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Norham Castle, Northumberland

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SURVEY REPORT

Archaeological Investigation Report Series AI/25/2002

NORHAM CASTLE, NORTHUMBERLAND

Archaeological Investigation Report Series AI/25/2002

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1. INTRODUCTION AND BACKGROUND TO THE SURVEY

In March 2002, English Heritage carried out an archaeological field investigation of Norham Castle in Northumberland (Figures 1 and 2). The field investigation was undertaken at the request of the English Heritage Inspector for the site, David Sherlock, to assist with the management and interpretation of the castle but more specifically to understand the relationship between the castle and a series of earthworks in the field to the south. The castle is situated on a steep-sided promontory on the south bank of the River Tweed which for a considerable distance forms the border between England and Scotland. Although the castle is located less than 1km east of the village of Norham, it lies in the neighbouring parish of Horncliffe. Both parishes are within the district of Berwick upon Tweed.

Norham castle dates from the 12th century, and with Berwick 10kms to the east and Wark the same distance to the west it was one of a chain of fortresses that guarded the eastern border with Scotland during the medieval period and later. The castle was substantially re-built with artillery defences following its partial destruction by Scottish forces in 1513, but thereafter it fell gradually into decay. From the 19th century onwards it has been subject to episodes of archaeological and historical research.

The 2002 fieldwork revealed that the medieval castle is situated within an earlier, possibly Iron Age, fortification defined by a rampart on the east side of the promontory. The castle itself consists of a keep situated within an inner bailey, which is itself enclosed by an outer bailey with gates on the west and south. There are the remains of a third bailey on the south-east which extends beyond the road into the pasture field to the south. The road is a relatively recent intrusion, probably no more

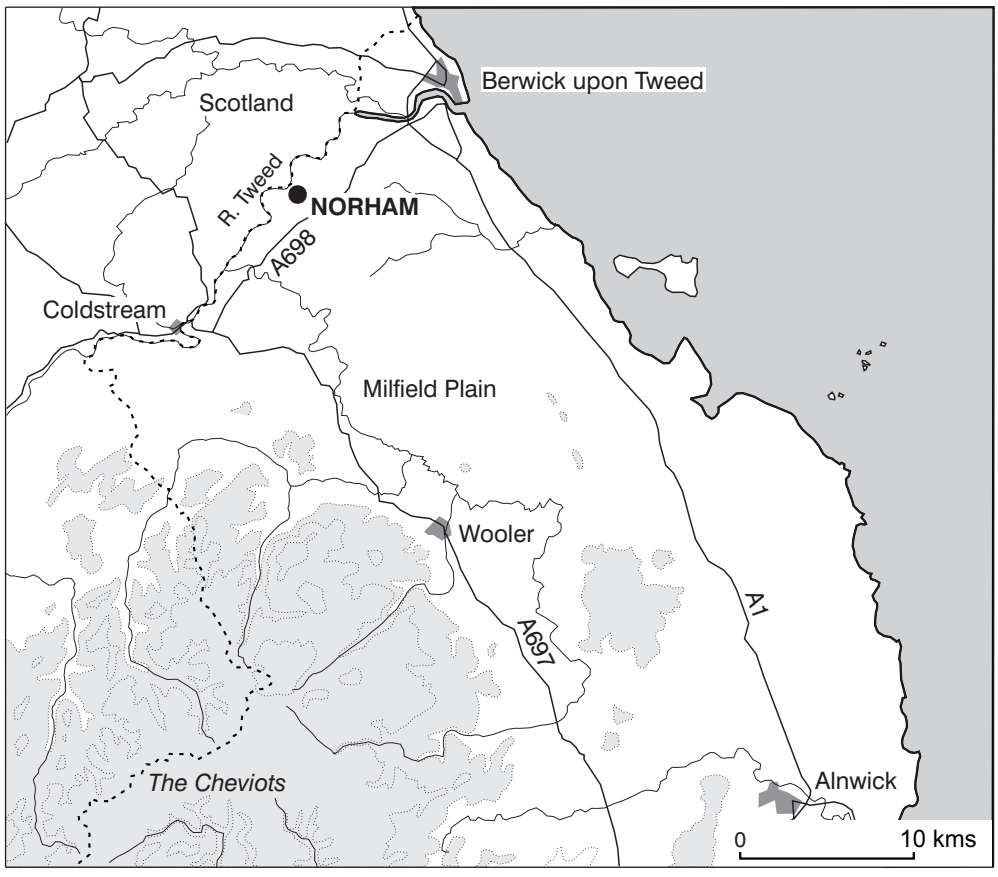


Figure 1. Location map

than 250 years old and before it there is no clear evidence that there was ever an east-west route across the promontory. The field to the south of the modern road has a section of the possible Iron Age rampart on its east side and to the west is a previously unrecognised line of 16th-century earthwork defences on the crest of the promontory. There are also the earthwork remains of a small settlement in this field flanking the approach to the south gate.

The castle is owned and managed by English Heritage. It is protected as a Scheduled Ancient Monument (RSM 23229) and as a Grade I Listed Building (LB 237920). It is recorded in both the Sites and Monuments Record for Northumberland and in the National Monuments Record (NMR) as NT 94 NW 1. The English Heritage field investigation, which covered an area of 6.6ha (16.3 acres), was carried out at Level 3 standard (as defined in RCHME 1999, 3-4). The fieldwork produced an analytical plan of the site at a scale of 1:1000.

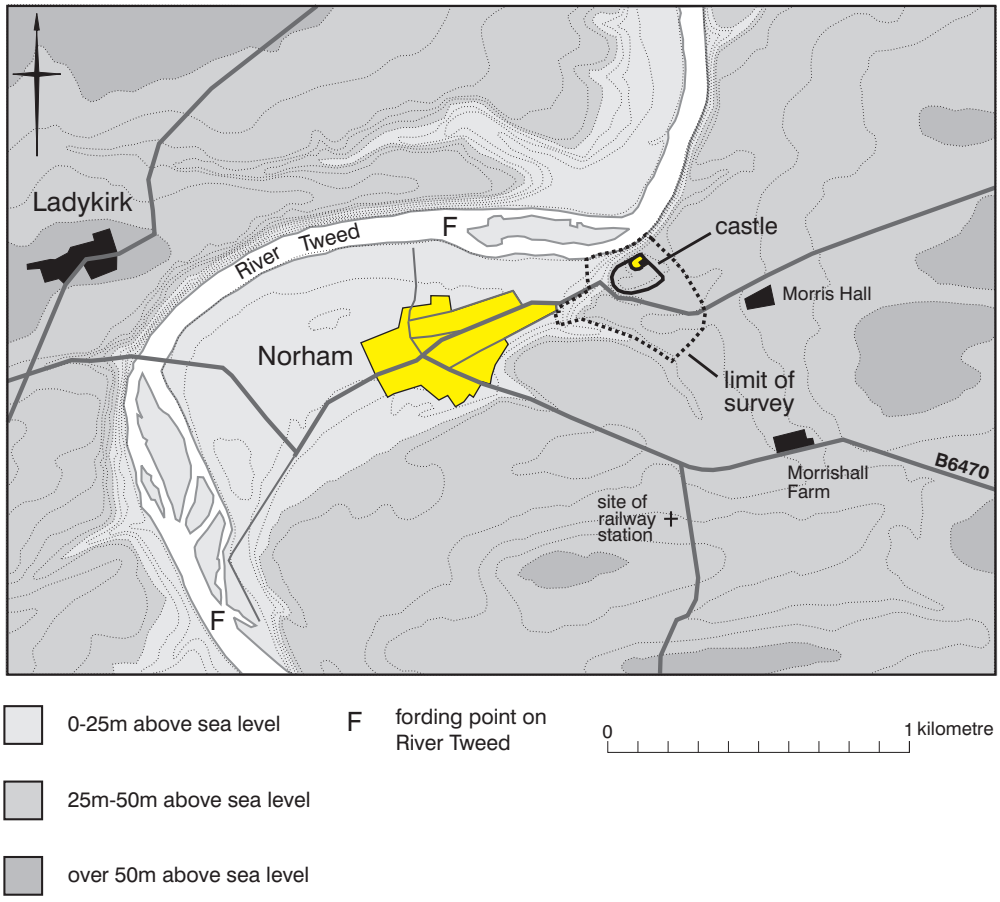


Figure 2. The environs of the castle

2. GEOLOGY, TOPOGRAPHY AND LAND USE (Figures 3-5)

The castle stands at about 30m above sea level, on a flat-topped promontory overlooking the south bank of the River Tweed. Here the Tweed cuts through red sandstone rocks from the Carboniferous period which provided much of the stone used in the construction of the medieval castle keep and the curtain walls. This rock outcrops below the north side of the castle and is overlain by a considerable thickness of sandy soil into which the castle ditches have been cut. The north side of the promontory rises precipitously above the River Tweed and this slope continues around to the west as a steep escarpment below which the flood plain of the river begins. Since historic times this has been dry land, but at an earlier period it is possible that the river flowed closer to the foot of the escarpment, further isolating the promontory as a physical feature. The deeply incised valley of the Mill Burn cuts through the escarpment to form the south side of the promontory, whilst a much shallower, flat-bottomed valley defines the north-east side. This deepens into a gorge shortly before it meets the River Tweed and it carries a small stream which rises from a spring in the field to the east, although most of its course is now piped underground. The watershed between the head of the north-east valley and that of a second shallow valley on the south-east side of the promontory, is the only level approach onto the summit and is the point where the modern road to Norham crosses. A modern ditch drains the south-east valley and flows into the Mill Burn.

The castle enjoys extensive views northwards and westwards over the river valley and commands two potential fording points; one immediately to the north-west and a second some 1.5kms further upstream, adjacent to the Ladykirk Bridge that now carries the B 6470 road northwards into Scotland (Figure 2). However, rising ground some 400-500m from the castle restricts the views southwards and eastwards. The town of Norham begins some 250m to the west of the castle (though in terms of its size, it is no bigger than a large village) and stretches along the floor of the valley towards the Ladykirk Bridge. It has a single main street which is aligned on the castle's west entrance.

Figure 3. Aerial photograph showing the castle from the south-east (reproduced by permission of Tim Gates)

The Mill Burn valley and two minor valleys on the north-east and south-east sides of the promontory are wooded whilst the field to the south of the castle is under permanent pasture. There is public access during advertised opening times to the parts of the castle which are in the guardianship of English Heritage, namely the inner and outer baileys and their immediate surroundings. There is no public access to the pasture field to the south although a public footpath runs immediately to the east of the field down the south-east valley leading to the Mill Burn.

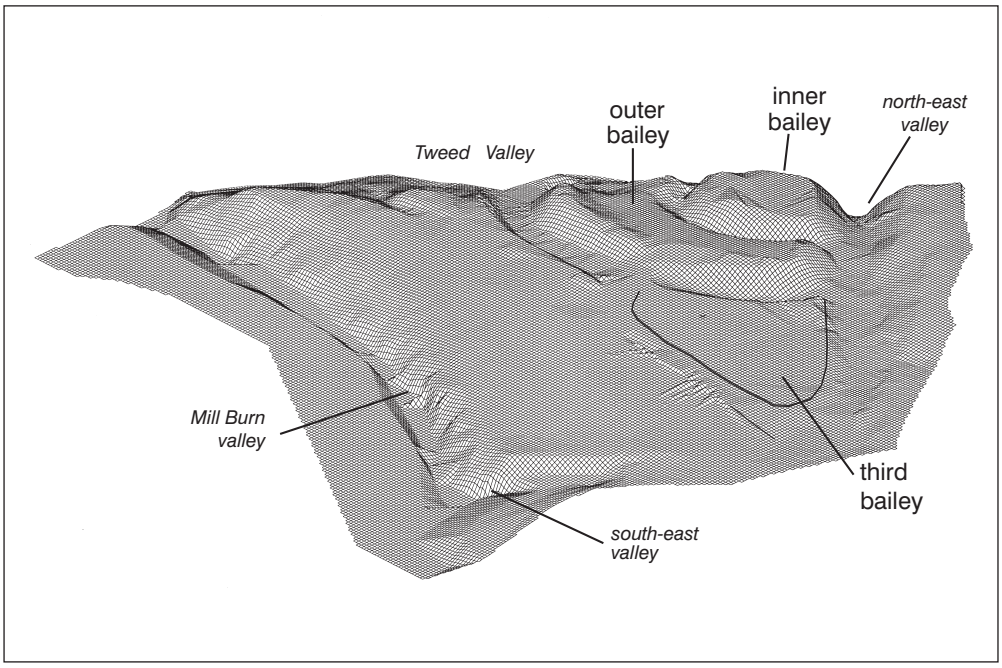


Figure 4. Digital terrain model of the castle viewed from the south-east

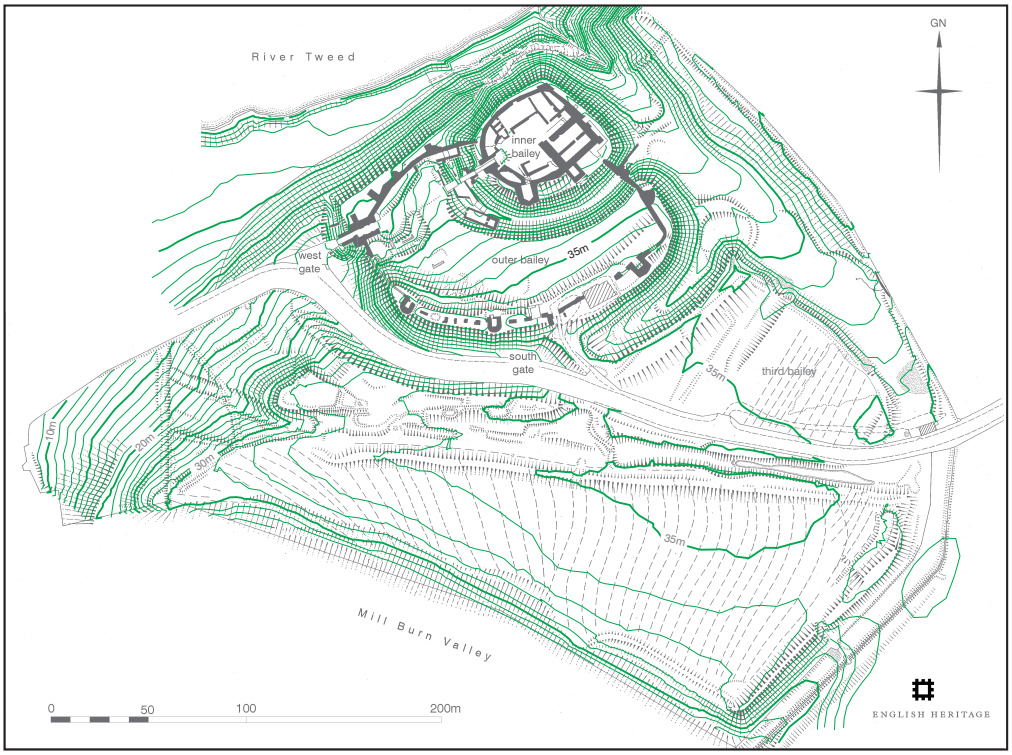


Figure 5. The topography of the castle (contours at 1m intervals)

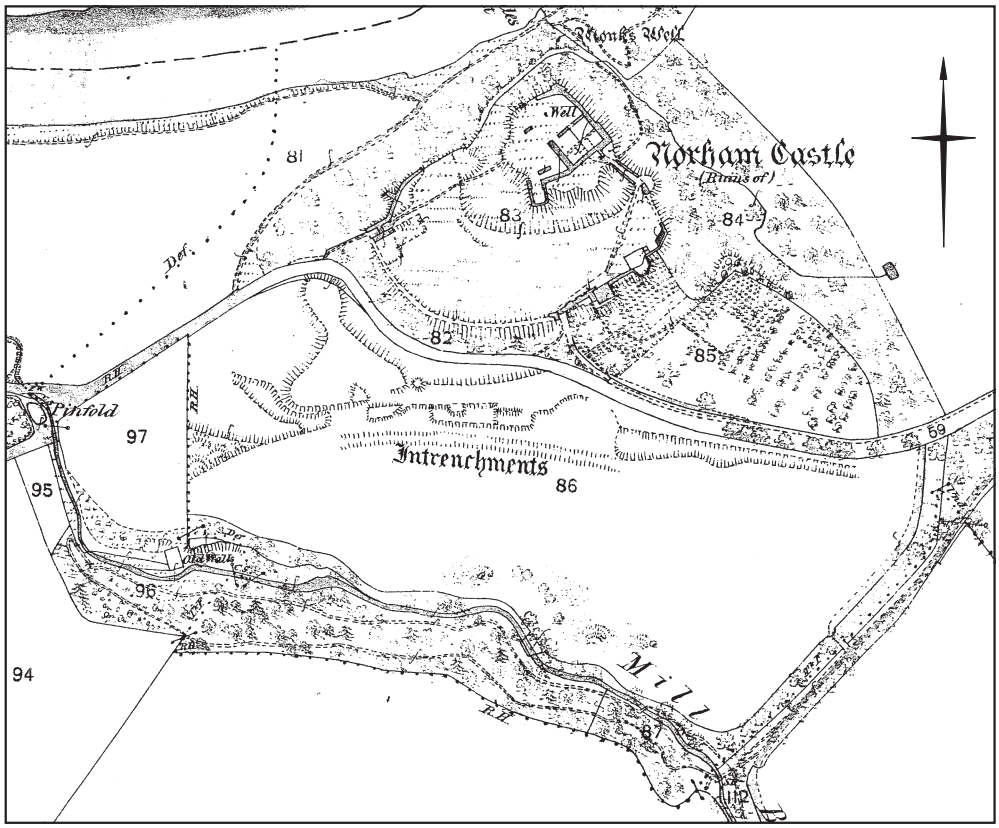
3. PREVIOUS RESEARCH

William Hutchinson published the first detailed account of Norham Castle in 1794, prior to which the castle received no more than passing mention from antiquarian writers. Hutchinson wrote chiefly about the history of the castle and had little to say about the visible remains (Hutchinson 1794, 390-409). He recorded that 'outworks', particularly those near the west gate, had recently been removed and that the stones had been taken for constructing a farmhouse 'a little way to the south'. There is no evidence that a farmhouse ever stood in the field immediately to the south of the castle, so he presumably meant a building some distance further away. The first architectural description of the castle appeared in an historical account published by the Reverend James Raine (Raine 1852, 284-299). He concentrated chiefly on the development of the keep and although his account is cursory compared with the work of later researchers, Raine correctly observed that Bishop Flambard began the building soon after 1121. This early date was not accepted by later authorities who instead attributed the building of the first stone keep to Bishop Puiset in the period 1160-1170, considering that before him the castle was an entirely timber construction.

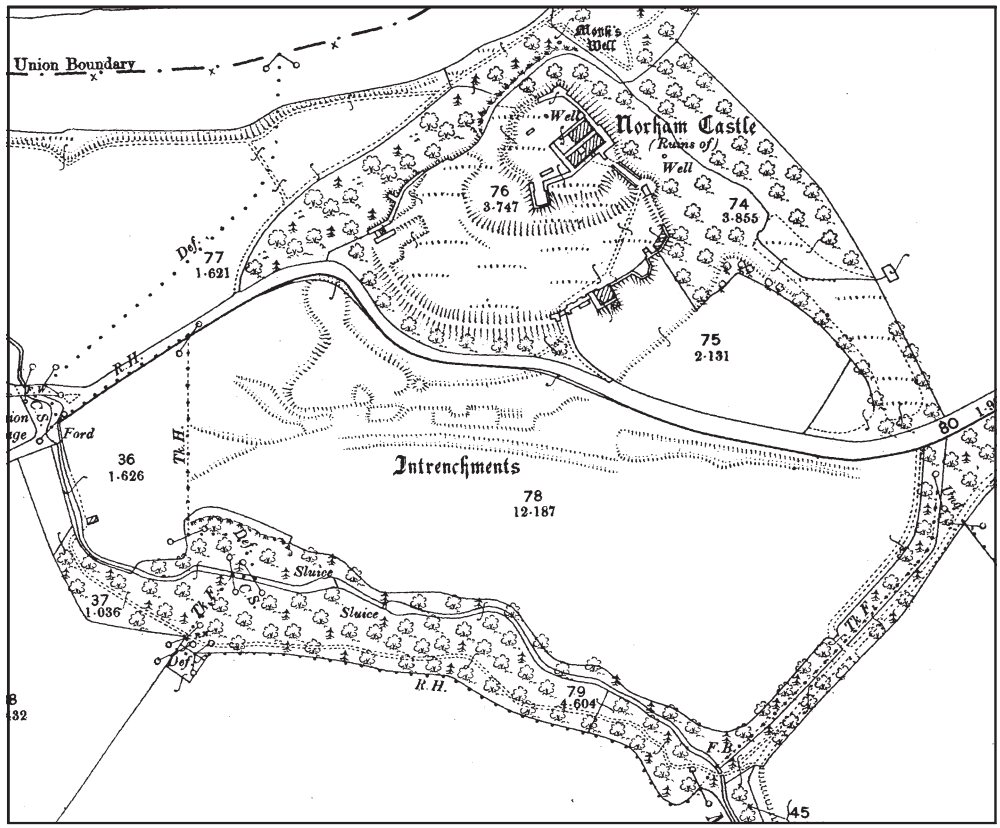
Alongside these detailed historical and architectural descriptions, popular accounts of the castle started to appear in the Victorian period. In 1883 the owner of Norham Castle, the MP Hubert Jerningham, published what might be termed the first popular guidebook. He stated that its prime purpose was to provide 'a portable compendium in readable form' for summer visitors and local residents, which points to the growing popularity of the castle as a tourist attraction (Jerningham 1883). Unfortunately, the book contains little of research value, concentrating instead on some of the more romantic and fanciful aspects of the castle's history.

The year 1860 saw the publication of the first detailed large-scale plan of the castle surveyed that same year by the Ordnance Survey (Ordnance Survey 1860). The plan shows that comparatively little of the fabric of the castle was then exposed (Figure 6a). Only the east and south sides of the inner bailey and the south-east side of the outer bailey are depicted in addition to the keep and a short stretch of masonry next to the west gate. The remaining sections of curtain wall are simply shown as earthworks, whilst the inner and outer bailey ditches are not depicted at all strongly, which suggests they were mostly filled-in. A market garden is shown on the south-east side of the outer bailey, starting at the base of the wall, whilst an impression is given of earthworks in the field to the south without revealing their true complexity being labelled as 'Intrenchments'. Somewhat surprisingly, there is no indication of the largest of the earthworks in the field, namely a 130m long section of rampart on the south-east side. The second edition revised in 1897 (Figure 6b) shows few changes apart from the disappearance of the market garden (Ordnance Survey 1897).

In the years between the two editions of the Ordnance Survey map, a new plan of the site was published in 1876 to accompany an architectural description of the castle by GT Clark, and it was used again in Jerningham's guidebook (Clark 1876, 310; Jerningham 1883, 90). The plan shows broadly the same amount of detail as the two Ordnance Survey maps, though additionally depicts a small stream on the south–east side of the outer bailey apparently running along the bottom of the bailey ditch into the north-east valley (Figure 7). This must have taken it through the area of market gardens shown on the first edition Ordnance Survey map. The Reverend EA Downman drew up a new plan of the site in 1912 (Downman 1912). This was never



(a)



(b)

0 100 200m

Figure 6. The first edition 1:2500 scale Ordnance Survey map (surveyed 1860) and (b) the second edition 1:2500 scale Ordnance Survey map (revised 1897)

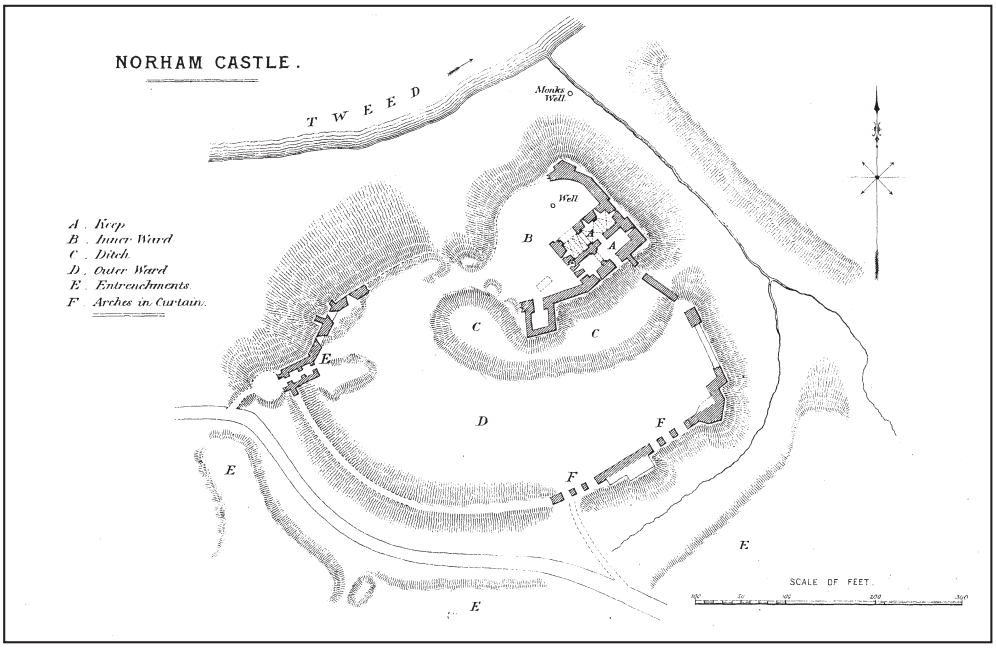


Figure 7. GT Clark's plan of Norham Castle published in 1876

published, though the original manuscript is preserved in the British Museum along with a collection of other plans of monuments prepared by Downman (Figure 8). The map indicates that he visited the site in August 1909 and although some care was taken to accurately measure several profiles across the ramparts, the final plan is more a schematic reconstruction than an accurate field record. For example, Downman shows a continuous rampart around the perimeter of the promontory for which there is no field evidence and admits 'the artificial defences ..... are rather indefinite. All the sections must be regarded as being only roughly correct'.

The castle was surveyed again sometime prior to 1946 and the resulting plan was subsequently reproduced in all editions of the castle guidebook up until the late 1990s. The primary purpose of the plan was to show the architectural development of the castle and the earthworks are again depicted in a rather schematic fashion, and therefore the plan has little value as a field record. The only other major survey of the castle to be undertaken in recent years was prepared at 1:100 scale in 1986 by the firm of Plowman Craven and Associates. From an analytical point of view, the main drawback of the survey is that it depicts the earthworks by means of contours. This restricts its use for interpretation, as does the fact that it was confined to the area in guardianship and therefore does not show any of the remains south of the modern road.

There are no records of any excavations taking place at the castle before the Office of Works began digging to clear the site of accumulated debris after it was taken into guardianship in 1923. However some finds were made in the previous century because Raine mentions the frequent discovery of cannon balls and other 'memorials of war' in and around the castle (Raine 1852, 300). A Bronze Age bell beaker vessel was also found by workmen digging within the castle sometime during the middle of the 19th century, attesting to prehistoric activity on the site (Tait 1965, 17). The main priority of the 1920s clearance excavations would have been to uncover wall foundations and floor levels and consequently was undertaken by workmen with little archaeological supervision who would have paid no real attention to the stratigraphy they were removing. However, a medieval leather scabbard found in these excavations is illustrated in the latest castle guidebook (Saunders 1998, 26). The clearance work revealed the 'waterworks in the inner moat and ... the inner moat

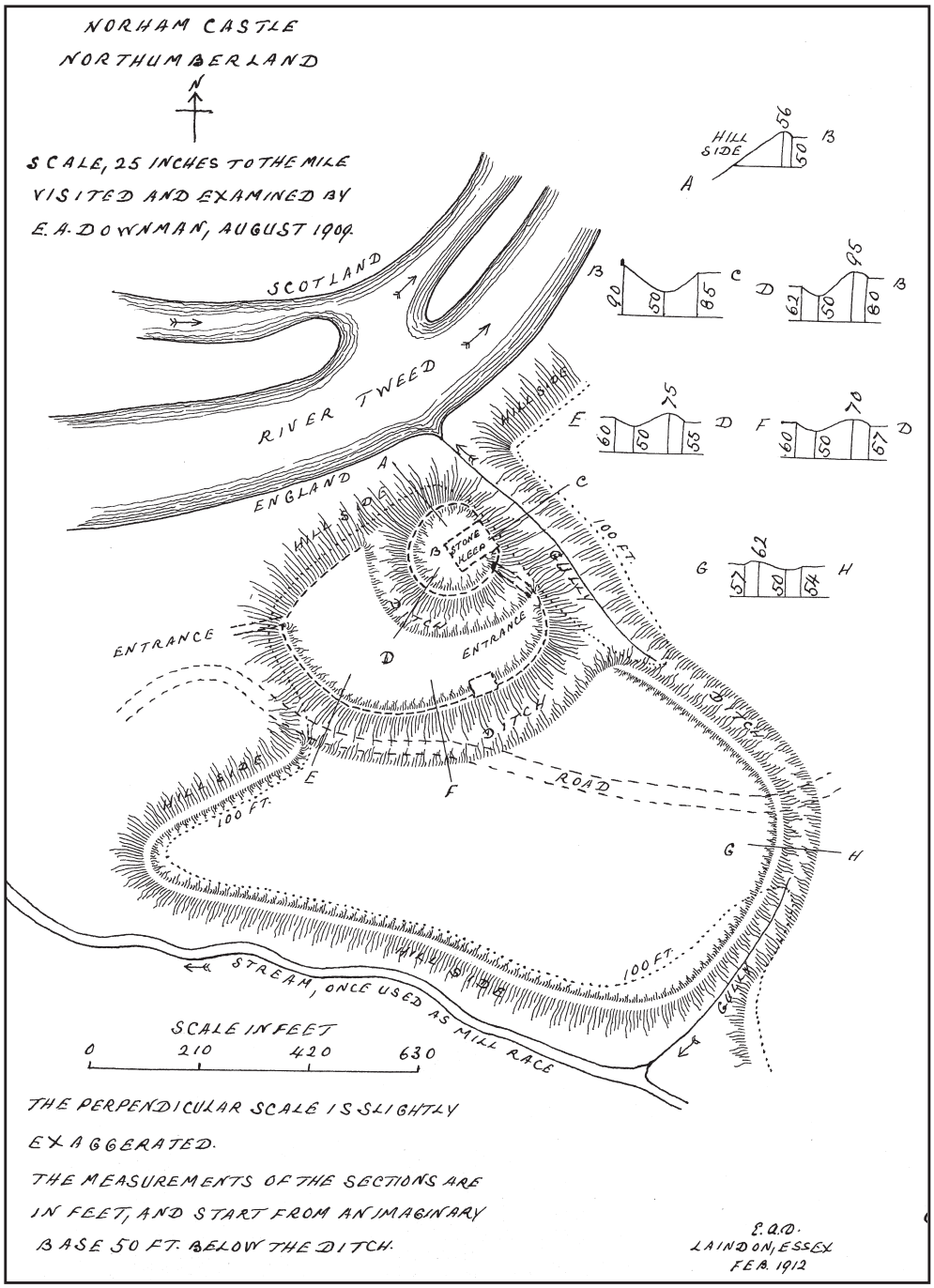


Figure 8. The Reverend EA Downman's plan of Norham Castle surveyed in 1909 (reproduced with the permission of the British Library)

itself' as well as other building foundations in the inner bailey (Hunter-Blair 1932-4). Further work must have taken place in the 1950s to restore the outer ditch after the clearance of a market garden from the area although no account of this has been found. There is no record of any excavations having taken place among the earthworks in the pasture field to the south of the castle.

The last decade has seen several notable advances in understanding of the castle's development. Philip Dixon has proved conclusively that the keep was begun by Bishop Flambard as early as 1121, overturning the view that the first castle was an entirely timber construction. He demonstrated that Bishop Flambard constructed a stone first floor hall, now partially surviving encased in later additions to the keep (Dixon and Marshall 1993). This revised phasing forms the basis for the description of the keep in the most recent castle guidebook (Saunders 1998).

As well as the castle keep, the curtain wall on the south side of the outer bailey has recently been redated. For the most part all that survives of this wall is the arched foundations which were intended to be buried within the core of the rampart. These were previously thought to be 13th century, but they are now recognised as early 16th century and part of the rebuilding which took place to adapt the defences to take artillery (Hunter Blair and Honeyman 1966, 17; Saunders 1998, 4). Andrew Saunders has pointed out that these changes to the castle defences date to between 1513 and 1523 and are virtually unique in this country as examples of early artillery fortifications. They include the provision of angular towers for artillery on the curtain walls replacing the round medieval towers destroyed in a siege by King James IV of Scotland in 1513 and an early example of a casemate battery adjacent to the west gate (Saunders 1997).

In 1998 the castle was included in an archaeological assessment of Norham which itself formed part of an extended urban survey of Northumberland undertaken by the Northumberland County Council in conjunction with English Heritage (Northumberland County Council 2001). Although mainly an analysis of the archaeology of the town, the survey has highlighted the possibility that the promontory was fortified before the castle and the likelihood that archaeological deposits survive in the field to the south of the road. The assessment also suggested that the flat ground to the west of the castle may have supported buildings or been used as a training field for the garrison (Northumberland County Council 2001, 16). There is no field evidence to support either possibility, although Rowland Johnson's plan of 1561 does show a row of cottages on the north side of the apporach to the west gate (see Figure 9). The assessment drew attention to the possible site of a mill in the bottom of the Mill Burn valley where 'Old Walls' are marked on the first edition Ordnance Survey map (Ordnance survey 1860). The site was examined during the fieldwork for this report and it was established that the visible remains are likely to be of a post-medieval mill, and possibly even 19th century in date. However, the site lies outside the area of the 2002 survey and is not considered further in this report.

Despite its proximity to the castle, and the fact that it contains a range of prominent earthworks, the field to the south of the road has not received much serious analysis before the English Heritage investigation of 2002. Raine includes a brief mention of the area observing that it 'is full of lines and trenches and foundations of buildings, some of which were standing within the memory of persons still alive'. He adds that a cut along the east side was made in 1495 to provide water from the Mill Burn on the south side of the field to the outer moat of the castle (Raine 1852, 300). The natural topography argues against this ever having been feasible, although the idea is repeated in recent guides to the castle (Hunter Blair and Honeyman 1966, 18). Although chiefly interested in the architecture of the castle, Clark did not ignore the earthworks in the field, suggesting that it contained 'the remains of the Roman camp, and the less regular banks and ditches of some of the besiegers of the castle' (Clark 1876, 309). However, there is no field evidence for either of these suggestions. More recently, the area has been interpreted as part of the medieval castle with Saunders going so far as to suggest it was enclosed from the outset and that the area was used for livestock (Saunders 1998, 3; 20).

The description of the castle prepared in 1994 for the revised entry in the Schedule of Ancient Monuments makes the original observation that an east-west ditch in this field is part of the perimeter of a hitherto unrecognised enclosure on the south-east side of the outer bailey (English Heritage 1994). The present English Heritage survey confirms this identification, whilst also developing a better understanding of

the form of this enclosure which in effect is a third bailey. The author of the revised schedule entry interpreted the apparent lack of any masonry defences as evidence that this was a subsidiary compound for livestock.

The English Heritage field investigation of 2002 was the most detailed analysis of the earthwork remains so far undertaken. Whilst it has shed light on the development of the entire castle, the main advance in knowledge has come from a detailed investigation of the earthworks in the field to the south of the road. Although now divided by the road, the survey has demonstrated that the area preserves an important multi-period landscape beginning with a massive rampart that may be part of a pre-medieval, possibly Iron Age, fortification. Part of the third bailey of the castle extends into the field whilst of major importance has been the discovery of a line of probable 16th-century earthwork fortifications on the west side, on the edge of the promontory and the remains of a small settlement alongside the road to the south gate.

4. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1 Pre-medieval archaeology and history

The chance discovery of a Bell Beaker vessel in the 19th century at an unspecified location within the castle precinct points to some form of activity on the site in the Bronze Age about 3,500 to 4,000 years ago (Tait 1965, 17). More importantly, the results of the English Heritage survey indicate that there was an earlier fortification on the site predating the construction of the castle. For reasons that will be discussed later in this report, this is considered most likely to have been an Iron Age promontory fort. In the 7th century Norham was established as an important monastic centre which according to one tradition became the temporary residence of the monks of Lindisfarne around 875 who brought with them the coffin of their founder, St Cuthbert (Higham 1986, 282; Bailey 1995, 197-8). The location and extent of this monastic foundation remain obscure, although its probable site is indicated by the discovery of pre-conquest sculpture in the graveyard of St Cuthbert's parish church, 800m to the west of the site of the later castle. There is also the possibility of an associated settlement called 'Ubbanford', but this has yet to be securely located (Northumberland County Council 2001, 8-10)

4.2 The early castle (12th and 13th centuries)

Following the Norman conquest, Norham became one of the areas of Northumberland that fell under the direct jurisdiction of the Bishops of Durham and it is documented that the first castle was constructed around 1121 for Bishop Ranulph Flambard (Lomas 1996, 20). It is a reasonable assumption that he laid out the present inner and outer baileys for reasons that will be discussed later in this report, although the only structure definitely of this date still remaining is part of a first-floor hall preserved within the later keep. The first floor of this building appears to have been a large, ceremonial chamber with no private accommodation suggesting that the Bishop's quarters must have been elsewhere within the inner bailey, probably to the north, on the site of the later 'Great Hall' (Dixon and Marshall 1993, 430). In the second half of the 12th century, Bishop Hugh du Puiset appears to have instigated a major campaign of rebuilding at Norham Castle which included incorporating Bishop Flambard's ceremonial chamber block in the inner bailey into an enlarged tower keep. The new work on the keep included the addition of a third storey at the south-east corner for the Bishop's private accommodation and the conversion of the earlier ceremonial chamber on the first floor into a private hall. The date at which this building took place is not closely documented but is thought to have been completed by 1174 when King Henry II temporarily took the castle into his own hands (Dixon and Marshall 1993, 413). Bishop Puiset granted a borough charter to Norham suggesting that he, or his predecessor, may have been responsible for planting a town (Northumberland County Council 2001, 13). There can be little doubt that the present village is the site of the Bishop's new town as it preserves the plan-form of a typical medieval castle-borough with its single main street aligned on the castle's west entrance. There is no evidence that the town ever possessed its own defences and therefore the inhabitants and their livestock must have relied on the castle for protection during times of trouble.

King John took control of the castle in 1208 and proceeded to spend lavishly on its defences, including constructing the present south entrance into the outer bailey (Saunders 1998, 21). However, the cessation of border hostilities meant the castle

remained relatively peaceful during the 13th century and the surviving accounts suggest only relatively minor repairs took place to the fabric. In 1291 the castle was propelled onto the national stage when the thirteen rival contenders for the Scottish throne met with King Edward I and sixty-seven of his northern barons at Norham. The scale of both this gathering to decide the succession to the Scottish crown, and a second meeting the following year, implies that 'a wealth of temporary accommodation' must have been provided in and around the castle (Saunders 1998, 22).

4.3 The later medieval castle (14th and 15th centuries)

The castle underwent several prolonged sieges by Scottish forces at the beginning of the 14th century, although it was only captured after the last of these in 1327 (Saunders 1998, 23). However, Norham was restored by treaty to the Bishop of Durham the following year. Following Bishop Puiset's major re-building work towards the end of the twelfth century, the castle remained relatively unchanged until the 15th century. The west gate into the outer bailey was rebuilt in 1408 and in 1422-25 a fourth storey was added to the keep and at the same time the hall on the first floor was sub-divided into a suite of private rooms. Further work took place in 1429-30 when a latrine block was added on the south side of the keep to service the new lodgings (Dixon and Marshall 1993, 426-7). Around 1495, Bishop Fox strengthened the castle defences and as part of this the water supply to the castle was improved with the construction of an aqueduct through the east curtain wall into the inner bailey ditch. The aqueduct is supposed to have been supplied by diverting the flow of the Mill Burn via a ditch along the east edge of the field on the south side of the castle (Hunter Blair and Honeyman 1966, 18). However the English Heritage survey has totally discounted this as a possibility for reasons that are discussed later (see section 5.4).

4.4 The castle in the sixteenth century

The temporary capture of the castle in 1513 by a Scottish army after a devastating artillery bombardment prompted a major campaign of rebuilding which saw the

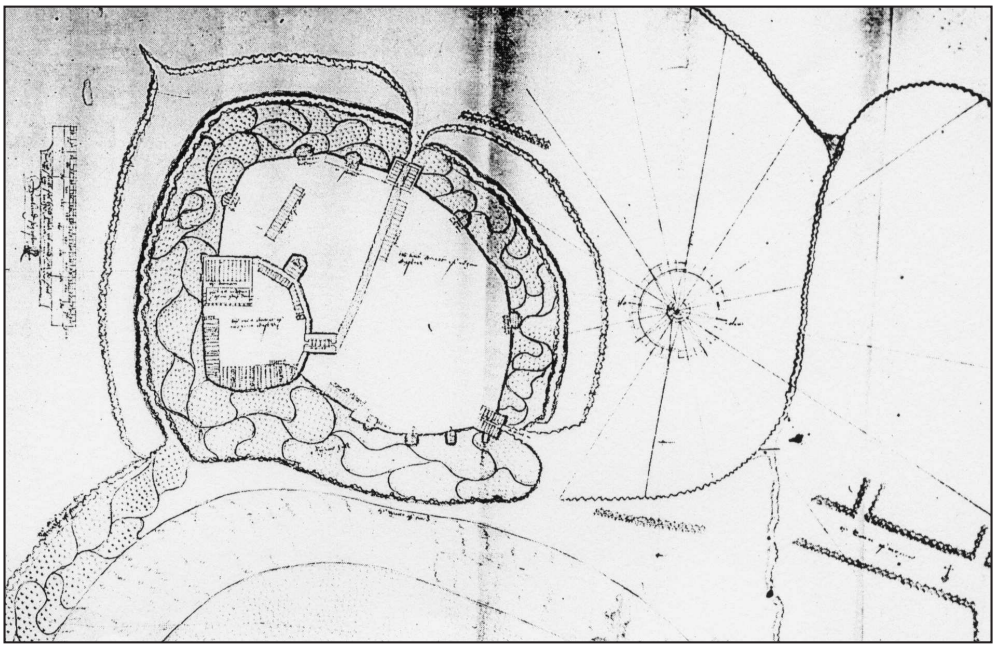


Figure 9. Rowland Johnson's plan of Norham Castle surveyed in 1561 (reproduced by permission of Lord Salisbury)

construction of some of the earliest masonry artillery defences in the north of England. By 1523 the round, medieval towers on the south side of the outer bailey had been replaced by angular bastions to provide a wider field of fire. At the same time, a new artillery bulwark called Clapham's Tower was constructed on the inner bailey curtain wall, to the south-west of the keep, to command the outer bailey (Saunders 1997). The transformation also included the construction of a casemate battery on the north-west side of the castle overlooking the River Tweed and the roof of the keep and of the hall to its north were converted to accept artillery. By the end of these developments, the castle was transformed and had become 'less a medieval castle and more an early Tudor frontier artillery post' (Saunders 1997, 39). Despite the expenditure of much time and money on the rebuilding of Norham Castle, the fortifications were not properly maintained and by the middle of the century these had clearly fallen badly into decay. The castle was transferred to the Crown in 1559 and in 1561 the military engineer, Rowland Johnson, devised a major scheme to replace the castle with a bastioned artillery emplacement, although this was never implemented. However, the resulting plan is a useful indication of the state of the castle at this time (see Figure 9). It shows a row of cottages outside both the south and west gates and that the south gate was then the main entrance into the castle, the west gate having become little more than a postern after being partially blocked in 1554 (Saunders 1998, 6). The 1561 plan comes at a turning point in the fortunes of the castle as at that time work was well underway on the bastioned defences of Berwick, which are the most elaborate 16th-century fortifications constructed in this country (Colvin 1982, 647-664). Thereafter Norham, with its outmoded medieval defences and its more recent, but comparatively unsophisticated, fortifications, no longer figured strongly in the defence of the Border.

4.5 The castle from the 17th to the 20th century

The military importance of the castle finally ended in 1603 with the union of the two crowns following the accession of James VI of Scotland to the English throne. At the beginning of the 17th century the castle was sold into private hands and appears not to have played any significant role in the English Civil War. The invading Scottish army made straight for Newcastle after having crossed the River Tweed at Wark when they entered this conflict in January 1644 (Lomas 1996, 182). The castle passed through a number of hands in the succeeding centuries, gradually falling more and more into decay. It was as a picturesque ruin that Samuel and Nathaniel Buck engraved the

Figure 10. Norham Castle from the south engraved by Samuel and Nathaniel Buck in 1728

castle in 1728 and in 1797 the artist JMW Turner began a long association with the site, painting seven watercolours of Norham during his career, some of which became popular as engravings (Bryant 1996, 96-8). The castle also came to the public's attention through Sir Walter Scott's medieval epic poem 'Marmion' which was first published in 1808 and was partly set at Norham. The castle would therefore have been quite widely known by the middle of the 19th century and the numbers visiting the site undoubtedly increased after the coming of the railway to Norham in 1851. The castle has since continued as a tourist attraction, and was placed into the guardianship of the state in 1923.

5. DESCRIPTION AND INTERPRETATION OF THE EARTHWORKS (Figures 11 and 15)

(features identified by numbers in brackets are located on Figure 12)

5.1 Introduction

The survey has found compelling evidence of a pre-medieval fortification on the site consisting of a single rampart running the length of the weakest, east side of the promontory. A massive rampart in the field to the south-east of the castle is interpreted as a remnant of this fortification whilst the remainder was incorporated in the later castle defences. The fieldwork identified two possible entrances in the line of this fortification with that on the north also associated with a hollow way leading into the centre of the promontory. The date of this defensive work remains open to debate, but the most likely explanation is that it was a promontory fort constructed in the Iron Age.

The early medieval castle comprised an inner and outer bailey with masonry curtain walls, fronted by substantial ditches, and a much more lightly-defended third bailey on the south-east side. Little can be established for certain about the relative dates of these three elements though it seems highly probable that the inner bailey belongs to the first castle since it contains the remains of the first-floor hall constructed Bishop Flambard around 1121. Circumstantial evidence suggests the outer bailey is probably also the same date, although the earliest fabric in the curtain wall has not been more precisely dated than the 12th century. The third bailey is even more difficult to date, but it is probably an early component of the castle. The gate on the south side of the outer bailey was approached from the west via a deeply incised hollow way on the slope of the west escarpment and from the east via a route through the third bailey. The modern road from Norham village perpetuates the medieval line of approach from the west up to the castle's other gate on the west. This road was extended in the 18th century along the base of the outer bailey ditch to from a continuous east-west route across the promontory. In the early medieval period, a substantial boundary bank divided the castle from the south side of the promontory, creating a field that could have functioned as a relatively secure compound for livestock from the town.

Few changes occurred to the plan of the castle in the later medieval period, though the creation of the so-called Bishop Fox's aqueduct may have led to the canalisation of the stream in the north-east valley. The field to the south of the castle was probably given over to the plough during this period.

In the 16th century, a line of rudimentary earthwork defences was constructed on the west side of the promontory. They have not been described before and are probably part of the general strengthening of the castle defences which occurred in the decades following the 1513 siege. They are partly overlain by the remains of a small, linear settlement which may be that depicted as a row of cottages on Rowland Johnson's plan of 1561, although this is not definite. After this date, the first major change to the site was the construction of a road across the promontory, possibly in the middle of the 18th century. In the 19th century the castle was opened up to visitors and the survey recorded several formal footpaths around the east margins of the site which probably date to this period.

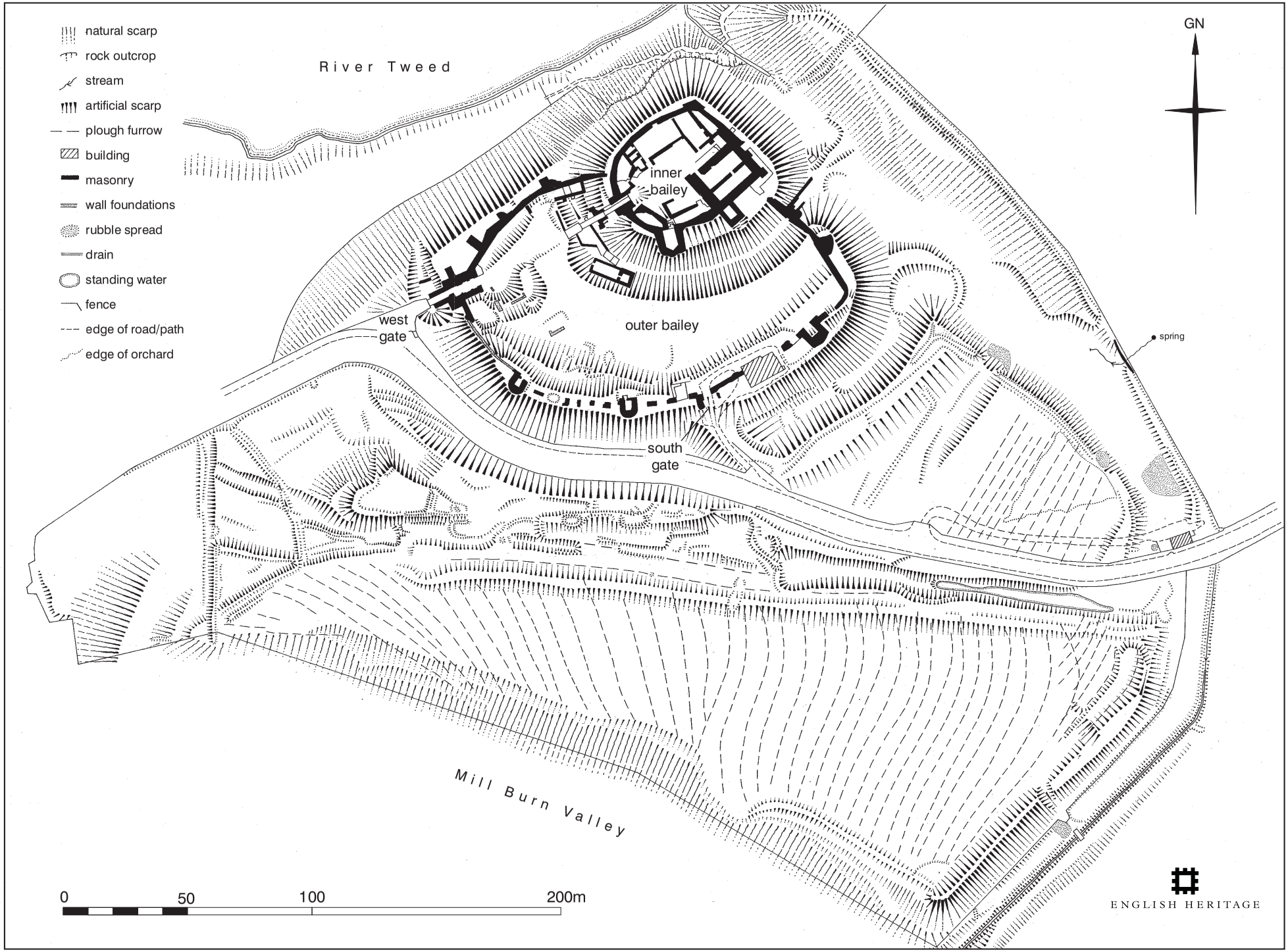


Figure 11 English Heritage plan of Norham Castle

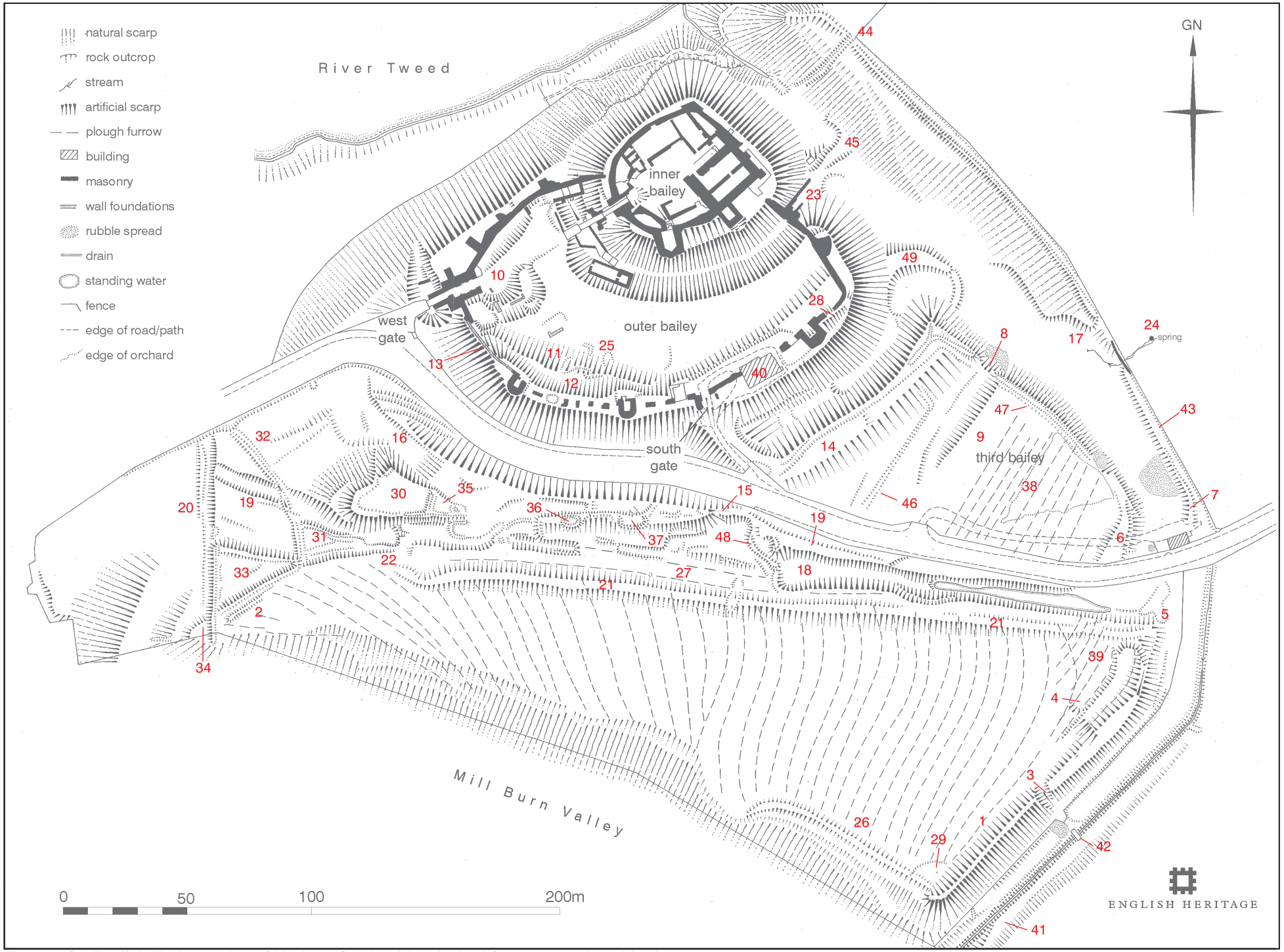


Figure 12 English Heritage plan of Norham Castle with principal features mentioned in the text

5.2 The pre-medieval fortification (Figure 13)

The results of the field investigation indicate that the medieval castle occupies the site of an earlier fortification of which the most obvious surviving element is the 130m-long stretch of rampart on the east side of the field to the south of the road (1). This is not the first time that a pre-medieval date has been suggested for the earthwork, as over a century ago Clark suggested it indicated a Roman fort, however there is no field evidence to support this particular date (Clark 1876, 309).

The field evidence clearly establishes that the earthwork is not post-medieval as it is cut by plough furrows and by the boundary bank which divided the castle from the south part of the promontory. The latter is possibly contemporary with the early development of the castle in the 12th and 13th centuries (as will be discussed below) whilst the ploughing is possibly late medieval. The field investigation also established that the rampart did not continue around the south or west sides of the promontory, but the survey did find evidence that the rampart continued further northwards (although now much reduced as an earthwork) at least as far as the outer bailey ditch. Whilst this might indicate that it was constructed as part of the early castle, it is highly questionable if such an outer defence would have been needed given the combined strength of the inner and outer baileys. This leaves open the very real possibility that the fortification pre-dates the establishment of the castle and that the rampart originally secured the entire east side of the promontory, creating in effect a promontory fort with natural slopes providing the protection on the other three sides, perhaps augmented with a timber palisade which has left no definite surface traces. However, there is a slight bank set several metres back from the crest of the slope on the west tip of the promontory (2) which could have been part of this suggested defence, although it could equally be medieval and part of the perimeter of a field to be described below. It is also possible that the River Tweed flowed much closer to the foot of the west escarpment, further protecting that side of the promontory. The

Figure 13. The pre-medieval rampart viewed from the north-east

question of date remains open but, as will be discussed more fully in Section 6.1 of this report, it is most likely to be Iron Age.

The rampart south of the modern road is a substantial upcast bank up to 2.5m high and 18m wide aligned along the crest of the south-east valley, with an additional 1m-2m height externally gained by cutting back the underlying natural slope. Several slight parallel steps in the outer face of the rampart are not constructional, but have been caused by slippage. However they mask any clear surface indication of the junction between the upcast bank and the lower, cut slope. The rampart declines in prominence northwards as the natural slope below the bank fades away. About half way along its length, the rampart is cut by a 5m wide gap (3) which is not an original entrance, but a later opening, possibly connected with opening up a view of the castle for visitors in the 19th century. The section of rampart to the south of this opening appears to have suffered relatively little disturbance and has a rounded terminal at the south on the edge of the slope down to the Mill Burn. The existence of this terminal establishes that the rampart did not turn to the west to run along the edge of the Mill Burn valley. This might otherwise have been difficult to prove because of losses to the south side of the promontory caused by the erosion and slumping of the valley side.

The section of rampart to the north of the opening is less well preserved and has clearly been cut into by the medieval ridge and furrow ploughing. There are slight traces of quarrying at the bottom of the bank, on the inside, which might have provided some of the construction material (4) whilst the crest appears to have been partially levelled, possibly by ploughing. An east-west medieval boundary bank also cuts into the end of the rampart, clearly destroying some of the earthwork. The rampart disappears some 20m before the modern road, but it is not clear if this is because it has been destroyed or because there was an entrance at this point. The rampart could have been totally removed by the digging of the ditch around the castle's third bailey although it is impossible to be certain about this because there is no visible sign of the ditch at the point where it crosses the projected line of the rampart. The fact that the rampart ends where there is the only level approach onto the promontory (5) supports the alternative possibility that there was an entrance at this point. It also appears to turns inwards slightly as does the much-reduced rampart on the north side of the road (6) which is also slightly offset. Some caution is needed with this interpretation however, because the latter earthwork formed part of the perimeter of the castle's third bailey and therefore its alignment could have been altered.

The rampart on the north side of the road is aligned along the top of the valley on the north-east side of the promontory and can be traced as far as the outer bailey ditch. It begins on the south as a low bank no more than 1.0m high, below which the natural slope has been cut back to accentuate the exterior face, in the same manner as the rampart to the south of the road. This similarity of construction is some evidence that the two sections of rampart originated as part of the same defence, although, as was stated above, this section was incorporated in the third bailey and therefore could have been altered. The bank fades out after 20m but the lower, cut slope can be traced up to the edge of the outer bailey ditch beyond which all surface evidence has been lost in the landscaping to form the defences of the inner and outer baileys. There is also a slight bank on the opposite side of the north-east valley (7), near the modern road, which may have been an associated counterscarp bank with the intermediate valley acting, in effect, as a ditch. However, this is not conclusive as the bank could

equally well be a medieval boundary, or part of the 19th century landscaping to make a footpath along the crest of the slope.

Some 20m to the south of the outer bailey ditch there is a 10m wide blocked entrance in the line of the rampart (8). The south side is obscured by the blocking material which appears to have accumulated in several phases consisting of older material on the inside with mature trees growing on it, and a much more recent-looking dump on the outside containing brick rubble. The north side of the gap is defined by a clear inwards turn of the rampart which suggests the entrance is contemporary with the construction of the defence and not a later breach, although unlike the south entrance described above, the sides are not offset. There is a clear hollow way on the inside (9), some 60m in length, confirming that the gap was used as an entrance. Whilst there is evidence that the entrance continued in use in the medieval period, the hollow way is angled to the south-west away from the castle's south gate suggesting the existence of an earlier route on to the promontory predating the construction of the castle.

5.3 The early castle (12th and 13th centuries)

The inner bailey (Figure 14)

The inner bailey is on the north-east corner of the promontory and is defined by a deep, curving ditch on the west and south and by steep, natural slopes on the other two sides which have been artificially steepened to make an oval-shaped perimeter. The area enclosed by the curtain wall amounts to some 0.26ha (0.64 acres). The keep is situated at the south-east corner and there is a single entrance on the west side. The inner bailey was almost certainly laid out as part of the first documented phase of castle construction in 1121 in order to protect Bishop Flambard's stone ceremonial hall, and his private chambers are believed to have been to the north where now only

Figure 14. The inner bailey viewed from the south-east

16th-century building remains are visible (Dixon and Marshall 1993, 430). The inner bailey has sometimes been described as a motte implying the existence of a high mound. However the use of the term is inappropriate as there is no evidence of any substantial build up, suggesting instead that the bailey began as a ringwork with a simple rampart on the crest of the ditch. However, the perimeter of the ringwork lacks clear definition because of the later re-building of the masonry defences. On the south side of the gate, the inner face of the ditch continues above the probable natural ground level up to the base of the curtain wall and it is possible that the upper 1-2m of this slope represents the original outer face of the ringwork. The fact that Bishop Flambard's first floor hall was set some 15m back from the lip of the ditch might also be evidence of an intervening ringwork bank. On the north-east, if the speculation is correct, the medieval defences must incorporate a section of the rampart of the earlier fortification although there is no field evidence which demonstrates this.

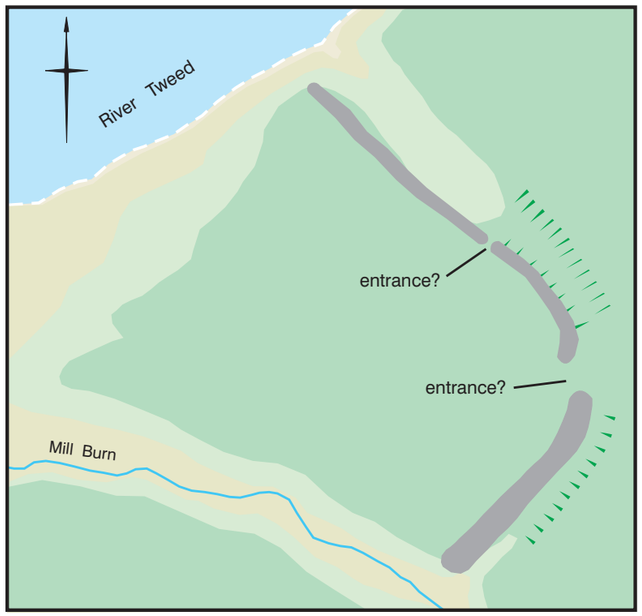
The gatehouse on the west side preserves 12th century masonry suggesting that this was the original entrance into the ringwork, though when the rest of the perimeter was walled is impossible to be certain because the surviving curtain wall is entirely 16th century (Saunders 1998, 28-9). The ditch on the south and west sides of the inner bailey is a farily uniform 20m across and 5m deep though it narrows to around 15m immediately to the north of the gatehouse. It has been claimed that the ditch was widened in the later middle ages to accommodate the stone brewhouse and washing floors to be seen at its base (Saunders 1998, 7). However the fact that the east end of the ditch is traversed by a section of 12th century masonry belonging to the outer bailey curtain wall suggests that here it must be close to its original dimensions.

Outer bailey

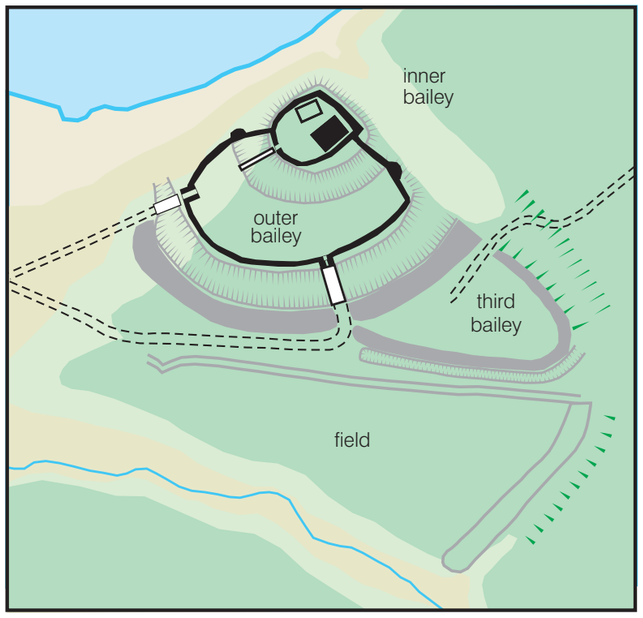
The outer bailey covers an area of approximately 0.59ha (1.45 acres) and is defined by massive defences on the south and west sides consisting of a rampart and curtain wall with a wide external ditch and counterscarp bank. These cut across the promontory on a curving alignment which is broadly concentric with the south and west sides of the inner bailey. On the north and east sides the curtain wall combines with the steep natural slopes to provide the defence, the wall continuing on across either end of the inner ditch to join with the inner bailey curtain wall. The interior of the bailey falls gently from the curtain wall towards the inner bailey apart from on the north-west where the edge of the escarpment comes within the defences and the ground falls away steeply onto a lower terrace (10). There are gates on the west and on the south.

The fact that the south and west sides of the two baileys are broadly concentric strongly suggests that they were laid out to a single design and therefore that the outer bailey was part of the first castle. Indeed, without an outer bailey to enclose the rising ground immediately to the south, the inner bailey could easily have been overlooked and therefore exposed to attack. There is also the practical point that the inner bailey was largely taken up with the Bishop's private chambers and ceremonial hall so that a second bailey would have been needed from the outset to provide accommodation for the castle garrison.

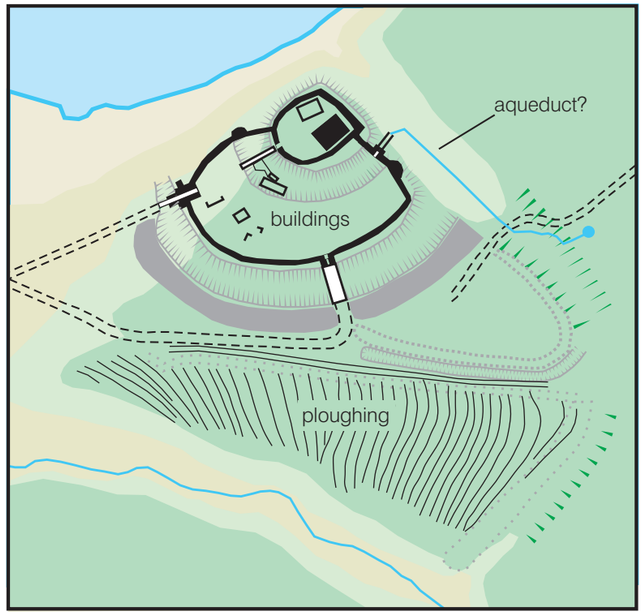
The rampart on the south and west sides is probably an original part of the outer bailey defences though it is debatable if it was carried any further around the circuit because of the availability of steep natural slopes. On the east side, the perimeter may have incorporated the suggested earlier fortification, but there is no vestige of any rampart remaining, as the wall appears to be built directly on the crest of the natural



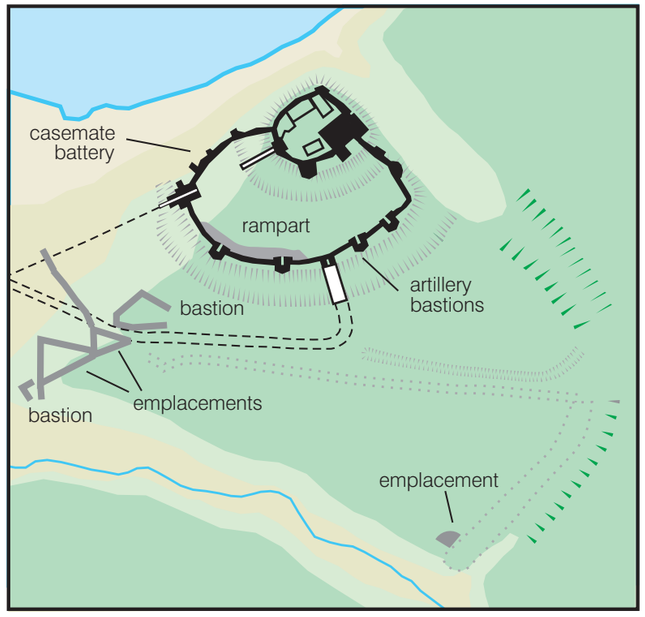
Iron Age?



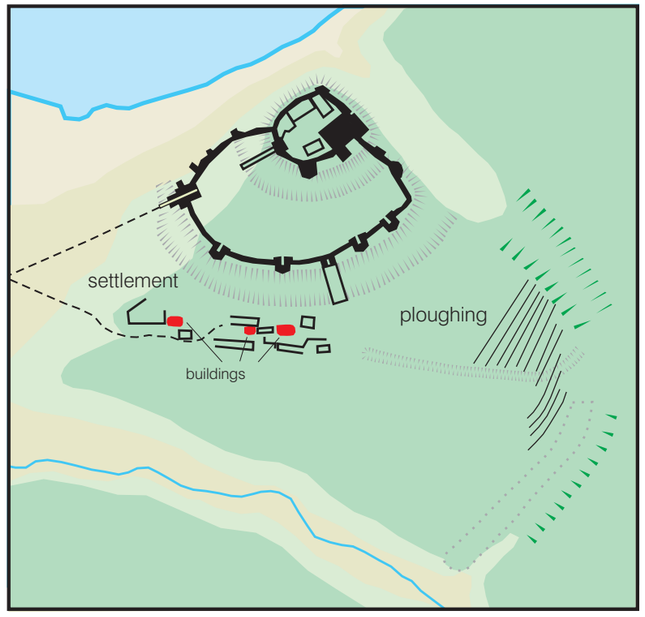
12th-13th centuries



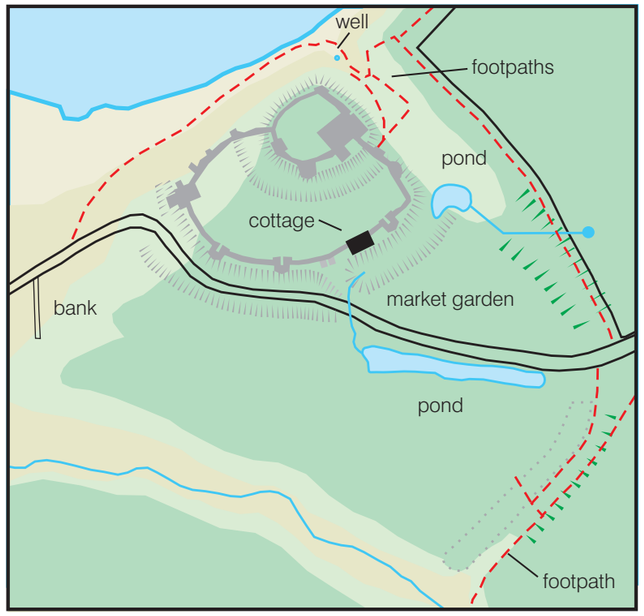
14th-15th centuries



early 16th century



mid 16th-century



17th-20th centuries

masonry
rampart
ditch

0-10m above sea level
10-20m above sea level
20-30m above sea level
over 30m above sea level

0 100 400 metres

Figure 15 Interpretative plans showing the development of the site

slope overlooking the side valley. From the south-east corner to the south gate, the rampart survives as a low spread bank no more than 1m high with a flattened top, probably due to the levelling of the earthwork prior to rebuilding of the curtain wall in the 16th century. To the west of the south gate, the rampart is a much more prominent feature rising to a maximum height of 5m, though with clear evidence of two phases of construction separated by a clear break of slope. The lower, less steeply sloping section with a height of around 3m (11) is probably medieval, whilst the remainder (12) was presumably added in the 16th century as will be discussed later in this report. On the west, this rampart descends the steep slope down to the west gate and from there on round to the inner bailey there is no evidence of a rampart surviving.

The only significant length of medieval curtain wall to survive above ground is on the east side of the bailey. On the west side though, a 30m stretch of bank on the crest of the rampart immediately to the north of the west gate may be the foundations of another section of medieval wall (13). Elsewhere, the wall was replaced in the 16th century (as will be discussed more fully below). The east section of medieval curtain wall is not dated any more closely than the 12th century, consequently it cannot be established for certain if the outer bailey was provided with masonry defences from the outset or if it was first protected by a timber palisade (Saunders 1998, 4). Similarly, the earliest fabric remaining within the west gate is not dated any more closely than the 12th century, whilst the south gate contains nothing earlier than the 13th century (Saunders 1998, 5). Consequently it cannot be established for certain if either of the two gates date to the beginning of the castle. That on the west has the strongest claim to being an original gate since it faces towards the natural line of approach from the west and is also aligned with the only gate into the inner bailey. The south gate lacks the direct link with the inner bailey and therefore was probably of less importance initially, though by the middle of the 16th century it had evidently become the main entrance following the partial blocking of the west gate in 1554 (Saunders 1998, 6).

The outer bailey derives much of its strength from a wide external ditch and external counterscarp bank which runs between the side valley on the east and the foot of the escarpment on the west, cutting off the north-eastern corner of the promontory. The ditch is now divided by a causeway leading up to the south gate, but it is more likely that there was originally a bridge at this point and that the ditch was continuous. The ditch to the east of the south gate is around 20m wide and is separated by a narrow berm from the base of the curtain wall. The outside edge has cut into the levelled remains of the counterscarp bank (14) indicating the ditch has probably been widened, although it must be reasonably close to its original width to have left so much of the of the counterscarp bank intact. The depth of the ditch varies considerably, from barely 1m opposite the south gate increasing to 4m where it opens out into the north-east valley. It is inconceivable that the ditch would have been left so shallow immediately in front of the entrance, suggesting instead that there is a significant amount of fill remaining in the ditch at this point. Several wide, shallow scoops are visible at the bottom of the ditch which, given the amount of potential infill remaining, are questionable as original constructional features. There is also evidence that the east end of the ditch was opened out slightly to form the sides of a later pond (as will be discussed below in Section 5.6).

The ditch to the west of the south gate has been much altered after the road to Norham was aligned along it probably in the middle of the 18th century. As a result, the road cutting has been widened by up to 10m, resulting in the partial loss of the counterscarp bank. Most of this widening must have occurred within the last 140

years as the width of the ditch shown on the first edition Ordnance survey map is closer to its probable original dimensions (Ordnance Survey 1860). As well as its partial destruction through the widening of the road, the counterscarp bank has also been extensively levelled and the middle section has totally disappeared as an earthwork. The only section remaining as a prominent earthwork is a short stretch of the outer face at the west end opposite the south gate (15). Although cut by the modern road, sufficient survives to indicate that the bank turned inwards to flank the approach to the gate. Any comparable turn on the other side of the opening has been destroyed as an earthwork by the road, and the landscaping for the present footpath up to the castle entrance. Westwards from here the counterscarp can be traced as a low earthwork for about 90m, though somewhat disturbed by overlying settlement remains, before it totally disappears.

The outer ditch probably continued on to the top of the cliff overlooking the River Tweed where there is a steep-sided cut in front of the west gate. This is thought to have been recut in 1408 (Saunders 1998, 5). It appears from Rowland Johnson's plan of 1561 that the counterscarp bank continued on down the slope and at the bottom turned to flank the approach to the west gate. All that now survives is a narrow 0.2m high bank running down the slope on the edge of the cutting for the road (16). The point where the bank turned to link up with the west gate has long since been lost because of the road, but it is possible that its destruction is what Hutchinson described in 1794 as the 'removal of outworks near the west gate' (Hutchinson 1794, 394).

The third bailey

The existence of a roughly D-shaped bailey some 0.9ha (2.2 acres) in extent on the south-east side of the outer bailey was first noted in 1994 when it was described as 'a subsidiary enclosure which will retain the buried remains of features such as corrals for livestock and horses' (English Heritage 1994). The perimeter is not well preserved, but the surviving remains suggest it had relatively insubstantial earthwork defences compared to the massive fortifications surrounding the inner and outer baileys. It also does not sit comfortably with the concentric layout of the two baileys, but instead appears to have been planned to fit a gap between the curve of the outer bailey ditch on the north and a prominent boundary bank on the south which crosses the promontory in an east-west direction. This indicates that it is very probably later than both these features. It is nevertheless still likely to be an early addition to the castle and had apparently gone out of use before the 15th century as it is not mentioned in any of the published documents of that period (Hutchinson 1794; Raine 1852). Also, it is not depicted on Rowland Johnson's plan of 1561 (see Figure 9). With its relatively modest defences, the third bailey can have added little to the overall security of the castle and could itself be easily outflanked by an attacker since it was evidently not linked into the outer bailey defences. This would have required some sort of barrier across the east end of the outer bailey ditch but there is no earthwork evidence that anything like this ever existed. Earthworks which do exist at this point appear to be the remains of an embanked pond and are probably relatively recent (see section 5.6 below). The interpretation of the third bailey as a defended compound for livestock has much to recommend it, and it could also have provided the sort of temporary accommodation which Saunders speculated would have been needed at Norham when great baronial gatherings took place (Saunders 1998, 22). Consequently the possibility that the bailey contained buildings should not be ruled out.

The bailey defences consisted of a ditch and rampart on the south side and one can presume the east side of the enclosure utilised the suggested pre-medieval rampart on the edge of the promontory. The only visible entrance into the bailey is on the east side (8) which has already been described, as it might have been part of the suggested pre-medieval fortification. The continued use of this entrance in the medieval period is evident from the fact that a trackway between two fields of medieval ridge and furrow ploughing approaches it from the east. This can be seen as a cropmark on aerial photography (see Figure 3). Although these medieval features only survive as cropmarks in the field to the east of the castle, there is a clear terrace (17) where the track drops down into the north-east valley (which here is quite shallow-sided) almost directly opposite the entrance. There was presumably a second entrance on the west side somewhere close to the foot of the counterscarp bank to allow access into the outer bailey through the south gate. However, the most likely position is now underneath the modern road and so all surface traces have been obliterated.

The perimeter of the third bailey is clearest on the south where the outer ditch survives (18), although much altered by its later conversion into a pond. The curving east end has been recut to make the pond, but nevertheless the shape suggests that the ditch had a rounded terminal flanking the approach to the south gate. To the west, the presumed continuation of the ditch up to the edge of the promontory is not at all evident as it fades out as a cut feature in boggy ground on the south side of the modern road. From here, it presumably curved northwards, matching the turn of the rampart, which does survive as a slight earthwork, and eventually must have closed with the shallow valley on the north-east side of the promontory.

The rampart behind the ditch survives as a low spread bank in the field to the south of the road. The road itself has destroyed much of the rear of the rampart, and later quarrying has added to the destruction at the west end. Even so, it is clear that here the bank continued beyond the west end of the ditch, curving inwards to flank the approach to the south gate. At the east the rampart is destroyed by the road at the point it begins to turn, but it emerges as a slightly more prominent curving bank on the north side of the carriageway (6). As was discussed previously, it is possible that the curvature of this earthwork preserves the in-turn of an entrance through the pre-medieval fortification.

Later ploughing followed by prolonged use of the area for market gardening has destroyed all surface traces of medieval features in the interior of the third bailey, apart from the hollow way leading from the entrance on the east (9). This does not curve towards the suggested entrance on the west side of the bailey but instead heads straight into the centre of the promontory. As was stated previously, this indicates that hollow way is probably nothing to do with the medieval castle and may be the vestige of an earlier, pre-medieval, route on to the promontory.

The south of the promontory

The route from Norham up to the south gate has left a deeply incised hollow way on the western edge of the promontory (19). This was the principal route to the castle after the partial blocking of the west gate in 1554 but the depth of the hollow way suggests it must also have been used fairly intensively before this date. The hollow way breaks from the modern road some 100m east of Norham and curves slightly as it ascends the slope. On the summit, the route continues along the base of the counterscarp bank towards the south gate, although the modern road has obliterated the turn towards the gate. Some attempt was made to block the route when the west

escarpment was fortified in the first half of the 16th century, as will be described later in the report, but it continued in use afterwards. It probably went out of regular use when a series of small pens and yards associated with the row of cottages partially blocked its course. These may be mid-16th century, although a later date is also possible, as will be discussed below. A bank and ditch (20) marking the line of the parish boundary now closes off the west end of the hollow way at the foot of the escarpment.

The south part of the promontory is divided from the castle by a straight, east-west bank some 10-12m wide and up to 1m high (21). Although now heavily overploughed, the dimensions of the earthwork indicate it was a significant boundary feature which emphatically divided the castle from the rest of the promontory to the south. The fact that the perimeter of the third bailey respects the earthwork suggests that the boundary existed early in the development of the castle, but there is no evidence that it was connected with the defence of the castle or that the ground beyond it was used by the castle in any way. This point is emphasised by the fact that there is no original break anywhere in the 300m length of the bank, and therefore no direct access from the castle onto the south part of the promontory.

There is no ground evidence that the area to the south of the boundary was used as anything other than a field although this is not conclusive as later medieval ploughing has destroyed all chance of detecting earlier surface features in the interior. At the east, the east-west boundary bank cuts the north end of the pre-medieval rampart (1) but goes no further eastwards. The two earthworks thus combine to create a continuous strong boundary around the north and east sides of the field. The slight bank set several metres back from the crest of the slope on the west tip of the promontory (2) might have defined the west side of the field. More significantly though, with steep slopes on the south and west, the only point of ready access into the field was at the north-west corner where there is a 6m wide gap (22) between the west end of the east-west boundary bank and the crest of the escarpment. The entrance opens out onto the hollow leading down the slope towards Norham, which in itself is strong evidence that the field was more for the use of the town than the castle. The final 20m of bank before this gap kinks to the south. There is no obvious explanation to account for this sudden change in alignment, though perhaps the curved section of bank was added later to partially block an earlier, much wider entrance. The strength of the enclosure, its proximity to the castle and its evident link to the town suggest it might have been intended as a secure compound to protect the town's livestock from border raids, though latterly it was given over to the plough as will be described below.

5.4 The later medieval castle (14th and 15th centuries)

The English Heritage field investigation has not added significantly to the understanding of the later medieval castle, the development of which was summarised in Section 4.3 of this report. However, one important aspect which needs serious revision concerns the supply of water to the 1495 aqueduct at the east end of the inner bailey ditch. Here there is a large arched-opening in the curtain wall, with a wide stone-lined channel on the outside forming the aqueduct (23). This field investigation strongly dismisses any possibility that the aqueduct was supplied by diverting water from the Mill Burn, 300m to the south, as has been claimed in some earlier accounts of the castle (Hunter Blair and Honeyman 1966, 18). This is simply not practical, as the water would have had to have been raised by over 11m to carry it up the shallow side valley on the south-east of the promontory and over the watershed

into the north-east valley. As Raine commented in 1852, this would have required a massive dam across the Mill Burn and there is absolutely no evidence of such a structure (Raine 1852, 300). Consequently, it is almost certain that the aqueduct was fed from the spring which still survives 150m to the south-east, in the field to the east of the castle (24). Water still flows into the north-east valley from this source, although apart from the initial 20m it is now piped underground. The survey suggests that as well as being the likely supply to the aqueduct, the water latterly fed an artificial pond at the east end of the outer bailey ditch, but this is probably relatively recent and will be discussed later in the report.

Whilst this investigation does not dispute the possibility that water was fed into the inner bailey ditch through the arched opening in the curtain wall, there are several points which are still not satisfactorily explained. For a start, the arched opening in the curtain wall far exceeds the height needed to accommodate a water channel. It is high enough to be used as an entrance and therefore it must be a real possibility that the opening originally served as a postern gate and that the insertion of an aqueduct through it was secondary. There is also question of what the water was used for. It is currently accepted that the aqueduct supplied the brewhouse and washing floor in the floor towards the west end of the ditch, but the problem with this is that the water would have been polluted by the outflow from the garderobe tower in the south side of the keep. This was constructed in 1429-30 which is some 65 years before the accepted date for the construction of the aqueduct and the buildings in the floor of the moat (Hunter Blair and Honeyman 1966, 14).

Other than the alterations to the keep and the west gate mentioned in Section 4.3 of this report, the only other features dated to the late medieval period within the two baileys are the partial remains of several stone buildings near the west gate (Saunders 1998, 28-9). Their function remains obscure, but the English Heritage survey indicates there were probably at least two more buildings further to the south, at the base of the outer rampart, indicated by several low banks (25). No buildings are shown here on the 1561 plan and most likely is that these structures are late-medieval, like the others near the west gate.

The third bailey evidently did not continue in use in the late middle ages as it is not described in published sources of this period, nor is it depicted on the 1561 plan (Hutchinson 1794; Raine 1852). Likewise the field to the south, which may have been established as a secure compound for livestock, was rendered obsolete when the strong northern boundary (21) was virtually obliterated by ploughing. There appears to be two phases of broad-ridge ploughing present in the field, with the block of furrows on the east later than those to the west. Both blocks have the reversed S pattern typical of medieval ox ploughing and they might well be late medieval in date. However, all that can be determined for certain about the date of this ploughing is that it probably pre-dates the presumed 16th century fortifications on the west side of the field as these earthworks are untouched by the plough furrows. At the south-east, the ploughing has created a slight headland (26) which cuts into the base of the suggested pre-medieval rampart and it has already been noted that several plough furrows over ride the rampart further to the north. At the west, the continuation of the headland has been lost due to slippage of the valley side above the Mill Burn. On the north side of the field there is a single plough ridge between two plough furrows aligned in an east-west direction (27) running in between the northern boundary and the hollow way leading up to the south gate of the castle. Bringing this small strip of land into cultivation testifies to the intensity with which the land was being exploited at this period. Ploughing also occurred across the third bailey, but probably not until after the presumed levelling of its defences in the 16th century and this will therefore be described in more detail below.

5.5 The castle in the 16th century

The castle defences (Figure 16)

Recent published accounts of the castle in the first half of the 16th century have understandably concentrated on the widespread rebuilding of the masonry defences which followed the 1513 siege, especially as they include several early examples of purpose-built artillery positions. The evidence was summarised in Section 4.4 of this report and is not repeated here. The field investigation indicates that as well as this re-building the castle underwent other changes at this time which have not been commented upon previously. These involved the heightening of the outer bailey rampart, the clearance of medieval earthwork defences outside the outer bailey to open up fields of fire for the new artillery positions along the curtain wall, and the provision of a new line of earthwork fortifications on the west side of the promontory.

It is now accepted that most of the outer bailey curtain wall had to be rebuilt after the 1513 siege and that this rebuilding involved the construction of towers for artillery with the intervening sections of wall re-constructed on new arched foundations (Saunders 1997). This re-building appears to have been preceded by a substantial heightening of the section of rampart on the west side of the south gate around to the point where the ground drops away to the west gate. The heightening of the rampart has not been commented on by previous authorities, despite the field evidence being relatively clear and despite the fact that it was almost certainly connected with the re-building of the curtain wall after 1513. The raised section of rampart (12) is indicated by a distinct break of slope on the inside face indicating that up to 3m was added to the height of the original medieval rampart. The increased height was presumably to give the rebuilt curtain wall a greater command of the surroundings and to make it less vulnerable to artillery fire from below. The rampart to the east of the south gate does not appear to have been raised to anything like the same extent so that the re-built curtain wall was presumably built off something approximating to the top of the medieval rampart. The ground here is naturally higher anyway and perhaps because of this it was considered that this section of the defences was less vulnerable.

Following the construction of the new curtain wall, which is shown virtually complete on the 1728 engraving by Samuel and Nathaniel Buck, the intention was presumably to bury the arched foundations by banking up the rampart on either side. As Saunder's points out, this appears to have only been attempted to the east of the south gate where there is a slight bank of material (28) on the outside of the curtain wall to the east of the easternmost tower. Elsewhere, it is likely never to have been started which is probably the most likely explanation of why all the arches are exposed on the 1728 view, not that the material was removed later as Saunders has suggested (Saunders 1998, 4).

The medieval counterscarp bank and the rampart belonging to the third bailey have been systematically levelled presumably to open up clear fields of fire in-front of the four new artillery bastions along the outer bailey curtain wall. On the south-east, the counterscarp bank on the outside of the outer bailey ditch has been virtually flattened, and the rampart beyond it defining the third bailey at best only survives as a very slight earthwork. However, it should be pointed out that the later market garden in this area might have been responsible for accentuating this destruction. The levelling operations probably also date the blocking of the entrance on the east side of the third bailey, whilst the south-west section of counterscarp bank has also been substantially

levelled although not to the same extent as the south-east section. The levelled bank is overlain by the earthworks of a small settlement that may be the same as the row of cottages shown outside the south gate on Rowland Johnson's plan of 1561. If this identification of the field remains is correct, then it dates the levelling of the counterscarp bank to before 1561. Given the apparent thoroughness of the levelling operations, it is not clear why the massive rampart in the field to the south of the road (1) was spared from destruction. Perhaps its distance from the castle and the effort it would have taken to level it proved its salvation, though there is also some slight evidence that it might have been retained as a defence. At the south end of the rampart, there is a low, semi-circular platform (29) at the rear of the bank which clearly overlies the ridge and furrow ploughing and is therefore later in date. It has no clear agricultural origin and therefore it is possible that some form of rudimentary bastion was intended at this point to overlook the junction of the south-east valley with the Mill Burn valley, partly using the pre-medieval rampart for protection. Its minimal height suggests that it is unfinished and there is the possibility that it is contemporary with the much clearer line of 16th century earthwork fortifications on the west escarpment to be described below.

Along the crest of the west escarpment are a previously unrecognised series of earthwork fortifications which probably belong to the first half of the 16th century. Their discovery by the 2002 survey represents a significant advance in understanding the castle defences at this period. Two of these fortifications were probably artillery bastions and the other two, which are on sloping ground, were presumably for infantry. As well as effectively blocking the route up the escarpment to the south gate, they are positioned so that they could supply flanking fire onto the approach to the west gate. This was probably perceived as a weak point, even after the rebuilding of the castle following the 1513 siege, since it was not directly covered by the most westerly of the new artillery towers on the outer bailey curtain wall. No attempt appears to have been made to integrate the line of new fortifications into the defences of the castle as there is a gap of around 30m between the likely edge of the outer bailey ditch and the first of the fortifications. This is a strongly positioned earthwork bastion (30) which has a commanding view northwards of the main entrance into the castle as well as westwards towards Norham town. The west and north sides of the bastion have been formed from the crest of a natural spur where the escarpment turns slightly to the east, whilst the summit has been levelled, leaving little doubt that the bastion was designed as a level position for artillery. Cannon positioned here would have had a wide arc of fire compensating for the fact that the west gate otherwise lacked effective artillery cover. The west side of the bastion has been formed by cutting back the top 2m of the natural slope, creating a narrow berm. Around to the north, dumping has clearly been used to create a long, steep face down to the bottom of the spur. On the south the bastion is formed from the steep side of the hollow way which does not appear to have been modified to any great extent. On the summit, there are the remains of a slight bank around the south and west sides of the bastion, as well as on the east to define the rear of the artillery platform. This may have carried some form of breastwork to protect the guns.

To the south, on the opposite side of the hollow way, are two triangular-shaped enclosures, regularly laid out with their longer sides aligned along the crest of the escarpment and with straight sides running obliquely down the slope. The regularity of their plan, and the fact that they are laid out on quite steeply sloping ground, means they can be dismissed as livestock enclosures. Their shape, and topographic location instead points to a military origin, their prominent scarp-edge position giving them a commanding view westwards over Norham town and northwards across the approach

Figure 16. The two triangular emplacements on the west escarpment viewed from the north-east

to the castle. There is nothing in the interior of either enclosure to indicate how they were used, but the gradient of the slope precludes their use by artillery. Most likely is that they were for the protection of infantry.

The smaller of the two emplacements is situated on the south side of the hollow way, with one bank aligned along its base giving the emplacement a slightly distorted shape (31). The bank on this side has a clear step in its profile which may indicate the position of a timber palisade. On the interior of the emplacement there is a shallow quarry ditch adjacent to the bank on the west side, but the other slight scarps visible in the interior are probably natural in origin. The bank on the west side of the emplacement (with its associated quarry ditch) continues, without interruption, for a further 50m down the slope, presumably to secure the foot of the escarpment and to block the hollow way (32). At the point where the bank crosses over the hollow way, there is clear sign of later wear indicating that the route was subsequently re-established.

The second emplacement, immediately to the south-west (33), is similarly defined by a continuous flat-topped bank and is about three times the size of the first. It may have been constructed after the first emplacement as its east apex clearly overlies the perimeter of its neighbour. The bank is curved around two of the points of the triangle but on the south continues on straight for another 10m to the top of the slope overlooking the Mill Burn, presumably in order to complete the defence of the escarpment. The banks around the emplacement are too low to have afforded any protection and therefore were presumably surmounted by a wooden stockade which has left no visible remains. On the interior, there are slight traces of a quarry scarp on the west side to provide material for the adjacent bank but other slight scarps are likely to be natural in origin. To the north, the west side of the emplacement continues down the slope as a prominent west-facing scarp with a slight ditch and counterscarp bank on the outside (20). This continuation was probably not part of the fortifications but may have been added much later to demarcate the parish boundary

which is shown aligned along what must be the course of this earthwork on the first edition Ordnance Survey map (Ordnance Survey 1860). The feature clearly came after the abandonment of the route up to the south gate, as there is no sign of any wear across it at the point where it crosses the hollow way.

At the south-west corner of the second of the two triangular emplacements, a steep-sided projection (34) looks like it could be the remnants of an earthwork bastion. It suggests that the line of fortifications might have ended on the south with a second artillery bastion similar to that at the north end. The evidence however is not clear as this part of the slope is prone to slippage and it could be that movement down the slope has created the feature.

The fortifications are not at all sophisticated and could presumably have been constructed rather rapidly, perhaps in sudden anticipation of an attack from across the border. For example at Norham in 1523 the Earl of Surrey constructed 'diverse platforms, ramparts and [mended] broken places with turves and walls of earth' to deter an attack from across the border by the Duke of Albany (Colvin 1982, 680). Without claiming this directly refers to the construction of these earthwork fortifications, it nevertheless provides an example of the circumstances under which they were probably constructed. Artillery was apparently first deployed at Norham as early as 1480 but in all probability these fortifications probably date to sometime after the 1513 siege when the castle was transformed into an artillery fort (Saunders 1998, 24). Although the line of fortifications may have been erected rapidly, there is no evidence that they were short-lived. Indeed, the observation that the larger of the two emplacement is later, suggests the line of fortifications evolved over a period of time. However, they are not shown on Rowland Johnson's plan of 1561 which suggests they had gone out of use by this date.

The settlement

A minor, linear settlement of three small rectangular buildings with a series of associated yards and pens borders the north side of the hollow way for a distance of 150m eastwards from the edge of the west escarpment. The earthworks might be what Clark referred to as 'the less regular banks and ditches of some of the besiegers of the castle' but it is quite clear that they belong to a settlement (Clark 1876, 309). The remains have suffered some loss as the earthworks closest to the castle's outer ditch were clearly truncated after the Norham road was aligned along the ditch bottom and the carriageway widened. The settlement partially overlies a reduced section of the medieval counterscarp bank and on the south impinges upon both the hollow way and the base of the east-west plough ridge to its south (27). Although reduced in width, the hollow way could nevertheless have still functioned as access to the settlement and, with a certain amount of difficulty, onwards to the castle. These relationships, and the observation that the westernmost of the buildings sits within the artillery bastion discussed above, establishes that the settlement is relatively late, post-dating the medieval castle, the later medieval ploughing and the 16th-century fortifications on the western escarpment. It is probably to be equated with the row of cottages depicted in a schematic fashion in this area on the 1561 plan of the castle suggesting that the remains could be as early as the mid-16th century. However, Raine mentions buildings in the field south of the castle 'some of which were standing within the memory of people still alive' suggesting some of these settlement remains could be as late as the early 19th century (Raine 1852, 300).

The three buildings appear to be small single-roomed structures measuring between 5 and 10m in length internally and are defined by low, grass-covered banks. Their small size suggests the settlement was quite low in status and the close association of the buildings with small animal pens suggests it had a role in the management of livestock. The easternmost, (35-Building 1) measures some 5m x 2m and is defined by a bank on the south and west sides which is probably part of the earlier artillery emplacement as was discussed above. The other two sides are indicated by the edges of a slight depression where the wooden superstructure rested directly on the ground. To the west, the remainder of the level top of the former artillery platform was probably used as a yard whilst on the east side of Building 1 the ground appears to have been cleared and levelled, perhaps to make a small cultivated plot. There are the remains of a probable livestock pen in the bottom of the hollow way immediately to the south of Building 1. The pen is defined by low banks except on the east side, suggesting the enclosure was partially secured by a wooden fence which has left no earthwork remains.

Building 2 lies 50m to the east of Building 1 and measures 6m x 3m internally with a low bank defining its perimeter (36). There is no break in the bank to indicate the site of an entrance. Building 2 is on the edge of a slight rise representing the front face of the truncated medieval counterscarp bank belonging to the outer bailey defences, whilst to its north, a long, sub-rectangular hollow is probably the site of an associated yard. A quite deeply incised, narrow track heads towards this yard, branching off from the main hollow way about mid-way between Buildings 1 and 2.

Building 3 is the largest of the group of structures (37) measuring some 10m by 5m and like Building 2, overlies the front of the truncated counter-scarp bank belonging to the outer bailey. It is defined by a bank which on the south clearly incorporates squared stones re-used from the castle suggesting Building 3 was more substantial than the other two structures described above. To the north of this building are a series of discontinuous slight banks which probably defined small pens for livestock although the remains have been severely truncated by the widening of the road. To the south, a large irregular depression in the floor of the hollow way may have been a yard, whilst several short sections of bank could be the remains of a further group of livestock pens.

An area of plough furrows starting some 100m to the east of the south gate (38) might also be contemporary with the settlement although all that can be established about its date for certain is that it post-dates the levelling of the defences defining the third bailey and pre-dates the construction of the road to Norham. This places the ploughing sometime from the first half of the 16th century when the levelling took place and before the probable construction of the road in the middle of the 18th century, as will be discussed below. The faint, and mostly straight, plough furrows are spaced at 5-6m intervals across the east half of the third bailey and are partly within an overgrown orchard. They extend into the field on the south side of the modern road making a cultivated plot perhaps no more than 80m x 100m. Here several of the furrows (39) clearly overlie the medieval plough ridges discussed earlier in this report, confirming that they belong to different periods of cultivation.

The 1561 plan shows a row of cottages on the north side of the approach to the west gate about half way between the castle and the town (see Figure 9). No earthwork remains of any buildings are visible in this particular area.

5.6 The castle from the 17th to the 20th century

After the major changes which the castle underwent in the first half of the 16th century, there was a long period of decline following the abandonment of the site as a defence at the end of that century. The first major change seems to have been the construction of the present road past the site which on the south-west was aligned along the outer bailey ditch. The straightness of the road for over 3.5kms to the east of the castle, and the fact that it is co-axial with the fields on either side suggests the road was created as part of the last planned re-organisation of the landscape. This would have been in the mid 18th century when Norham and Horncliffe parishes were enclosed. By this date the castle would have been long abandoned as a defence, so it was feasible to align the new road along the outer bailey ditch rather than re-establish the much steeper medieval route to the south.

The construction of the new road past the castle would have meant there was easier access to the site. The resulting increase in people passing by the site might have prompted the construction of the castellated cottage (40) on the outer bailey curtain wall in the early 19th century (Saunders 1998, 3). Although the precise circumstances which brought about the construction of this building remain unclear, the fact that it was known as the 'keeper's cottage' suggests it was built to house those employed to look after the ruins and to guide visitors around the site. It is reasonable to assume that the castle experienced a further upsurge in visitors after the railway link to Norham was opened in 1851. It is therefore not surprising to find that the first edition Ordnance Survey map shows the castle and station linked by a footpath (Ordnance Survey 1860). More of this path survives on the ground than is shown on this map, and from these remains it is clear that it provided a continuous route around the east side of the castle grounds ending at a dramatic cliff-top vantage point overlooking the River Tweed. On the south, the footpath (41) enters the survey area along the east side of the shallow valley which defines the south-east side of the promontory. The footpath here is wide and level, and has been terraced into the valley side just below the crest of the slope, although the massive rampart on the opposite side of the valley hides the castle from view. After some 70m the path divides, one arm continues on along the side of the valley though after 50m it disappears as an earthwork. However cartographic evidence suggest it originally continued on to Morris Hall, 200m to the east (Ordnance Survey 1860). The second arm crosses over the shallow stream in the floor of the valley where the large amount of stone debris suggests there may originally have been a stone predecessor to the present wooden bridge (42). Here there is the breach in the rampart (as mentioned earlier in the report) which might have been created for the sole purpose of opening up a distant view of the castle. It makes no sense as a field entrance since it opens out onto the confined valley bottom. Once over the stream, the path turns immediately northwards creating a slight terrace at the foot of the rampart, although this becomes less noticeable the further the path runs towards the modern road.

The path immediately re-emerges on the opposite side of the road to continue along the east side of the valley on the north-east side of the promontory (43). This gives some of the most picturesque views of the castle keep and the curtain wall, through what has been woodland since at least the date of the first edition Ordnance Survey map. Although this section of path is not depicted on either the first or second edition Ordnance survey maps, its course is clear on the ground, running between two slight banks, and is only interrupted where the stream from the spring in the adjacent field crosses it. The path continues along the crest of the valley side to the point where it meets the River Tweed. Here there is a natural vantage point with an appealing view

of the castle keep on the opposite side of the valley framed by a wide bend of the Tweed. Although no evidence now survives, the first edition Ordnance Survey map indicates that a path descended the precipitous slope down to the River Tweed, taking it past a small spring which, with the rather romantic name of the Monk's Well, was presumably a point of interest for visitors. The only feature which descends this slope is a shallow ditch and bank (44) depicted as a field boundary on the first and second edition Ordnance survey maps (Ordnance Survey 1860 and 1897). The path climbed back up to the foot of the castle keep, entering the inner bailey via the opening of the so-called Bishop Fox's aqueduct. A curving terrace 20m to the east of this opening could well be the remnants of this path (45).

The market garden

In the middle of the 19th century a small market garden or nursery covered the block of land between the south-east side of the outer bailey and the road to Norham. Its origins are obscure, but the depiction on the first edition Ordnance Survey map does not suggest that it was laid out as a formal garden to enhance the setting of the ruins (Ordnance Survey 1860). Several discrete blocks of bushes and small trees are shown laid out in rows, with some of the rows of trees quite clearly following the line of the earlier ploughing recorded in this area by the English Heritage fieldwork. The narrow space between the rows, and the absence of paths or ornamental features establishes that this planting was commercial and not part of a formal garden layout. The market garden had disappeared by 1897 when the second edition map was surveyed but this may only have been a temporary break in cultivation because aerial photography from the early 1950s quite clearly shows continued use of the area as a market garden (Ordnance survey 1897; RAF 1951). However aerial photographic evidence indicates that cultivation had ceased by 1971 and the area cleared of trees and bushes apart from a triangular shaped area of woodland on the south-east which still survives today (CUCAP 1971). The clearance was presumably to enable the outer bailey ditch to be restored and to improve the visual setting of the castle. A low bank immediately to the south of the outer bailey ditch may be a remnant of a boundary between two areas of planting (46), and a further low bank (47) marks the north-east perimeter of the market garden, overlooking the side valley. This turns on the north to run for 15m above the outer bailey ditch.

The establishment of this market garden may have led to the use of the ditch on the south side of the third bailey as a shallow pond to provide a ready supply of water (18). The south side of the ditch has clearly been widened by cutting back into the slope giving it a slightly sinuous outline. In the process of widening, the solitary east-west medieval plough ridge was partly cut away. At the curving west end of the ditch, a slight bank has been raised (48) and a channel constructed on its north side which appears to be depicted on the first edition Ordnance Survey map (Ordnance Survey 1860). Although there is no visible evidence for this, the flow was probably directed northwards along this channel and below the road into the eastern arm of the outer bailey ditch and therefore across the area of the market garden. A flow of water in this direction is shown on Clark's survey (Clark 1876). The pond was probably supplied from the west, where boggy ground at the west end of the ditch indicates the existence of one or more springs on the watershed between the north-east and south-east valleys. Water from this source still gathers in the bottom of the ditch, although there is now very little fall westwards towards the outlet channel at the west end.

At the end of the outer bailey ditch, a semi-circular earthwork projects into the floor of the valley (49) which is probably the retaining dam for a pond. It consists of a low, flat-topped bank up to 1.0m high with an inlet channel on the south-east side. The edge of the pond cuts slightly into the base of the outer bailey ditch to give a maximum dimension of some 25m. Although this point represents a weakness in the castle defences, there is no evidence that the dam is a modification of a medieval defensive earthwork. The pond was discounted as part of the medieval defences, though admittedly it could have helped secure the east end of the outer bailey ditch. It is likely to be much more recent, though not obviously of use to the market garden on the high ground above it and therefore of unknown purpose. Significantly, the first edition Ordnance Survey map shows that the flow from the spring towards the head of the north-east valley had been directed along a straight-sided channel directly towards the inlet of this pond (Ordnance Survey 1860). By the date of the survey the pond itself was by-passed with the stream continuing past down the valley. The feeder channel does not survive as an earthwork but the clarity with which it is depicted on the map suggests it cannot have been cut much before than the date of the survey.

6. DISCUSSION

6.1 The pre-medieval fortification

Following the English Heritage fieldwork, there is now a strong case for arguing that the east side of the promontory was fortified prior to the construction of the present castle. The siting of medieval castles within earlier fortifications is not uncommon and occurred locally, for instance, at Bamburgh where the castle was preceded by Dark Age and possibly prehistoric defences (Higham 1986, 263-4). At Norham, the date of the earlier fortification remains elusive, but on field evidence the defence bears closest comparison with an Iron Age promontory fort and this is the date suggested in this report. However other dates are admittedly possible and should also be considered.

One possibility is that the fortifcation belongs to an earlier, undocumented castle. The Norman occupation of Northumberland is not thought to have begun much before 1100 and and although Norham was part of the pre-conquest landholdings of the Bishopric of Durham, it is unlikely that a castle would have been constructed here without a strong Norman presence in the region. Before 1100 there were probably no more than three Norman landholders north of the River Tyne, but by 1135 the number had increased markedly with the creation of twenty-one baronies during the reign of King Henry I (Lomas 1996, 15-16). The documented date of 1121 for the construction of the castle is therefore quite early in the Norman settlement of the north and there is therefore no real practical likelihood of an earlier castle on this site.

During the period between *c.* AD 350 and 685, (that is from the end of Roman rule to the establishment of the Anglian kingdom of Northumbria), the region has been described as experiencing 'a return to tribalism' and this could provide a context for the construction of a fortified site at Norham (Higham 1986, chapter 6). There is clear evidence that Norham held some significance towards the close of this period as it was apparently one of the monasteries established by King Oswy of Northumbria in gratitude for his victory over King Penda of Mercia at the battle of Winwaed in 655 (Higham 1986, 282). The reason for Oswy's choice of Norham is obscure, but it could signify that the site already had status as a seat of secular authority in which case some form of fortified site might be anticipated. Dark Age hill top strongholds such as Bamburgh and Edinburgh could provide a parallel for Norham, but these sites probably re-used earlier, Iron Age fortifications. Newly-constructed ramparts of this period also occur in the vicinity of which the best known is the great defended enclosure associated with the early 7th-century royal place site at Yeavering, 18kms to the south (Hope Taylor, 1977). There is also the apparent early Anglian palace site identified from the air at Sprouston on the south bank of the River Tweed less than 20kms to the south-west of Norham which is also associated with an enclosure (Cramp 1995, 29). The existence of these two sites in comparatively close proximity to Norham at least keeps open the possibility of a dark age defensive work here too. One other possibility is that the promontory was the site of the pre-conquest settlement of Ubbanford thought to have been a precursor of the medieval town. However, if this settlement existed at all, then it would most likely have been in the valley bottom, perhaps in close proximity to the monastery site. The 'ford' element of the name also indicates the settlement is more likely to have been sited close to the river rather than on the castle promontory (Northumberland County Council 2001, 8-10).

Roman military activity is attested in the area with the cropmark of a temporary marching camp some 3km to the south-west in the floor of the Tweed valley

(RCHME 1995, 118), but it is unlikely that the Roman military were responsible for fortifying the promontory. Although Roman forts sometimes do deviate from the typical playing card shape in response to local topography, it seems very unlikely that the Roman military would have countenanced constructing a fort that consisted of just a single large rampart on the east side of the promontory.

The last possibility to be considered, and perhaps the most likely given the field evidence, is that the castle occupies the site of an Iron Age hillfort dating from the period between *c*. 700BC and *c*. AD 50. The lower Tweed valley is on the northern periphery of a major concentration of Iron Age hillforts encompassing the Cheviot Hills and the Fell Sandstones to their east. Most of these hillforts can be termed contour forts, where the defences completely enclose a hilltop, though promontory forts of the type suggested by the remains at Norham also occur, most notably on the east side of the River Till and to the south of the River Coquet (Jobey 1966, 95). Closer to Norham, there is a possible Iron Age promontory fort on the south bank of the river Tweed at Horncliffe, less than 3kms to the north-east (National Grid Reference NT 919 491).

Most of the hillforts in the upland regions of Northumberland have stone-rubble ramparts with faced stone wall and so earthen ramparts comparable to that on the east side of the promontory at Norham are comparatively scarce. However, this earthwork does share some constructional similarities with the stone-built hillforts in the way the underlying natural slope has been cut back to accentuate the outer face of the rampart. Also the suggested offsetting of the rampart either side of the entrance at Norham is similar, for example, to the arrangement of the north-west entrance into the hillforts at Great Hetha and Ring Chesters in the northern Cheviots and at other sites in the region (Pearson and Lax 2000; Oswald *et al*. 2002). There is additionally the possibility of a quarry ditch at the rear of the rampart at Norham which is a feature found in many of the Cheviot hillforts. Admittedly none of these features are necessarily confined to Iron Age fortifications, but taken together with the density of Iron age hillforts across the region, the balance of probability is that the suggested early fortification at Norham belongs to this same period.

With the rampart on the east, and natural slopes on the other three sides, the hillfort would have covered an area of 6.6ha (16.3 acres) making it one of the largest in the Borders region. It would have eclipsed Yeavering Bell which, with an internal area of 5.6ha (13.8 acres), is the largest hillfort in the Cheviots. However, the absence of any Iron Age finds from Norham could be taken as a strong argument against occupation of the site in this period, were it not for the fact that there has been no signficant excavations on the site for nearly eighty years. Also, since the market garden closed in the 1950s, there has not been any cultivation to speak of in the interior to reveal objects by chance.

6.2 The medieval castle

The basic plan of Norham Castle, as has been pointed out in the past, is a typical arrangement of an inner ringwork, (now the inner bailey), with a concentric outer bailey both defined by massive ditches cutting across the promontory. The poorly-preserved counterscarp bank on the outside of the outer bailey ditch has not been recorded before, but it is part of this same layout. The English Heritage field investigation concluded that this was the castle as first laid out by Bishop Flambard in 1121.

Major features of the medieval castle which have still to be fully understood are the presence of a third bailey on the south-east side of the outer bailey and the enclosed field on the south of the promontory. Following the English Heritage survey, the form of the third bailey is now better understood. The survey has established the existence of an entrance on the east side, which though later blocked, may have accommodated a pre-medieval route across the promontory. The third bailey might not be part of the original layout of the medieval castle and there appear to be few close parallels locally for this kind of subsidiary enclosure. One example is the so-called 'Pele Yard' on the south-west side of Prudhoe Castle, on the south bank of the River Tyne (Saunders 1993, 18-19; Keen 1976). This bailey almost doubles the amount of space available to the castle and yet appears to have only had a lightly-constructed defence, perhaps originally no more than a ditch and timber palisade. The only building known to have stood within it was a small chantry chapel, though barns and stables have also been suggested. Similar subsidiary earthwork enclosures probably existed at other castles in the region but, like the example at Norham, are difficult to recognise due to later depredations.

The English Heritage survey established that the south part of the promontory was divided from the medieval castle by a prominent east-west boundary bank. Were it not for the fact that the location of the medieval Norham is securely established, then one possibility would have been that the promontory was divided in the 12th century with the intention of attracting settlement onto the high ground opposite the castle. However, the intention seems to have been simply to create a field close to the castle, whilst the strength of the boundary bank suggests the field may have been intended as a secure compound for livestock, as has been suggested in the past. However, the area has previously been linked with the castle, when in fact the field evidence suggests it was more closely linked with the town, which, lacking its own defences, must have relied on the castle for the protection of its livestock when there were incursions from across the border.

In the later medieval period the field evidence indicates the castle retracted in size with the abandonment of the third bailey whilst, despite its relatively small size, the field was turned over to the plough. The fact that the rampart defining the east side of the field and the boundary bank on the north side were both overploughed suggests the relevance of the field had diminished. Although it would be unwise to read too much into this change of use, it may indicate a shift in the local agricultural economy from livestock to arable farming.

6.3 The 16th century

The newly-discovered earthwork fortifications on the west side of the promontory almost certainly date to the 16th century, most likely to the period between 1513 and *c.*1560; that is after the deployment of artillery in defence of the castle and before Norham declined as a border fortress. The form and geometry of the earthwork fortifications rule out a medieval origin and with no evidence that the castle was refurbished in the English Civil War, an origin during this later conflict can also be discounted.

It is clear from the layout and position of the fortifications that they had the dual purpose of blocking what was then the main route from Norham to the castle's south gate and flanking the lower approach to the west gate. Even after the re-building of the south curtain wall with its heightened rampart and four artillery towers, the weakness of the south side of the castle was periodically commented upon (Saunders

1997, 43-44). The scale of the works suggests they could have been constructed rapidly, perhaps in response to an invasion scare, although there is also some evidence of chronology with the larger of the two triangular emplacements impinging upon the smaller. The fact that there are no comparable fortifications elsewhere around the promontory, (apart from a possibly unfinished semi-circular platform at the south-east corner) suggests the main threat was perceived to be from the west. In this direction there are two crossing points of the River Tweed within 1.5kms and higher up the river, fords at Coldstream and Wark.

However, it is questionable if the castle gained much strength from these fortifications. Whilst they may have deterred a direct assault from the west, the real danger to the castle came from artillery fire as was demonstrated in the 1513 siege. The ridge some 400-500m to the south and east of the castle offered a perfect vanatage point from which to direct fire against the south side of the castle but this ridge was apparently left undefended. It took an experienced military engineer like Rowland Johnson to appreciate the fact that the medieval castle was no longer tenable as a defence when, in 1561, he recommended its replacement by a purpose-built artillery fort to the latest design.

The earthwork fortifications on the west side of the promontory are therefore best understood as a rapid and unsophisticated tactical response to a sudden threat of attack. Consequently, although properly part of the widespread re-building of the border defences in the 16th century they do not compare easily with the massive engineering projects undertaken during this period at places like Wark, Carlisle, Lindisfarne and above all, Berwick. Nor do they bear comparison with the fortifications erected across the border by English forces during their invasion and attempted occupation of Scotland in 1547-50 at places like Eyemouth, Roxburgh and Lauder. The works at these places are also far more massive and sophisticated in their construction. Even the derelict medieval castle at Roxburgh was reportedly secured by a massive 20-foot deep ditch and a comparably sized rampart within the space of a few weeks. (Colvin 1982, 706; RCAHMS 1956, 407-411).

Without any direct parallels in the region, the function of each of the two different elements comprising the Norham fortifications is harder to establish for certain. Some confidence can be attached to the identification of the two suggested artillery bastions. The artificially levelled top of the bastion nearest to the castle clearly suggests it was designed to accommodate artillery. With its low perimeter bank, it bears some comparison with the earthen artillery emplacement erected at Pevensey castle in Sussex at the time of the Spanish Armada (Saunders 1989, 63; Peers 1985, 12). This, like the Norham example, was probably constructed in some haste to command a weak point in the castle's medieval defences. The interpretation of the second element, namely the two triangular emplacements, as positions for infantry is reasonably secure given that the gradient of the underlying slope makes them unsuitable for cannon. They may have been assembly points for infantry to assemble prior to a sortie, in the manner of a so-called 'place of arms' found in later, more developed military fortifications. They might also have been sited to provide enfilading fire to protect the flank of the artillery bastion immediately to the north and the approach to the west gate beyond. In this respect, they are a type of fieldwork which later became known as a *crémaillère* that is 'an indented or saw-toothed trace to allow greater flanking cover' (Saunders 1989, 246). In the first half of the 16th century, before the development of the musket, such cover was likely to have been provided by bows and arrows or possibly by an early form of handgun called an arquebus. The south-east tower on the south side of the outer bailey incorporates

several loops for handguns indicating their probable deployment at Norham soon after 1513.

The 1561 plan of the castle sheds important light on the site in the middle of the 16th century. It implies the existence of two extra-mural settlements outside the west and south gates, neither of which are convincingly substantiated by the results of the English Heritage fieldwork. The line of cottages depicted along the approach to the west gate have left no definable earthwork remains, whilst the earthwork remains of a linear settlement alongside the approach to the south gate are not definitely those of cottages depicted on the 1561 plan.

The rudimentary, single-roomed structures and their series of small associated yards and pens suggest low status dwellings implying they belong to a time when the castle had ceased to function as a defence and was viewed as marginal land. This point is particularly made by the fact that some of the pens actually impede access to the south gate. Because of this, there is a possibility that these remains are not those of the cottage row shown here on the 1561 plan. The date seems too early for the castle to have declined to the extent that it had become marginal land and it is also doubtful if Rowland Johnson would have bothered to depict what can have amounted to no more than a row of small, single-roomed huts. It is relevant therefore to recall Raine's statement that buildings in this area were still standing within living memory (Raine 1852, 300). This leaves open the possibility that the line of earthworks are early 19th century in date, or alternatively, that there are two peiods represented with some earthworks belonging to the mid 16th-century row of cottages depicted on Rowland Johnson's plan.

6.4 The 17th to the 20th century

The English Heritage fieldwork has not added a great deal to the understanding of the castle after it ceased to function as a defence. Perhaps the most interesting discovery has been the lengths which the then owner went to develop the castle as a visitor attraction by constructing the footpath around the east margins of the site, and, judging from the cartographic evidence, elsewhere within the ruins. This is an early example of 'heritage management' and the English Heritage survey suggests it was probably connected with the opening up of the castle to railway visitors in the middle of the 19th century.

7. METHODOLOGY

Trevor Pearson and Stewart Ainsworth carried out the field investigation with assistance from Alastair Oswald. A number of digital photographs taken by Trevor Pearson and Stewart Ainsworth are held on disk as part of the project archive. The majority of the survey was carried out using a Trimble dual frequency Global Positioning Satellite (GPS) system. The base receiver was set up at the centre of the survey area on a temporary survey station ST01 and two receivers (Trimble 4700 and 4800 models) were used to record the remains, working independently in real-time kinematic mode. The contour information for the area beyond the wall of the outer bailey was derived from the same data whilst hard detail and contour information from within the castle was taken from the Ploughman Craven and Associates 1:100 plans of 1986 and subsequently checked on the ground. The resulting plan was plotted at 1:1000 scale via Key Terrafirma, AutoCAD and Coreldraw 8 software. Minor details of the plan were supplied with tape measures using standard graphical techniques.

The hand drawn archive plan and CAD-based drawings were prepared by Trevor Pearson with further assistance from Philip Sinton. The report was researched and written by Trevor Pearson, and edited by Stewart Ainsworth. The site archive has been deposited in English Heritage's National Monuments Record, Great Western Village, Kemble Drive, Swindon SN2 2GZ, to where applications for copyright should be made (reference number: NT 94 NW 1).

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APPENDIX 1. LIST OF MONUMENTS RECORDED IN THE SURVEY

Norham Castle	NT 906 475	NT 94 NW 1
Post-medieval settlement	NT 9060 4746	NT 94 NW 51
Pre-medieval promontory fort	NT 906 475	NT 94 NW 52
16th-century earthwork fortifications	NT 9047 4745	NT 94 NW 53
Medieval stock enclosure	NT 9065 4741	NT 94 NW 54