22
General

22.1 The requirements of the Brief will be met in full where reasonably practicable .
22.2 Any significant variations to the proposed methodology will be discussed and agreed with the local authority's archaeological representative in advance of implementation.
22.3 The scope of fieldwork detailed in the main part of the Written Scheme of Investigation is aimed at meeting the aims of the project in a cost-effective manner. AOC Archaeology Group attempts to foresee all possible site-specific problems and make allowances for these. However there may on occasions be unusual circumstances which have not been included in the programme and costing. These can include;

i) unavoidable delays due to extreme weather, vandalism, etc;
ii) trenches requiring shoring or stepping, ground contamination, unknown services, poor ground conditions;
iii) extensions to specified trenches or feature excavation sample sizes requested by the local authority's archaeological advisor;
iv) complex structures or objects, including those in waterlogged conditions, requiring specialist removal.

Health and Safety
22.4 All relevant health and safety legislation, regulations and codes of practice will be respected.
22.5 With the introduction of the Construction, Design and Management Regulations 1994, AOC Archaeology works with Clients, Main Contractors, and Planning Supervisors to create a Health and Safety Plan. Where CDM regulations apply, each project will have its own unique plan.

Insurances
22.6 AOC Archaeology holds Employers Liability Insurance, Public Liability Insurance and Professional Indemnity Insurance. Details can be supplied on request.
22.7 AOC Archaeology will not be liable to indemnify the client against any compensation or damages for or with respect to;
i) damage to crops being on the Area or Areas of Work (save in so far as possession has not been given to the Archaeological Contractor);
ii) the use or occupation of land (which has been provided by the Client) by the Project or for the purposes of completing the Project (including consequent loss of crops) or interference whether temporary or permanent with any right of way light air or other easement or quasi easement which are the unavoidable result of the Project in accordance with the Agreement;
*iii)*any other damage which is the unavoidable result of the Project in accordance with the Agreement;
iv) injuries or damage to persons or property resulting from any act or neglect or breach of statutory duty done or committed by the client or his agents servants or their contractors (not being employed by AOC Archaeology) or for or in respect of any claims demands proceedings damages costs charges and expenses in respect thereof or in relation thereto.
22.8 Where excavation has taken place evaluation trenches will be backfilled with excavated material but will otherwise not be reinstated unless other arrangements have previously been agreed. Open area excavations normally will not be backfilled but left in a secure manner unless otherwise agreed.

Copyright and confidentiality
22.9 AOC Archaeology will retain full copyright of any commissioned reports, tender documents or other project documents under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it will provide an exclusive licence to the Client in all matters directly relating to the project as described in the Written Scheme of Investigation.

22.10 AOC Archaeology will assign copyright to the client upon written request but retains the right to be identified as the author of all project documentation and reports as defined in the Copyright, Designs and Patents Act 1988.
22.11 AOC Archaeology will advise the Client of any such materials supplied in the course of projects which are not AOC Archaeology's copyright.
22.12 AOC Archaeology undertake to respect all requirements for confidentiality about the Client's proposals provided that these are clearly stated. In addition AOC Archaeology further undertakes to keep confidential any conclusions about the likely implications of such proposals for the historic environment. It is expected that Clients respect AOC Archaeology's and the Institute of Field Archaeologists' general ethical obligations not to suppress significant archaeological data for an unreasonable period.

Standards
22.13 AOC Archaeology conforms to the standards of professional conduct outlined in the Institute of Field Archaeologists' Code of Conduct, the CIFA Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology, the CIFA Standards and Guidance for Desk Based Assessments, Field Evaluations etc., and the British Archaeologists and Developers Liaison Group Code of Practice.
22.14 Project Directors normally will be recognised in an appropriate Area of Competence by the Institute of Field Archaeologists.
22.15 Where practicable AOC Archaeology will liaise with local archaeological bodies (both professional and amateur) in order that information about particular sites is disseminated both ways (subject to client confidentiality).

APPENDIX 23
Specialist staff

The following specialist staff may be used on this project depending on the type of artefacts and soil samples recovered during the course of the fieldwork.

AOC Archaeology Staff:

Dr. Anne Crone	Dendrochronology, charcoal and timber analysis
Dr. Ciara Clarke	Pollen analysis
Mr. Rob Engl	Lithics & coarse stone
Ms. Melissa Melikian	Human bone
Mr Alan Duffy	Charcoal identification
Dawn McLaren	Prehistoric and Medieval finds
Andy Heald	Prehistoric and Medieval finds

Sub-contractors

George Haggarty	Post-medieval pottery and archaeology
Fraser Hunter	Roman and Early Historic finds
Mr. Bob Clark	Industrial archaeology & coal-mining
Ms Marta McGlynn	Historic designed landscapes
Dr. Ruby Ceron-Carasco	Marine shell and fish bone
Dr. Ann MacSween	Prehistoric pottery
Ms. Naomi Crowley	Building material, medieval and post-medieval pottery
Ms.Amanda Clydesdale	Plaster, paint and wallpaper analysis

APPENDIX 24

Post-excavation

24.1 *Sample Flotation*

Sample flotation is a water recovery technique designed to separate organic remains from the soil matrix. A Siraf style system of flotation and wet-sieving will be operated by the archaeological contractor. This system comprises an enclosed area of water into which the soil samples are deposited and agitated. Due to the difference in densities of organic and inorganic remains the light fractions will float, the heavy fractions will sink and the silt fraction will be washed away. The resulting floating material (flot) is collected in sieves of 0.3 mm and 1 mm, the non-floating residue (retent) is wet-sieved through a 1 mm mesh.

All flots and retents are air dried, bagged and labelled accordingly. Throughout this process all equipment is kept clean to prevent contamination of the samples. For each sample, a Sieving Assessment sheet is completed. This gives basic information about the sample, retent and flot. Prior to flotation and wet-sieving, the volume of each sample is measured by means of a graduated bucket.
If in a sample a high concentration of clay can be observed and therefore separation of the different fractions of the soil is difficult, an aqueous solution of defloculant 'Calgon' is added and the sample is left to soak overnight, before processing by flotation and wet-sieving.
Sample flotation will be carried out on site and/or at the premises of the archaeological contractor.

24.2 *Sample Wet sieving*
Sample wet sieving, also a water recovery technique, is carried out in laboratory conditions and is designed to recover waterlogged material. For the recovery of waterlogged botanical material, small soil samples (0.5 to 1.0 litre) are processed through a 0.3 mm sieve. The sediment is placed in a bucket with water and agitated before being washed through the 0.3 mm sieve. This process is repeated until the sample is totally disaggregated. The resulting material is stored in water or ethanol depending on the length of the storage period. Sample wet sieving can also be used to recover larger waterlogged material such as leather and wood in which case larger volumes of soil are processed.

24.3 *Sample Dry sieving*
Sample dry sieving is carried out to retrieve smaller artefacts that might be missed during normal excavation procedure, eg. small sherds of pottery and bone . Done in laboratory conditions, all samples are air dried in the first instance. Done in the field, the samples are processed with the sample in a field-moist state. In both cases the sample is passed through a 4 mm mesh and any items of interest are recovered and recorded.

24.4 *Residue sorting*
All residue (retent) sorting is carried out in laboratory conditions, and is designed to recover not only material that might be missed during normal excavation procedure (see dry sample sieving), but also material that would be impossible to recover during normal excavation procedure eg. charred and uncharred plant remains, insect remains and small fragments of charcoal.

The volume of the residue is recorded and then passed through a set of sieves (mesh sizes 8 mm, 4 mm, 2 mm and 1 mm). Each fraction is spread out onto a separate tray, is scanned with the naked eye and all items of interest are recovered. Under normal circumstances all identifiable material from all fractions is recovered. The only exception to this is burnt wood (charcoal) which is only retrieved from the > 4 mm fractions. All material recovered is bagged individually by material type and the material types and weights recorded on the Retent Sorting Sheet. Also recorded on this sheet are the project number, context number, area, sample number, the sorters initials, date, sample volume, retent volume and percent of the retent sorted. Under normal circumstances 100 % of all fractions are sorted. In those instances where this is not the case, this will be recorded. Where no material is recovered from a retent, the Retent Sorting Sheet will be filled out as usual, with the word sterile written across it.

24.5 *Flot sorting*

All flot sorting is carried out in laboratory conditions. The volume of each flot is measured. The flots are sorted by means of a low powered binocular microscope. The macro plant remains and other archaeological or ecological material are extracted from the flots and put into gelatine capsules or glass tubes. An estimate of the number of items recovered and the species represented are recorded. The charcoal larger than 4mm is extracted from the flots and weighed. All extracted items are bagged and labelled accordingly.

24.6 *Routine Soils Analysis*

All the samples taken on-site will have a routine partner. Four standard routine soil tests will be carried out by the archaeological contractor. These are pH analysis, Loss on Ignition, Calcium Carbonate content and Easily available phosphate content.

The pH value is the measure of the acidity (H+) or alkalinity (OH+) of the sample. Dissolving a portion of the soil in distilled water, then measuring the sample using pH meter carries this out. This is to allow us to estimate the potential for preservation within the sediment.

Loss on Ignition is the measure organic content of the sample. This is measured by burning a small amount of the sediment in a furnace at 400^0C for four hours. By measuring the weight before and after burning the organic content can be calculated. The organic content allows us to examine whether manuring or treatment of the natural soil has taken place.

Calcium Carbonate content can be measured by dissolving a few grains of the sample using Hydrochloric acid. If calcium carbonate is present then a small amount of Carbon Dioxide is given off, the greater the amount of CO_2 released the greater the amount of $CaCO_2$. The Calcium Carbonate content shows us if there is any natural calcium carbonate within the sediment, or if not, any mortar or shell has been included artificially.

The amount of phosphate within a sample is examined at the same time as $CaCO_2$. After the CO_2 has been released Ascorbic acid is applied, if Phosphate is present a colour change will occur. The phosphate content may show the presence of animals or to a lesser degree indicate where animals were kept.

24.7 *Soil Micromorphological Analysis*

Micromorphology is the study of undisturbed soils and loose sediments and other materials at a microscopic scale. A 25-30 micron thick slice of soil or sediment is mounted on glass and studied using a petrographic microscope. The samples are prepared for thin section analyses at the Department of Environmental Science, University of Stirling using the methods outlined by Murphy (1986). The samples are analysed using the descriptive terminology of Bullock *et al* (1985) and FitzPatrick (1993).

Bullock, P., Fedoroff , N., Jongerius, A., Stoops, G., Tursina, T. & Babel, U.1985 *Handbook for soil thin section description*. Wolverhampton: Waine research Publications.

FitzPatrick, E.A.1993. *Soil microscopy and micromorphology.* Chichester: John Wiley & Sons.

Murphy, C. P. 1986. *Thin section preparation of soils and sediments*. Berkhamsted: AB Academic Press.

24.8 *Charcoal ID*

Only charcoal retrieved from the 4mm sieve (see Sieving and Sorting procedures) is used for species identification, mainly because fragments below that threshold are too small to identify. If there is no charcoal larger than 4mm present then attempts will be made to identify the largest fragments present for the purpose of C14 samples.

Surfaces are prepared for identification by using a surgical blade to prise off flakes of charcoal revealing fresh surfaces on which diagnostic features can be identified. The charcoal fragment is bedded in sand for examination under a reflected-light microscope.

On average, up to 10 fragments of charcoal are identified per bulk sample. If a single species is present then identification can stop at 5 fragments. However, if a great variety of species is present, ie more than four,

then identification should continue until the analyst is happy that a representative sample has been examined. Unusual or exotic species should be bagged and labelled separately within the bulk sample.
Other variables, such as whether the fragment is young roundwood, with sub-bark surfaces intact, whether it has come from a large piece of wood and whether it is fast or slow grown, should be noted.

Species identification is undertaken with reference to Schweingruber's (1982)

24.9 *Wood ID*

Waterlogged wood; Surfaces on waterlogged wood are prepared for identification by using a cut-throat razor or a double-sided razor blade to pare off thin-sections which are cell-thick and transparent so that diagnostic features can be identified. It is consequently difficult to identify fragments of waterlogged wood smaller than 10 mm^2. The thin-sections are temporarily mounted in water on slides for examination under a transmitted-light microscope.

Sampling for identification is carried out on the same basis as that for charcoal. Species identification is undertaken with reference to Schweingruber's (1982) *Microscopic Wood Anatomy* and the in-house reference collection of the archaeological contractor.

24.10 *Non-charcoal charred plant macrofossil analysis and Waterlogged plant analysis*

Analysis of the charred plant macrofossils and waterlogged plants involves identification, quantification and interpretation. Identification of the macro plant remains is done using a low power binocular microscope with x10 and x40 magnifications. The modern reference collection of the archaeological contractor and various seed atlases (Beijerinck 1947, Berggren 1969 & 1981 and Anderberg 1994) will be used to ease identification. The botanical nomenclature follows Flora Europaea (Tutin *et al* 1964-1981). A standardised counting method is used for quantification. Habitat information for the plant species will be taken from Hanf (1983).

24.11 *Dendrochronological analysis*

*Sample size and species type;*Three conditions are necessary to ensure the successful dating of a building or archaeological site. The timber must be a species for which there are already dated chronologies which in the UK usually means oak. Cross-matching is a statistical process, and therefore a number of timbers are required, usually at least 8 per building or phase. Finally, and for the same reasons the ring-patterns must be over a certain length, usually 70 rings. With these conditions observed it can be relatively straightforward to obtain a date for a building.

On-site sampling; In situ timbers in a standing building are usually sampled using a corer, which is attached to a power-driven drill and removes a core leaving a hole in the timber 10 mm in diameter. The core must be taken so that the maximum radius from pith to bark is sampled, thus ensuring the maximum number of growth-rings for analysis. It is also important to select those timbers which have retained as full a ring sequence as possible, ie those where the outermost rings have not been trimmed off or destroyed by woodworm.

Coring is an intrusive method of sampling and it is occasionally impossible to use this method, as in the case of painting ceilings and carved panels. If the end-grain is exposed the ring sequence can be measured *in situ* using a hand lens. Silicone rubber casts can also be taken.
If structural timbers have been removed during the renovation of a building then slices, approximately 50 mm thick can be sampled by saw, usually a chainsaw, from a point along the timber where the maximum radius survives.
Timbers only survive below ground in waterlogged conditions. Waterlogged timbers are sampled as above, by the removal of a 50 mm slice by sawing.

Sample preparation;

Cores are mounted in angle moulding and then the surface is prepared by paring with a Stanley knife followed by fine sanding with Wet&Dry sandpaper until the ring-pattern is clear and measurable.

Slices (dry); The surface of the slice is sanded, usually with a power sander, using progressively finer sandpaper until the ring-pattern is clear and measurable. It is often necessary to finish off the surface with W&D sandpaper.
Slices (wet); The slice is usually frozen for 24 hours and then the surface is planed flat using a Surform plane. This often achieves the necessary clarity of ring-pattern but where the wood is particularly hard it will be necessary to use a razor blade to pare the surface to achieve a clear ring-pattern.
Silicone rubber casts; These are fixed to battens of wood using silicone rubber, for ease of measurement.
*Measurement and analysis;*The samples are measured on a custom-made measuring table and the data logged onto the computer using DENDRO (Tyers 2000). Data graphing and statistical analysis are also carried out using the same package.

APPENDIX 25
Conservation

25.1 *Conservation principles*
The principles, ethical codes and techniques of conservation are under constant review by both practitioners and professional bodies. The archaeological contractor's approach to conservation will reflect current theory and practice, as recommended by the United Kingdom Institute for Conservation, the Scottish Museums Council, Resources for Museums and Galleries, the International Council on Museums and the International Institute for Conservation.

25.2 *Security*
The archaeological contractor will take all reasonable precautions to ensure the security of items brought in for conservation. The building will be protected by intruder detector systems; all conservation items will be kept in a secure locked store when not being worked on, and will not be left unattended. Particularly valuable items will be stored in a safe where required. A heat and smoke detection system will also be in operation 24 hours a day.

25.3 *Insurance*
Artefacts for conservation will not covered by the contents insurance of the archaeological contractor. Insurance cover can be arranged for individual items and collections, but this is expensive. Clients are normally advised that the cheapest option is to extend their own insurance for these items for a fixed period. If required, the archaeological contractor could arrange additional insurance, and these costs would be passed on.

The archaeological contractor will have full professional indemnity cover for all its staff.

25.4 *Health and safety*
All relevant Health and Safety legislation, Regulations, Guidelines and Codes of Practice will be respected; Health and Safety plans will be compiled where Construction, Design and Management Regulations 1994 apply.

25.5 *Conservators and allied specialist services*
Professionalism: The conservators of the archaeological contractor will be graduates of approved conservation courses, and will have a thorough knowledge of current conservation practices in their particular specialist fields. The conservators will have been actively encouraged to broaden their skills and experience, and to obtain professional accreditation through the United Kingdom Institute for Conservation or PACR.

25.6 *Specialist post-excavation analyses*
Other services which the archaeological contractor will be able to offer are:

wood identification and woodworking analysis

tree ring dating
pollen analysis
building materials analysis
metal artefacts
metalworking and glass working debris
materials analysis
textile analysis
insects
fish and shells
bird bones
plant remains
bone identification
soils specialist/geologist
artefact specialist
fibre identification
leather identification

25.7 *Documentation*

Conservation complements the work of other professionals by preventing the deterioration of the artefact, and by ensuring that the wider community benefits from the additional information recovered about an artefact in the course of conservation work.

Conservation reports are normally supplied as a hard copy, but can also be supplied on disc in a variety of formats, according to the client's requirements. Reports are normally printed on paper with a guaranteed life expectancy of 150 years; photographic materials are processed to professional industry standards such as Q-Lab.

25.8 *Archival considerations*

The archaeological contractor will endeavour to ensure that the materials used to document artefacts undergoing treatment have a reasonable life span. Paper used will have an estimated lifetime of 150 years (HMSO specification), and all photographic films will be processed to industry standards by a processing company that specialises in high quality work for professional photographers. Radiography films and chemicals will be fresh and well within their expiry dates. All labelling of boxes etc. will be carried out with archival quality inks; labels will generally be duplicated for safety's sake.

Wherever possible, the archaeological contractor will consider the archiving requirements for the site, and may consult the receiving museum or archive about their requirements; the archaeological contractor will follow guidelines proposed by the Association of Museum Archaeologists.

The archaeological contractor will abide by current guidelines on the care and disposal of artefacts and human remains, as set out in:

The Disposal and Allocation of Finds
Publication and Archiving of Archaeological Projects
Treatment of Human Remains in Archaeology
Archaeological Project Design, Implementation and Archiving

25.9 *Museum of London Guidelines*

Museum of London requirements for conservation, recording, documentation, packing and archiving will be applied where these are a pre-condition.

25.10 *Assessment and estimating*

The assessment determines the condition of the artefact and the best means to ensure its survival. Radiography (x-raying) of the object is normally carried out at an early stage, and is compulsory for iron objects, which have poor survival prospects, and for some copper alloy artefacts.

The estimate for the work normally applies for six months; it may be necessary to review it thereafter. Conservation rates are agreed by negotiation.

25.11 *Recording*

Text and image records (paper, digital and/or film as appropriate) will be made of all artefacts before conservation commences. Any information recovered during cleaning and conservation (eg associated material, residues, corrosion products, manufacturing techniques) will be carefully recorded, with samples taken where necessary. Soil removed from an artefact during the process will normally be retained and returned with the object, unless the excavator and/or client decides that it is not required. Where necessary, experts will be consulted on the nature of any material discovered during cleaning or conservation of artefacts. All samples and slides will become part of the site archive and remain with the artefact.

The conservation report will also include recommendations for the care and curation of the assemblage; special finds with particular packing requirements will have clear handling and lifting instructions on the outside of any packaging.

25.12 *Conservation Record*

The conservation assessment sets out the proposed treatments for each type of artefact or material: these treatments can be discussed with the client, and with the museum, to take into account any priorities and display requirements. (See Section 9, Assessment)

25.13 *Radiography*

The archaeological contractor will x-ray all excavated iron objects, as well as some of the copper alloy, and any other items as requested by the excavator: information from the x-rays are incorporated into the conservation report. All metal artefacts can be x-rayed if required; only film and chemicals within their expiry date are used, washing periods are the optimum to maximise film preservation.

X-rays normally become part of the archive, and are returned to the client, with full details of exposure time and voltages used.

25.14 *Record photography*

All artefacts selected for conservation will be photographed (on colour slide film) at least once; usually before and after conservation, with a label and scale in the frame. Unusual artefacts, noteworthy features or modified conservation treatments will be photographed whenever appropriate.

All images will be recorded in the conservation report, and each slide labelled with the context and find number. The archaeological contractor will use Professional grade film, and a professional developing service to ensure maximum film stability. The slides form part of the conservation archive, and will remain with the artefact.

25.15 *On-site conservation and conservation on call*

A conservator can be available on site if required, and the conservators of the archaeological contractor can provide immediate advice over the phone at any time (specific arrangements must be made for out of hours working).

Advice on packing, lifting and transporting artefacts may be given in the early stages of a project.

25.16 *Conservation treatments*

The requirements of each artefact will be considered individually, and any remedial treatments carried out will use only recognised conservation treatments and approved materials. The archaeological contractor will be committed to CPD, which ensures that its conservation staff are fully cognisant with new developments in the field.

25.17 *Post-excavation storage*

It is recognised that budgetary arrangements may mean considerable time can elapse between excavation and conservation or Finds Disposal. All finds will be examined by a conservator on receipt; packing and storage materials will be renewed as necessary, and the archaeological contractor will ensure that all finds

will be kept in a secure, stable environment until conservation treatments begin. Any finds that require immediate treatment will undergo conservation as soon as the conservators have consulted the Project Field Officer. Large volume storage at 1^{o} C and -20^{o} C; and storage for waterlogged material will be available in-house.

25.18 *Packing*

All artefacts will be packed in suitable inert materials, with silica gel if required. Fragile objects will be supported by Ethafoam, or similar, and lifting and handling instructions on the container. Especial care will be taken for artefacts, which will be going into long term storage. All containers will be carefully labelled, and box lists supplied.

APPENDIX 26
Archiving and finds disposal

26.1 *Finds disposal*

All artefacts and ecofacts recovered during an excavation sponsored by Historic Scotland (HS) are reported directly to HS via their own collections registrar. If all material has been fully analysed at this point, it is in most cases, transferred to an HS store. HS's Finds Disposal Panel (FDP) with permission of the Queen and Lord Treasurers Remembrencer (Q&LTR) then allocates the material to the appropriate museum for long term storage and possible display.

Artefacts and ecofacts recovered from excavations sponsored by other funding bodies are reported to the Crown via the Treasure Trove Advisory Panel (TTAP). The TTAP with permission of the Q&LTR then allocates the material to the appropriate museum for long term storage and possible display. Once the material has been allocated, it is then the museum's responsibility to arrange collection from the archaeological contractor.

26.2 *Archiving*

All archiving will be undertaken according to standards and guidelines set out by the National Monuments Record of Scotland (NMRS), located at the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS). The archives of all archaeological works will be deposited to the NMRS.

APPENDIX 27
Publications

27.1 *General*

All publications by the archaeological contractor will be clear, correct and concise accounts of what was done and will reach standards acceptable to the archaeological profession. Final reports will be published within five years of the end of fieldwork. Publications should be published in popular archaeological, general and specialist formats to inform a wide readership of what work was done and must be made available to both lay and professional audiences for the foreseeable future. Publications must also provide good value for money in terms of the content and style of the publications. In DES entries and journal publications the role of the client will be fully acknowledged. In the popular publications and monographs suggested below the role of the client will be more fully promoted, with the display of the client's logo on the cover and a foreword by their representative. The over-riding aim of the procedures outlined in this section is to ensure that, during the duration of the project, a continuous stream of information about the archaeological works is made available for peer review and public consumption. The following stages and publication vehicles are envisaged;

27.2 *DES entries*

After the completion of each piece of on-site work, whether it be a watching brief, evaluation, set-piece excavation or building recording exercise a Data Structure Report (DSR) will be produced (see Fieldwork procedures). These are not reports intended for publication but they usually include a short summary which will be submitted for publication in *Discovery and Excavation Scotland* (DES), an annual summary of fieldwork published by the Council for Scottish Archaeology. It is proposed that an individual entry for each piece of on-site work will not be submitted; rather a single entry summarising all the works carried out in any one year will be compiled by the Project Manager. The DES summary is a standard requirement of planning authority archaeologists and ensures that notice of ground-breaking works is disseminated throughout the archaeological community.

27.3 *Journal publications*

Reports on the results of excavations are normally published either as an article in an academic journal or as a monograph in an appropriate series, depending on the scale of the results. The results of the set-piece excavations will be published as journal articles with reference to other on-site works such as watching briefs and building recording, where appropriate. The publication of these articles will follow on timeously from the completion of post-excavation works.

27.4 *Monograph publications*

The results of all the on-site works will be drawn together in a single volume, a monograph designed primarily for academic consumption. This will be published within 5 years of the completion of on-site works.

27.5 *Popular publications*

The results of all the on-site works will also be drawn together in 'popular' publications that augment the academic publications in making the results available to a wider public. This is a method of providing 'community gain' to the local and national community in return for its consent, through the planning process, to alter or demolish elements of the archaeological heritage. Popular publications may include, as deemed appropriate by the client, Internet reports within the web site of the archaeological contractor, printed colour booklets, leaflets, on-site interpretative panels and exhibitions.

27.6 *Editorial procedures*

The archaeological contractor will apply their in-house editorial policy and procedures, through which any projects nominated for publication are normally submitted.