HAREWOOD CASTLE, HAREWOOD, WEST YORKSHIRE

ARCHAEOLOGICAL AND ARCHITECTURAL CONDITION SURVEY

VOLUME 1: TEXT

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EXECUTIVE SUMMARY

In March 2000, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by the Harewood Estate to undertake a detailed archaeological and architectural condition survey of the remains of Harewood Castle in West Yorkshire (NGR SE32184464). The aims of the project were to provide an accurate and up-to-date condition survey of the castle complex, to provide recommendations for the consolidation and stabilisation of the monument. The work was funded by English Heritage and the Harewood Estate.

The project involved the collation of existing historical information and a review of previous work on the site, a topographical and ecological survey of the immediate surroundings, and an architectural and archaeological condition survey of the ruined castle (subject to access) which incorporates a detailed architectural description and geological, ecological and lichen surveys. This work was then brought together in a descriptive report which also contains initial recommendations for consolidation and repair.

The castle is generally attributed to a licence to crenellate gained by Sir William de Aldeburgh in 1366. Aldeburgh was a servant in the court of Edward Balliol, sometime King of Scotland, and he gained the manor of Harewood in 1364, only two years before the licence; the close association between Aldeburgh and Balliol is commemorated in various surviving shields of arms within the castle, and indeed was once also visible in textiles, plate and other fixtures. Reduced to its most basic elements, the castle comprises a two-storey rectangular hall block with a tower at each corner and a smaller wing attached to the north end. It is a well-preserved example of an elaborately designed, partially fortified, medieval house, which can only be termed a castle in the very broadest sense. Although the structure might be thought to have only a passing concern for defence, for example, a portcullis, narrow loop windows around a single entrance, and machicolations over the south wall, security was clearly important to its inhabitants, as evidenced by barred window grilles which appear to have been set into even the highest windows. However, other details undeniably favour aesthetics or convenience, such as large 14th century mullioned and transomed windows. The original circulation plan was complex and tightly controlled, and allowed for the separation of different elements of the household and the graduation of access to the lord and his family. Harewood's sophisticated design owes something to its deliberate siting on a steeply sloping valley side, and the site would have given the building a great deal of prominence over the surrounding landscape, as well as allowing for the possibility of impressive views across the Wharfe valley.

The castle may have been sited within an earlier manorial complex, although to what extent any pre-existing centre influenced its position and form remains uncertain. While the building does contain a number of structural anomalies, there are no obvious architectural features which pre-date the later 14th century and, as far as can be seen from ground level, constructional techniques are consistent throughout. On current evidence, it is therefore suggested that the observed structural anomalies represent one or more substantial modifications of design during an extended construction period, as has been recognised at other major Yorkshire castles. It is possible that Harewood may originally have been intended to take the form of a large tower house, comprising what is now formed by the north wing and the north-west tower, perhaps of three storeys and partly terraced into the base of a slope, but that the design was subsequently substantially expanded and modified. It is tempting to see this modification as the result of Aldeburgh benefiting materially from Balliol's death, although further research would be required to confirm this.

Although impressive in scale and design, Harewood Castle was not an entirely self-contained structure, and stables, outbuildings and workshops would have been located in a precinct, outer court or other yard; some of these buildings may be identified as earthworks to the north of the castle. Other earthworks within the precinct area are likely to be associated with a designed landscape, such as ponds, terraces and enclosed gardens, as well as a formalised approach to

the castle. The current condition survey has cast doubt on previous interpretations of some of the earthworks surrounding the castle, and allowed new interpretations to be offered as to their purpose, but it still remains difficult to assign the majority of them to any specific period.

Following the death of Aldeburgh's son in 1391, the castle estate passed through marriage to the Redmayne and Ryther families, and they jointly occupied the site throughout the 15th and 16th centuries. The effects of their joint occupation during this period remain under-researched and almost certainly underestimated, and it is likely that both the interior of the castle and its immediate landscape were substantially altered during the 15th, 16th and early 17th centuries. Some of these alterations can be seen in the surviving fabric, for example changes to the heating arrangements of the upper hall, and the insertion of additional doorways which compromised the tightly controlled late medieval circulation plan. Many of the shields of arms in the chapel are also associated with the Ryther and Redmayne families. In addition, at least two, and perhaps more, structures were erected against the outside of the castle, one of which had been demolished again by the late 17th century.

The last occupant of the castle was probably Robert Ryther in the 1630s. Piecemeal but controlled demolition took place after that but again, the effect of this on the surviving fabric has almost certainly been underestimated, and a careful reading of certain structural features reveals evidence for the careful removal of major internal fittings. Illustrative depictions of the castle begin to appear from the very end of the 17th century, although the first detailed antiquarian accounts date to almost 100 years later. The ruined structure was then incorporated into the Castle Pleasure Grounds created by the Lascelles family in the early 19th century. It is highly likely that both the castle and the surrounding area were modified during these works, although the current condition survey has demonstrated that features previously ascribed to the early 19th century, such as two large openings in the south elevation, a new entrance into the west side of the castle at the end of a terraced walkway, and a prominent sub-square earthwork to the south (previously identified as a bowling green), clearly pre-date the Castle Pleasure Grounds.

It is certain that additional inspection and detailed survey during the proposed consolidation and repair works will allow some of these questions, and other related matters, to be more clearly understood. For example, the detailed recording of the numerous masons' marks which survive around the castle may shed light both on the possible speed and form of the sequence of construction. The information gained from the proposed works will also allow a more detailed consideration of the castle's local, regional and national context. It is clear that Harewood Castle has much more to contribute not only in terms of the understanding of late medieval residences, but also the developing studies of their designed landscapes, the wider late medieval concepts of landscape, and the incorporation of historic ruins into post-medieval estate landscapes.

1 INTRODUCTION

Reasons and Circumstances for the Project

1.1 In March 2000, Ed Dennison Archaeological Services (EDAS) (subsequently Ed Dennison Archaeological Services Ltd) were commissioned by the Harewood Estate to undertake a detailed archaeological and architectural condition survey of the remains of Harewood Castle, Harewood, West Yorkshire. The aims of the project were to provide an accurate and up-to-date condition survey of the castle complex, to provide recommendations for the consolidation and stabilisation of the monument, and to provide recommendations for the future management of the site. The work was funded by English Heritage and the Harewood Estate.

1.2 The survey was defined by a project design (see Appendix 7) which was approved by all parties in advance of any work on site. In brief, the project involved the collation of existing historical information and a review of previous work on the site, a topographical and ecological survey of the immediate surroundings, and an architectural and archaeological condition survey of the ruined castle (subject to access) which incorporates a detailed architectural description and geological, ecological and lichen surveys. This work was then brought together in a descriptive report which also contains initial recommendations for consolidation and repair.

Site Location and Summary Description

1.3 Harewood Castle is located at NGR SE32184464 (centred), some 700m north of Harewood village and c.12km to the north of Leeds city centre, in West Yorkshire (see figure 1). The site is dramatically situated on a steep north-facing slope overlooking the Wharfe valley.

1.4 The castle lies within a sharp right-angled bend of the A61 Leeds-Harrogate road, in the north-east corner of the walled Harewood Estate (see figures 1 and 2). The ruined structure is surrounded by conifer plantations to the north and west, and by uncultivated scrub and grass and the remnants of older plantations to the east and south (see plate 1). There are extensive earthworks of former quarries to the east and north-east, with smaller features representing the sites of buildings, ponds and gardens to the south, west and north; some of the latter extend beyond the walled estate into fields on the south and east sides of the A61. The castle is aligned north-west/south-east but, for ease of description in the following report, it is considered to be aligned north-south.

1.5 Reduced to its most basic elements, the main body of the castle comprises a two-storey rectangular block measuring 17.0m by 8.5m internally with a tower at each corner and a smaller wing or block attached to the north end. The principal (and the only) original entrance was through the four storey entrance tower on the east side (see plate 2); it was previously suggested that a terraced track, possibly starting at a detached forebuilding to the east, led up to the principal entrance (Moorhouse 1989), but the current survey has cast doubt on this (see Chapter 4 below). The principal entrance was protected by two sets of double doors and a portcullis, and over this, the north-east tower also accommodated what appears to be portcullis chamber, the castle chapel and finally a chamber over the chapel.

1.6 The entrance led into a screens passage, which gave access to the lower hall within the main body of the castle to the south and to the lower service levels of the four storey wing or block to the north (hereafter called the north wing). The

ground falls away sharply to the north, so that the north wing is of four storeys (see plate 2). The screens passage noted above also gave access to the lowest level of the four-storey north-west tower, which in turn was linked both to the kitchen in the north wing and the vaulted basement chamber below; the other basement room was reached from, but not directly via, a newel stair (see below). There was once a further basement space beneath the lower (north) end of the lower hall, reached via a doorway in the hall's west wall, but the stair has been largely infilled.

1.7 The upper (south) end of the lower hall was provided with a raised dias heated by a massive fireplace, and with an elaborately carved stone buffet or sideboard in the west wall and stone benches placed along the side walls. The upper end of the hall gave access to the lower chambers of the five storey lodging towers at its south-east and south-west corners (see plate 3). There were two principal points of access to the upper parts of the castle, and it is evident that the building was originally provided with a tightly controlled circulation plan, although this was somewhat compromised by later alterations. A broad newel staircase lay at the south-east corner of the lower hall, and allowed the upper hall or solar, and also some of the chambers in the south-east tower, to be reached. A second and narrower newel staircase opening off the screens passage in the north-east corner of the lower hall rose through the full height of the building here, providing access to some but not all of the upper chambers in the north-east tower and the north wing.

1.8 The upper hall or solar within the main body of the castle is of similar dimensions to the lower hall, but with the lower and upper ends apparently reversed; there was a balcony or gallery of some kind at the lower (south) end. The surviving fireplaces are surprisingly small and plain for a space of this size, and the room preserves structural evidence for a series of alterations, which may not all have been contemporary. The room appears to have provided access to several of the chambers in the south-west tower via mural passages, and probably also to those in the north-west tower, although without access to the latter it is difficult to be certain. The chapel was also reached from the north-east corner of this room, as was the upper chamber of the north wing, a large space of superior character. A doorway at the south-west corner of this chamber may also have once linked it to the upper chambers of the north-west tower.

1.9 The lesser newel staircase, and probably also the main staircase serving the lower and upper halls, led out onto the wall-walks which appear to have run around the majority of the castle's upper parts. It seems that the uppermost chambers of the south-east and south-west towers were only accessible from these wall-walks, although later collapse makes it difficult to determine from ground level exactly how they were reached. An external staircase rises precipitously above the solar, or upper hall's south end, towards the highest surviving part of the castle. From here, one must have been able to reach a machiciolated projection on the castle's south side, and also the small angle turrets which surmount the south-east and south-west towers (see plate 3). The south-east turret has now largely collapsed, but late 18th and early 19th century illustrations show it to have been of the same form as the south-west turret, which survives intact. Both turrets are themselves sub-divided into two levels internally, with cruciform arrow-loops to the outer walls.

1.10 The castle is presently unroofed and no internal floors remain, but the walls survive for the most part to eaves height. Comparison with 19th century illustrations suggests that there has been relatively little recent decay, and there is surviving structural evidence for minor repairs probably dating to the early 19th century and afterwards. However, several of the window, door and fireplace

openings are deteriorating, and a large window in the centre of the west elevation is in danger of imminent collapse. The remains of the south-west tower also appear to be in a precarious condition. Most of the newel stairs are fallen, although that adjacent to the entrance tower does provide access to roof level.

1.11 Some parts of the ruins are overgrown with ivy, particularly in the north-west corner, and there are some small trees and brambles growing in the interior and on the wall tops. Externally, parts of the castle are surrounded by scrub and trees of varying age, and there could be some damage if windthrow becomes a problem. Some of the earthworks to the west and north-west have also recently been planted, and much of the detail is now obscured.

Site Designations

1.12 The castle and its immediate surroundings are of national importance, and the area has been protected as a Scheduled Monument by the Department for Culture, Media and Sport (monument no WY127) since December 1987 (see figure 2). The ruins were also listed as being of Special Architectural or Historic Interest, Grade I, in March 1966 (DOE 1986, 72-73; see Appendix 6), although the SM designation will take precedence over this listing. The complex is also included in the National Archaeological Record (site SE34NW10) and the West Yorkshire Sites and Monuments Record (site 1429). The poor condition of the monument means that it was included as a Priority B site on English Heritage's 1999 Register of Buildings at Risk (English Heritage 1999, 54). The castle complex is also included within the area designated by English Heritage as a Grade I registered historic park and garden (English Heritage 1984), and within the Harewood Conservation Area.

Aims and Objectives of the Project

1.13 The project had three main aims:

- to produce an accurate and up-to-date pre-intervention condition survey of the castle complex, to include the standing masonry, foundations and all surrounding earthworks;
- to provide recommendations for a phased programme of consolidation and stabilisation of the standing structure and foundations;
- to provide appropriate outline recommendations for the future long-term management, conservation and enhancement of the complex, through the production of a separate Conservation Management Plan.

1.14 The survey would also provide a valuable base line of information against which all future repairs and conservation work could be measured, and a historical context for future repairs and interpretation work. The survey data could also be used by the project architect and other specialists to formulate detailed specifications for future repair and consolidation work.

1.15 It was originally envisaged that the current project would also involve the production of a Conversation Management Plan (see Appendix 7). However, it was subsequently decided following discussions with English Heritage during the course of the project, that this should be a separate document produced at a later stage.

Survey Methodologies

1.16 The condition survey was carried out using a combination of photographic, machine and hand-based techniques, in accordance with the methodology outlined in the initial project design (Appendix 7). A certain amount of limited research was also undertaken on the existing documentary and historical material, to provide a context for the site.

Documentary Research

1.17 A basic documentary survey for the castle complex was undertaken. This comprised searches of national and regional databases and depositories, and local libraries and record offices, and covered appropriate archaeological and architectural information including aerial photographs, antiquarian literature and illustrations, and any documentary and cartographic material relating to the castle and its surroundings. It should be noted that only readily available or published sources were considered; no original documentary research such as that which might be held in the Harewood House archives was carried out.

1.18 Material and information held by the Harewood Estate, the Harewood House Trust, the West Yorkshire Archives (Sheepscar office in Leeds – WYAS(L)), the Yorkshire Archaeological Society, Leeds City Council, the Institute of Advanced Architectural Studies at the University of York, and the West Yorkshire County Sites and Monuments Record were consulted, together with material held in Leeds local studies library. Other material was also obtained from the National Archaeological Record and the National Buildings Record, maintained by English Heritage and held in Swindon, and consultations were held with various people and organisations who have, or are presently, working in the area.

1.19 The documentary research also included the examination of readily-available late 18th and 19th century engravings and paintings which show the ruined castle largely devoid of vegetation and surrounding trees; copies of some of these engravings and paintings were made available via the Harewood House Trust. The illustrations included Turner's c.1795 paintings which are hung in Harewood House, and some 1786-87 engravings held by the National Archaeological Record and the Sheepscar Record Office. Despite advance notice of the survey being publicised in the *Harewood Times*, the Harewood Estate newspaper, no oral history relating to the more recent phases of the castle was forthcoming.

1.20 The documentary research was extended to cover the history of repair, collapse and other interventions, and any subsequent re-uses of the complex. Information was also gathered from existing archives, surveys and reports, such as a 1988 report on emergency repairs (Goom & Cunnington 1988), a 1989 condition survey (Derek Latham and Associates 1989), a 1994 structural report (Hume 1994), and an earlier amateur survey undertaken in the 1940s (Bowden c.1940).

1.21 The documentary research was carried out periodically throughout the duration of the Condition Survey, and the results are incorporated into the appropriate chapters of this report below.

1.22 The site specific documentary research was augmented by an examination of the relationship between the castle and the rest of the historic landscape of the Harewood Estate, specifically with regard to the castle's role and influence in the development of the 19th century park and pleasure grounds, and it's associations with other ornamental and designed landscape features such as the Rock Arch,

the rock-lined access tunnels, and the numerous carriage drives and paths. This work built on existing research such as that undertaken by Hay (1993) and Goodchild (1994), and a new report was subsequently commissioned as part of this current project (Goodchild 2000); an unedited version of this report appears as Appendix 1. Additional information regarding the castle and the Lascelles family was kindly provided by Karen Lynch (2004), and Terry Suthers of the Harewood House Trust also provided images of many 18th and 19th century paintings of the castle.

Detailed Topographical Survey

1.23 Discussions held as part of the preparation of the project design determined that the detailed survey work should be confined to an area covering c.2.5 hectares, centred on the ruined castle (see figure 2).

1.24 A general topographical survey of this area was undertaken using Nikon DTM A20 total station equipment with data logged into an HP 100CX palmtop computer using a FMX 700 data software package. Control points were observed through trigonometric intersection from temporary survey stations established on a traverse around and through the site; the maximum error in the closure of the traverse was less than +/- 10mm. Data was subsequently processed using a combination of CivilCad and Auto Cad software, and the survey was integrated into the Ordnance Survey national grid by resection to points of known co-ordinates. Data was also levelled to heights above Ordnance Datum using the Ordnance Survey benchmark located near the gate on the A61 road (64.517m AOD).

1.25 The site survey recorded the ground level position of all upstanding buildings and other structures, wall remnants, foundations, earthworks, paths, stone and rubble scatters, floors, wooden structures and timbers, ironwork, and any other features considered to be of archaeological, architectural and/or historic interest. To assist with other elements of the project, the survey also recorded erosion scars and hollows, significant trees and areas of shrub, and rabbit holes etc. Sufficient spot-heights were taken to enable a detailed contour model of the site to be produced. Sufficient other information was gathered to allow the survey area to be readily located through the use of surviving walls, wall junctions, and other topographical features.

1.26 The survey data was plotted at 1:500 scale, was re-checked in the field as a separate operation, and amendments and field notes made as necessary. The final survey plan is presented as an interpretative hachure drawing using conventions analogous to those used by English Heritage (2002). Enlarged versions of the castle footprint and other foundations were also used as the basis for the detailed architectural survey (see below).

1.27 The general site survey was undertaken in October-November 2000, followed by site checking and enhancement in February/March 2001. The resulting survey conforms to a Level 3 survey as defined by English Heritage (2007, 23-24).

Ecological Surveys

1.28 It should be noted that the ecological survey work set out below was constrained by the practicalities of existing access. As a result, some elements of the work, for example the completion, refinement and/or enhancement of the bat and lichen surveys, would need to be undertaken during any subsequent consolidation

programme when scaffolding is in place. The area of survey was the same as that defined for the topographical work (see figure 2).

Flora and fauna

1.29 An initial ecological survey was carried out within a 20m wide radius of the castle prior to any survey work or vegetation clearance on site, to identify any features of ecological importance which might have a bearing on, or influence, any future repair or consolidation work to the ruins, or the management or improvement of the surrounding area. This work used the standard recording methodology devised by English Nature (1993).

1.30 The results from this work were combined with a brief desk-top ecological survey, designed to collect and collate all existing ecological survey data, such as the Phase 1 habitat survey completed by the City of Bradford Ecology Advisory Service in 1997 as part of the Estate Management Plan (HET 1997). Other consultations were held, for example with the Nature Conservation Section of Leeds District Council, the local bat group, and other relevant naturalist groups.

1.31 Information from both the above was then supplemented by a National Vegetation Classification (NVC) survey of the c.2.5 hectare study area. This is the standard tool for vegetation recording and requires homogenous areas within the site to be sampled via a series of quadrats to determine the composition of canopy, shrub and ground flora communities (Rodwell 1991). The vegetation communities were sampled using standard quadrats, and the recording information was mapped using standard alphanumeric codes augmented by reference to topographic and substrate features in areas where vegetation was not the dominant component of the habitat. Plant nomenclature followed that used by Stace (1991). The position of the larger trees and major vegetation zones was also identified and mapped, and the information collated with the topographical survey. Significant trees were identified according to species to assist with the preparation of detailed management prescriptions, and their ages were estimated using methodologies established by Mitchell (1984). Further details on the survey methodology can be found in the ecological survey report (Holloway 2000).

1.32 Notes were also made of other species seen on the site, including any tracks or signs of mammals, and all birds. The potential of the site as foraging and/or breeding areas for protected species such as badgers, amphibians, water voles etc was also examined during the above surveys.

1.33 The initial survey work was carried out in January 2000, with the main period of ecological survey being undertaken between May and June 2000. The full, unedited, ecological survey report (Holloway 2000) appears as Appendix 2, while a summary of the findings is contained within Chapter 6 below.

Bats

1.34 A systematic daytime inspection of the castle was undertaken for bats at one of the times when they are most active and when they are most likely to be detected. This inspection searched for droppings beneath potential roost sites, and was augmented by a hand-net survey for species identification and roost counts; the latter was subject to access practicalities.

1.35 Further survey work was undertaken to assess the site as a foraging area for feeding bats. Ten sampling plots representative of the NVC communities

identified in the botanical survey were selected, and these were systematically recorded for any bat activity for a period of five minutes by a Tranquillity II Time Expansion Bat Detector. All detected calls were recorded onto a Sony Semi-Professional tape recorder and a sound analysis computer software package (Grams) was used to produce sonographic representations of each bat call (frequency against time); the use of this equipment provides a much more accurate and less subjective method of detection compared to a heterodyne bat detector, and it enables a quantitative analysis of the site as a foraging area for bats to be undertaken. The daytime bat survey took place on 25th May 2000 and the feeding survey was undertaken in May and June 2000. Further details on the bat survey methodology can be found in the ecological survey report (Holloway 2000).

1.36 The results of the bat surveys were included in the ecological survey report (Holloway 2000; see Appendix 2), and a summary of the findings is contained within Chapter 6 below.

Lichens

1.37 A detailed lichen survey was undertaken of those parts of the castle which could easily be reached. The surfaces of all readily-accessible external walls were examined, from ground level, using hand lenses and chemical spot tests in line with standard procedure (Hawksworth & Rose 1976, 48; Dobson 1992, 9-10). Plans and elevation drawings of the castle were used to record the location of species.

1.38 The lichen survey was carried out in April 2000. A report was subsequently produced (Gouldsborough 2000b), and this is presented as Appendix 3. A summary of the findings is contained within Chapter 6 below.

Architectural Survey

1.39 As far as is possible given the existing condition of the castle, and the available access, the architectural survey conforms to a Level 4 survey as defined by English Heritage (2006, 14).

1.40 Some of the existing vegetation within a c.10m wide zone around the castle was initially cleared to facilitate the survey work, after initial inspection as part of the ecological survey (see above). The clearance concentrated on a small number of trees and shrubs growing in this zone, as well as the woody and scrub vegetation growing against the wall faces and within the interior of the hall and the north wing. The extensive ivy growth in the north-west corner of the castle was not removed, which meant that large parts of this area of the castle were obscured from survey.

Plans

1.41 Plans of the castle were produced at a scale of 1:50 at ground floor and basement levels. These were based on the digital information captured by the topographical survey (see above), with significant enhancement by hand measurement. The resulting plans show all significant details such as inserted, blocked or unblocked openings, fireplaces, and fittings. The ground floor was also tied into the general site survey for ease of reference.

1.42 Access difficulties meant that it was not possible to produce higher level floor plans, but these will be completed at a later date once scaffolding is in place.

However, Emery (1996, 341) has produced some sketches which, although not totally accurate and missing some importance elements, are reproduced in this report to aid the architectural description.

Elevations

1.43 Elevation drawings were produced using colour stereo-photography as far as possible, again augmented by hand measurement where necessary.

1.44 All the external and internal elevations of the castle were photographically recorded using a Zeiss UMK camera. Each of the four main exterior elevations and associated seven external returns were photographed, together with the main interior elevations to the hall and the north wing, and the four interior elevations of the entrance tower; there was insufficient room to record the interiors of the other three towers in this way, and there was no access to the majority of the window and doorway reveals. A scaffolding tower was utilised for the internal elevations but this was not possible for the external elevations; the external photography was therefore taken from ground level and the resulting camera tilt means that some areas of high-level detail are missing, especially in recesses and above protruding features. It is envisaged that this detail will be added by hand at a later date, when scaffolding is in place.

1.45 The total area of the elevations is c.2,900sqm, and a total of 93 stereo pairs were produced. Photo-control was achieved using standard 40mm square plastic targets, or points of architectural detail (e.g. on window dressings) where access was a problem. Some 182 photo-control points were required, and these were surveyed with the same total station equipment used for the topographical survey; heights AOD were obtained by reference to the Ordnance Survey benchmark located near the gate on the A61 road.

1.46 The stereo photography was used to produce computer-generated 1:50 scale elevation drawings. Given the characteristics of the fabric, it was determined that full stone-by-stone drawings were not required, although it should be noted that the photographic coverage would allow this to be done at later stage if required. The resulting elevation drawings show all significant architectural detail, stones around openings, masonry types, construction details (e.g. putlog holes, masons' marks, building lifts, etc), any modifications to the principal period of construction (e.g. blocked openings, inserted doorways and windows, etc), and areas of previous repair and/or consolidation. Revealed corework is shown only in outline, as are areas of vegetation. All elevations are levelled in to heights AOD and their locations are identified on small-scale sketches. The layering of the digital data is as per English Heritage requirements, and all appropriate polygons have been closed.

1.47 The computer-generated 1:50 scale elevation drawings were checked on site as a separate operation, and then enhanced by hand as necessary and where appropriate, for example where accessible areas of detail were obscured by vegetation and protruding surfaces. Additional hand measurement was also carried out on those parts of the fabric not covered by the photography, such as door and window reveals and stairways. Other details such as significant areas of weathering or erosion, ferrous cramp damage, movement fractures, and other eroded or damaged parts were added as appropriate.

1.48 The photogrammetric survey was undertaken in March 2000, with enhancement and the rest of the architectural survey being undertaken between March and November 2000.

Recording of architectural details

1.49 More detailed recording, both by hand and photographic techniques, of important decorative features was carried out, subject to access. Representative mouldings and profiles were also recorded at an appropriate scale.

Description and analysis

1.50 All the above survey data was then collated and used to produce a detailed architectural description of the castle, together with an appropriate level of analysis and interpretation which leads to an understanding of the form, function, history and development of the building. Initially, the castle was thought to be of a single phase, but this has proved not to be case, and attention has also been paid to any subsequent and historic repairs or alterations. This description and analysis then provides a basis for the subsequent condition survey and the provision of consolidation, management and interpretation proposals (see below).

Geological survey

1.51 A geological survey of the fabric of the castle was undertaken in 2004, during subsequent repair and consolidation work (Murphy 2005). However, details and information from this survey are included where necessary in this report for completeness (see mainly Chapter 5). The geological survey report appears as Appendix 4.

Photographic Survey

1.52 In addition to the detailed archaeological and architectural surveys, a general photographic survey of the castle was carried out for recording and illustrative purposes, together with detailed photography of significant features, using a 35mm and/or medium format camera in May 2000. Coverage is primarily in black and white, although some 35mm colour slide views were taken for presentation purposes.

1.53 A total of 45 black and white medium format shots were taken, concentrating on the architectural elements of the castle. A number of colour slides were also taken, primarily general shots and details of the earthworks and the erosion problems. All photographs contain a graduated scale where appropriate and each photograph has been catalogued and indexed. Good quality laser photocopies of selected prints accompany this report, while the negatives and remaining prints, and contact sheets, are included with the project archive.

Condition Survey and Recommendations for Consolidation

1.54 Using the information obtained from the various survey elements described above, a full descriptive and illustrated condition survey of the site complex was undertaken between May and November 2000, in consultation with the project architect, Peter Gaze Pace. In addition to discussing the current state of the castle and the surrounding earthworks, any potential threats or problems were identified, and comments relating to the general stability of the structure and the condition of the fabric were noted.

1.55 It had already been determined that the castle should be consolidated and repaired using traditional techniques and materials, and it was intended that the

consolidated ruins should retain the character of a romantic ruin, with the existing flora and fauna being retained wherever possible. Under this general philosophy, outline recommendations for a phased programme of consolidation and remedial conservation works have been produced, based on current practice and professional expertise, together with suggestions for any further recording or investigative work which might be required prior to, during, or following such works. These recommendations have been prioritised according to need, and broad, outline proposals for the general nature and extent of remedial works have been presented. As part of this process, any constraints identified by the topographical and ecological surveys, including bats and lichens, have been highlighted, and appropriate mitigation measures put forward.

2 HISTORICAL SURVEY

Introduction

2.1 A substantial body of primary and secondary material exists relating to Harewood Castle, including detailed pedigrees of the families who owned or occupied the site and the feudal history of the manor. The following historical survey of the castle is principally concerned with the development of the building, including changes to its fabric, and the development of the surrounding area. Detailed genealogical and manorial information is therefore only included where it is relevant to these subjects.

Manorial History

The pre-Conquest Period

2.2 Place name evidence indicates that settlements were established in the Harewood area between the 7th and 10th centuries. The name for Harewood can be interpreted as originating from the Old English *haer* meaning a rock or heap of stones, or possibly from "Grey Stone Wood" or the "Grey Stone" (from "hara" meaning grey) or "Hare Wood", after the animal (Smith 1961, 181; HET 1997, 12).

2.3 There is also physical evidence for early medieval settlement in the area. A late Anglo-Saxon coin hoard, comprising 30 coins and two half cut pennies of Edward I, was found in 1895 close to the gate leading to the west end of Harewood church and a series of earthworks to the north-east of the church may represent the site of an Anglo-Saxon settlement (Faull 1981, 187 & 194). A cross fragment of 10th/11th century date was also found within the church (HET 1997, 82). Several early 19th century authors note that about half a mile to the west of the castle, within West End Wood, there was formerly an open space known as "Chasne Plain", that had been kept cleared of trees for a very long time; the open space was alleged to mark the point where King Edgar murdered the Earl Aethelwold in 963 AD (Hargrove 1809, 187; Jewell 1819, 57).

2.4 A combination of this and other documentary evidence has led to the suggestion that the wider parish of Harewood originated as an important Anglo-Saxon estate with a valuable ecclesiastical centre and based on dairy farming. This estate appears to have been fragmented some time before 1066, possibly in the 10th century, resulting in the disparate and complex landholding arrangements recorded in the Domesday Book, when 12 different owners are listed (Faull 1981, 194-195).

The post-Conquest and Later Medieval Period

2.5 Following the Norman conquest, the manor of Harewood was held by William the Conqueror; the 1086 Domesday Survey records that it had previously been held by three thanes, Tor, Sprot and Grim. By 1094 it had been granted to Robert de Rumilly of Skipton Castle, and it passed to William Meschin through his marriage to Cecily de Rumilly, Robert's daughter. It then descended by marriage through the de Curcy and Fitzgerald families, and was held by Warren Fitzgerald, King John's chamberlain, in the early 13th century. Fitzgerald was granted the right of free warren (the right to preserve or kill small game) over the manor of Harewood in 1208, and it is likely that area around the castle named as "Castle Park" on later maps was enclosed at this date (HET 1997, 11-14; Parker 1913, 150-151); the

park was licensed in 1205 and it is probable that Well (later West) End Wood, which was also within the park, is also medieval in origin (HET 1997, 82).

2.6 After Warren Fitzgerald's death, the manor passed through marriage to the de Redvers family, and eventually to Isabel, Countess of Devon and Albemarle. When she died in c.1310, her estates passed to the Crown and after protracted proceedings between various claimants, the manor of Harewood was allotted to her cousin Robert de L'Isle (HET 1997, 14; Parker 1913, 150-151). John de L'Isle (d.1355) is recorded as holding the manor of Harewood in his Inquisition *post mortem* of 1356, his widow Maude being assigned dower (the part of an estate a widow had a right to claim) there in the same year (Michelmore 1981, 387).

2.7 Several antiquarian sources have concluded that the site on which Harewood Castle stands had been occupied during the 12th and 13th centuries, thereby suggesting that the existing building, which is generally attributed a mid to late 14th century date (see below), may represent a remodelling of an existing site. Jones, writing in 1859, reproduced two crude and inaccurate illustrations of windows from King's *History of British Castles* (actually King 1782, 326) which had formerly existed at Harewood and which were said to be of "Norman or Norman transition period" date i.e. 11th or 12th century, and he goes on to note that the "peculiarities" in the walls of the castle appeared to be parts of an earlier structure (Jones 1859, 135-136); these assertions were repeated again by Jones slightly later in 1863 (*Gentleman's Magazine* 1863, 720), and similar statements had in fact been made by Grainge (1855, 88) slightly earlier. As will be outlined below, documentary evidence indicates that a substantial manorial complex with stone buildings was located within Harewood township during the late 13th century, possibly on the site of the existing castle (Moorhouse 1989, 7). However, Jones' assertions about the earlier windows are in error, and appear to stem from a missed semi-colon, a misreading of the caption of one of the plates from King's 1782 description. Plate 13 of King's article has two doorways (F. LV and F.LVI) set over a plan of the castle (F. LVIII), which are captioned "Gothic Door Ways; and Plan of Harewood Castle, in Yorkshire"; elsewhere within the accompanying text King notes that the drawings represent a doorway at Ancaster church and a depiction of the Golden Gate at Jerusalem (King 1782, 323 & 324). These two doorways therefore have nothing to do with Harewood Castle.

2.8 As has already been noted, documentary evidence (not examined as part of this current project but partly reproduced by Coulson (2003, 257-258)) does indicate that there was a substantial manorial complex with stone buildings located somewhere within Harewood township during the late 13th century, and this may have been situated on or near the site of the castle. When excavated, some of the earthworks to the north of the castle revealed evidence for occupation during the 12th and 13th centuries, and so they might be associated with this complex (Moorhouse 1989, 7; see Chapter 4 below). If this were to be the case, then it would appear that the administrative centre of the manor had moved from its earlier location at Rougemont Castle on the north side of the river Wharfe to the site of Harewood Castle by the late 13th century (Moorhouse 1989, 7). On current evidence, it is not thought convincing that the castle incorporates part of a significantly earlier predecessor, although there are structural features which suggest that it might originally have been designed to a more limited form (see Chapter 7 below).

2.9 Robert de L'Isle (1289/90-1343/44), who had gained the manor of Harewood in the late 13th/early 14th century, was a distinguished soldier and was summoned to parliament as Baron de L'Isle of Rougemont between 1311 and 1342. In 1336 the

manor of Harewood was worth 40 marks per annum, and in 1337 he granted it to his son John "to better serve the king", prior to taking religious orders (*www.linleyfh.com/oursecondsite-p/p250.htm*). John de L'Isle, 2nd Baron, (d.1355) was also a distinguished soldier, fighting predominantly in France, and was created a Knight of the Garter after fighting at the battle of Crecy. From 1350 until 1354 he was also summoned to parliament as Baron de L'Isle of Rougemont, and from 1351 he was described as Lord of Harewood. An inquisition taken in 1356-57 notes that his Harewood possessions included a "small park with deer", possibly that which later became known as the Castle Park (*www.linleyfh.com/oursecondsite-p/p249.htm*). Following John's death in 1355, he was succeeded by his son Robert, 3rd Baron (1336-1399) (Parker 1913, 151). In 1363, Robert granted the keeping of the park, wood and warren of the manor of Harewood to William Gascoigne of Gawthorpe Hall (HET 1997, 14). In 1377-78 it was confirmed that Robert held some 90 manors, of which one was Harewood.

2.10 The construction of Harewood Castle is generally attributed to Sir William de Aldeburgh (d.1388), who obtained a licence to crenellate his "*mansum manerii"* at "*Harwode*" in 1366 (Black 1968, 339; Emery 1996, 339). De Aldeburgh had held the manor of Harewood from Robert de L'Isle from 1364, when Robert paid £70 to Edward III for a licence to enfeoff (i.e. to put in a tenant legally in possession, or to surrender a holding) de Aldeburgh and his descendants to two parts of the manor and of the reversion of the third part held in dower by Robert de L'Isle's mother; de Aldeburgh paid Robert £1000 for the manor. William de Aldeburgh had married Elizabeth, the daughter of John de L'Isle, in c.1356 (*www.linleyfh.com/oursecondsite-p/p27.htm*; Jones 1859, 136; Clay 1913, 2-3), although Reddyhoff (1985, 20) disputes this - but it is difficult to see how de Aldeburgh would have gained the manor without this family connection.

2.11 De Aldeburgh was an officer in the court of Edward Balliol, King of Scotland during the mid 14th century, variously termed as an envoy, diplomat, messenger or valet (Reddyhoff 1985, 21). Balliol (c.1282-1364) was Edward III's puppet king of Scotland intermittently between 1332 and 1336, and was involved in Scottish skirmishes on behalf of Edward III after that, but on 20th January 1356 he surrendered his claim on the Scottish throne to Edward in return for an annual pension of £2,000; he retired to, and died at, Wheatley near Doncaster in 1364 (Webster 2004). William de Aldeburgh had lands and property in Scotland, including the baronies of Kells and Crossmichael, which had been given to him by Balliol "for his good service" in the 1340s (Wood 1904), and he also had some property in England, for example in Lincolnshire and a small manor at Kelfield near Ricall (North Yorkshire) where it is believed he had a residence later known as Auburn Hall (Purdy 1976, 105). He was also accused of hunting illegally in deer parks at Beverley, Haverah (near Richmond) and Knaresborough, probably in conjunction with Balliol during his periods of exile from Scotland, and he was pardoned in 1358 (Reddyhoff 1985, 21-22). Although some property was held jointly with Balliol, William was a powerful knight in his own right, and in 1368 he negotiated a treaty with Pope Urban V and was a Member of Parliament between 1370/1 and 1386 (Reddyhoff 1985, 24). He and his son, also called William, paid the Poll Tax at Harewood in 1379 (*www.linleyfh.com/oursecondsite-p/p27.htm)*.

2.12 Balliol's coat of arms survive in several places within the castle in conjunction with the de Aldeburgh arms, and they also appeared on several of the items listed in the 1391 will of Margaret de Aldeburgh (see below) (Jones 1859, 136-137; Reddyhoff 1985, 21). Some authors have suggested that Balliol was entertained at or took refuge in Harewood after he had been driven out of Scotland (e.g. Whitaker 1816, 165; Parsons 1834, 258), partly on the strength of coins relating to

him having been discovered as part of a larger 14th century hoard at Wyke near Harewood (Sharpe & Haigh 1840, 74). But Balliol died in 1364, just two years before Aldeburgh's licence to crenellate and, given that the current evidence suggests that the existing castle is thought to relate entirely to the licence, it would seem that it was not possible for Balliol to visit. However, it is not known whether the licence was granted prior to, during or after the building of the castle, which must have taken several decades. Nevertheless, the fact that Aldeburgh chose to commemorate his relationship to Balliol in both stone and on furnishings is extremely interesting, and suggests further avenues of research. For example, the closeness of Balliol's death and Aldeburgh's licence may be significant; perhaps Aldeburgh benefited materially from Balliol's estate, thus providing him with the funds from which to construct or alter the castle (see Chapter 7 below).

2.13 William de Aldeburgh died in 1388, still holding the manor, and was succeeded by his son, William, who died shortly afterwards in 1391 at Harewood; he was buried alongside his father and mother in the church of the Dominican Friars in York. The latter's Inquisition *post mortem* of 1392 notes that the manor comprised seven carucates and 18 bovates of land in Harewood and elsewhere at this time, and it is his wife' Margaret's will of 1391 that provides some details of the of the internal economy of the castle (see below) (*www.linleyfh.com/oursecondsite-p/p27.htm)*.

2.14 William died without a male heir, and so his two sisters, Sybil (c.1367-1439) and Elizabeth (1364-1417), then inherited the manor. It was through their marriages, Sybil to Sir William Ryther of Ryther Castle near Selby in c.1379 and Elizabeth to Sir Richard Redmayne (or Redman) of Levens Hall in Westmorland in c.1394 (actually her second marriage - she had previously married Sir Bryan Stapleton who had died in 1391), that Harewood Castle and the manor passed to these families; the impressive chest tombs and alabaster effigies of both couples can be seen in Harewood church (CCT 2004, 5-6). Both were powerful and influential families - Sir Richard Redmayne (d.1426) for example had been a soldier, was Sheriff of Cumberland six times, was Richard II's Master of Horse, remained loyal to Henry IV throughout the early rebellions and sat for Yorkshire in five parliaments between 1406 and 1421 (Summerson 2004). The manor continued to be held jointly and apparently amicably by the two families for some 300 years, and no physical division was made of the estate (Reddyhoff 1985, 21-26; Michelmore 1981, 387). Who actually occupied the castle during the later medieval period is unclear - some sources suggesting a joint occupancy but at least one source alleges that it formed the principal residence of the Redmayne family (Grainge 1855, 88). In 1529-32 Richard Redmayne was in possession of, and in residence at, the castle (*www.linleyfh.com/oursecondsite-p/p605.htm*), and in 1550 it may have been occupied by Matthew Redmayne (Reddyhoff 1985, 50).

The Post-medieval Period

2.15 In 1563, James Ryther (c.1535/6-1595) came to live at Harewood and in 1574 he, along with a partner William Plumpton, bought out the Redmayne family interests *(www.linleyfh.com/oursecondsite-p/p686.htm)*. He was also living at the castle between 1588 and 1591 as he wrote a series of nine letters to William Cecil, Lord Burghley, from there during this time (Craig 1984 & 1985). However, his financial position became steadily worse and he was imprisoned in London's Fleet and Newgate Prisons from 1591-92, and he died still in prison in 1595 *(www.linleyfh.com/oursecondsite-p/p677.htm)*. There are also accounts of a small skirmish at the castle in April 1593, when a defence against 30 or 40 of Hare's men (possibly one of Ryther's creditors) was mounted by James' son Robert, when bows and arrows, guns and stones, armour, shot and munitions were called

into use *(www.linleyfh.com/oursecondsite-p/p677.htm)*. Robert Ryther and his two sisters then sold the castle and the manor of Harewood in 1601 to clear their father's debts. The sale probably marks the point at which the castle ceased to be a main residence (Craig 1984, 96; Craig 1985, 125), although Jones (1859, 149) states that Robert Ryther was resident until around 1630, after which he retired to Belton in Lincolnshire with his new wife, where he died in 1637.

2.16 Sir William Wentworth of Gawthorpe Hall purchased the castle and manor for the sum of £11,000, although the payment was not actually made until 1616. The Wentworth family had acquired the manor of Gawthorpe through marriage in the late 16th century, it having previously been held by the Gascoyne family from the mid 12th century. William Gascoyne had obtained a licence to enclose two parks in the area, the first containing 240 acres of land in Gawthorpe, Wardley and Harewood and the second containing 1700 acres in Henhouse, Lofthouse, Wardley, Harewood and Wyke (Grainge 1855, 89). It is probable that the Wentworth family continued to reside at Gawthorpe after the purchase of Harewood, and that the administrative centre of the combined manors was centred on their residence (Craig 1984, 24; Goodchild 2000, 5-7). The condition of Harewood Castle during this period is unclear, and Jones suggests that it might have been slighted during the Civil War (Jones 1859, 149).

2.17 In 1656, the Wentworths sold Harewood and Gawthorpe to Sir John Cutler for £28,000; the Bill of Sale for the castle (see below) suggests that it was already partly ruinous or even dismantled by this date (Whitaker 1816, 167). Cutler (1607/8-1693) was a merchant and financier, who specialised in lending money to impoverished landowners on the security of their estates, and the Wentworths were one of his largest creditors (Hayton 2004). Cutler may well have carried out further dismantling work at the castle, re-using the materials on site to build a number of dwellings elsewhere. He held the manor until his death in 1693 (Jones 1859, 149-50; Kitson 1913, 179). After Cutler's death, the estate passed to his daughter and then to another relative, John Boulter. Boulter died in 1738 and his lands were sold to settle his debts. Harewood was then purchased by Henry Lascelles and the estate has remained with the Lascelles family until the present day (Goodchild 2000, 7).

2.18 When Henry Lascelles died in 1753, the estate passed to his son Edwin (1712-1795), who was created Baron, or Lord, Harewood in 1790. Edwin established the present Harewood House and was also responsible for transforming the landscape setting of the new house, which provides the basis of the present layout. His cousin, Edward Lascelles (1740-1820), 1st Earl of Harewood, and his son Edward, Viscount Lascelles (1764-1814), made major additions to the landscape, including incorporating the ruins of the castle into an extension of the Northern Pleasure Grounds (Goodchild 2000, 7-8) (see below). Edward 1st Earl of Harewood died in 1820 and, because his son died before him, he was succeeded by his second son Henry, who was in turn succeeded by his son in 1841 (Grainge 1855, 90).

The Landscape Setting of the Castle

Medieval and early post-medieval landscapes

2.19 It is known that the castle lies within a wider medieval landscape, the full extent of which has not been examined and considered as part of this project. Indeed, the elements and features of the medieval landscape around Harewood have yet to be fully researched and understood, but it is known, for example, that documentary

evidence, specifically the accounts of Isabell de Fortebus, points to a late 13th century substantial manorial complex with stone buildings somewhere within Harewood township, and the area later called “Castle Park” was enclosed in the early 13th century (see above). Other features of the medieval landscape would have included a nunnery at Arthington, founded c.1150, and Harewood Bridge, recorded from the early 13th century (HET 1997, 11-14).

2.20 The large medieval manor and ecclesiastical parish of Harewood shared the same boundaries, and previous studies have shown that it comprised seven townships as well as a small part of the township of Wyke. The townships to the south of the river Wharfe were Weardley, Harewood, East Keswick, Alwoodley and Wigton, while those to the north were Weeton and Dunkeswick (Moorhouse 1985, 10-11; Goodchild 2000, 5). At least seven separate medieval settlements or vills have been identified within Harewood township itself, and one of these is a possible precursor to the present Harewood village. The others include Newhall (or Newall) to the east of the castle, Stockton to the east of Newhall, Gawthorpe to the south of the present Harewood House, Towhouses by the Gawthorpe Beck to the south of Gawthorpe, Lofthouses to the east-north-east of Towhouses and around the present Lofthouse Gate into the park, and Hollin Hall to the east-north-east of Lofthouse. Gawthorpe was a separate estate, and perhaps a separate manor, within the township of Harewood, although the history of the two land units is closely linked (Moorhouse 1985, 10-11; Goodchild 2000, 5). During the 13th century, the administrative centre of the manor of Harewood was located at Rougemont castle in the township of Dunkeswick, on the north bank of the river about one mile west of Harewood Bridge (Michelmore 1981, 360 & 387).

2.21 The castle is built into the considerable north-facing slope of a projecting spur on the south side of the glaciated valley of Wharfedale; from the south to the north, the slope drops c.10m in height along the length of the castle alone. The decision to terrace the castle into the slope was a deliberate one, as there is flatter land to the immediate south that might have accommodated the structure, while to the north the ground again slopes far more gently downwards towards the early 19th century ha-ha. The choice of site was probably governed by several factors. Firstly, the bedrock beneath the castle is the medium to coarse sandstone of the Lower Folifoot Ridge Grit, a sandstone (gritstone) unit in the Millstone Grit Series of the late Carboniferous period. Unlike the opposite north side of the Wharfe valley, which here comprises a gentle dip slope, the south side on which the castle stands consists of a series of steep gritstone escarpments. The wider area is prone to rotational slope failures and geological faulting, and so by placing the castle on a stable outcrop of gritstone, not only could building stone be easily sourced but there were wide-ranging views to the east, west and north (Murphy 2005). The steeply sloping topography meant that the castle could have a stepped structure falling from south to north in line with the natural slope, thus giving the opportunity for a greater complexity of wall-walks to the upper parts of the structure than would have been possible on a flat site.

2.22 The siting, form and organisation of the internal spaces of the castle strongly suggest that the creation of extensive views both from and to the building was an important consideration in its original design and also its contemporary landscape setting (see plates 39 and 40). Such consideration is now recognised at a number of late medieval castles both nationally and regionally (Creighton 2002, 36-45; Liddiard 2005, 97-121), and North Yorkshire examples include Ravensworth Castle (Dennison, Holloway & Richardson 2006) and Sheriff Hutton Castle (Wright & Richardson 2005).

2.23 Some of the earthworks surrounding the castle have been suggested to form a series of potentially medieval garden terraces to the west with ponds and other features to the north. To the south of the castle is a large rectangular terraced area, traditionally known as the "Bowling Green", and previously suggested to have been created in the early 19th century (Moorhouse 1989, 6) as part of the Castle Pleasure Grounds (see below). However, it seems that this is also an earlier feature, although of what precise period remains uncertain; Parsons, writing in 1834, repeats a significantly earlier description of the terraced area by Gough, which states that "*the castle … stands on the north side of a triple square entrenchment on the hiss sloping down to the river. The innermost vallum on the south and west side is entire and high*" (Gough 1789, vol 3, 7 quoted in Parsons 1834, 257). The earthworks and possible gardens are discussed further in Chapter 4 below.

2.24 There is little published information relating to the castle landscape of the early post-medieval period, i.e. in the later 17th and early 18th centuries when the Harewood estate was owned by the Cutler and Boulter families. As already noted above, the Wentworth family sold the estate to Sir John Culter in 1656, when the castle was already described as being "decaied". It is also possible that both families carried out further dismantling work at the castle, and it is assumed that the castle and its immediate environs were allowed to decay; their efforts were concentrated around their main house at Gawthorpe (HET 1997, 16-17).

Later post-medieval landscapes

2.25 The relationship between the ruined castle and the surrounding landscape is better understood from 1738, when the estate was purchased by Henry Lascelles, largely because of the greater availability of documentary material (summarised by Lynch 2004) and the work undertaken by Goodchild (1994 & 2000; see Appendix 1).

2.26 Edwin Lascelles, Lord Harewood (1712-1795) had established the present Harewood House by 1771 and he was also responsible for transforming the landscape setting of the new house. It is clear from contemporary accounts that the isolated castle was seen as an attraction in the area and that the views to and from the castle were part of that experience; Hargrove for example conjured up a romantic interpretation of the castle which includes an extract from Ossian (Hargrove 1789, 160-161), and the place of the castle within the wider Wharfedale landscape was also strongly emphasised (Maude 1782). This romantic and antiquarian mood is maintained in later editions (e.g. Hargrove 1809, 185-193), and Jewell (1819, 36) draws attention to two views, probably straight vistas created through plantations, "*one for a view of Alms-Cliff, and the other for a view of the Castle*" from the rotunda built to the west of the church in 1785 for Lady Fleming, Edwin Lascelles's second wife. Goodchild (2000, 9) also raises the interesting possibility that the potential conversion of the castle to a malting house, as evidenced by plans dating to the 1770s (see below), might imply a desire to protect it from further decay.

2.27 Major additions were made to the landscape on the east side of the park by Edwin's cousin, Edward Lascelles, 1st Lord Harewood (1740-1820), and it is he who is traditionally associated with incorporating the ruined castle into an extension of the Northern Pleasure Grounds in the early 19th century, named by Goodchild as the "Castle Pleasure Grounds" (Goodchild 2000, 8 & 10). It seems that Edward Lascelles had plans for this work as early as 1796, when the Duke of Rutland noted that "*as yet there is no park at Harewood, but the present owner is*

in the intention of forming a considerable one, in which he means to include the old ruinous castle … the vale down to the river, and the ground two miles beyond the Wharfe" (Manners 1813, 260, quoted in Lynch 2004). The Duke had visited the castle on the previous day and appreciated its "ivy-crowned walls" that "presented a most picturesque appearance"; some of this ivy may have been planted in c.1782 (Maude 1782, quoted in Lynch 2004; see below).

2.28 However, the medieval Castle Park was partly occupied by several farms in the late 18th century, and Turner's painting of 1798 (see plate 8) depicts arable land extending almost to the foot of the castle. In the early 1800s the area was cleared and returned to parkland, as part of the reorganisation of this part of the estate, and the Otley to Tadcaster Road was realigned between 1796-1800 to run around the east side of the castle ruins (Goodchild 2000, 12). This allowed the pleasure grounds to be extended to reach the castle, which had hitherto been an isolated and solitary structure on the hillside. One possible explanation for the work beginning at this time was the death of Samuel Popplewell junior in July 1811. He was Lord Harewood's steward or land agent who lived at Castle Park Farm, but his successor, Robert Menzies, was provided with a new purpose-built house in the estate village, meaning there was no impediment to clearing the agricultural land around the castle (Lynch 2004).

2.29 The Castle Pleasure Grounds were laid out and planted in the period c.1810 to c.1816, probably under the direction of James Webb, and the work included the construction of the Rock Arch in 1814 and its associated rocky valley, a former quarry (Jewell 1819, 31 & 51). The new pleasure ground formed an area on the north side of Church Lane, extending from a point opposite the turning to All Saint's Church off Church Lane in the west to the newly aligned main road to the east. Paths, including one passing beneath the rock arch, were laid out to link the newly created gardens to the older parts of the parkland and estate (HET 1997, 20). The ha-ha running along the north side of the castle may also have been constructed during the same period, as a linear feature is marked in this position on the anonymous c.1810 survey of the Harewood estate. Jewell notes that the castle was actually incorporated into the pleasure grounds in 1813, when some ash trees were planted in the centre of the ruin (Jewell 1822, 66 & 70).

2.30 One of the most useful accounts concerning the castle in its role as a landscape feature within the new pleasure ground occurs in the travel diary of William Grey of York. In 1816 he toured Wharfedale, and his entry for Harewood notes:

"*saw only the newly laid out ground inclosing the castle … a prodigious improvement, & in my idea far more interesting than any other part of Harewood, the sloping richly verdant descent, the expanse of the vale, the winding of the river, the different hills … These form a charming combination, especially with the addition of the castellated ruins at the close, most luxuriantly clothed with ivy … some neat remains of the pointed stile appear in the way of ornament; particularly a beautiful shrine with the cusped arch but without any figure or inscription*" (Grays Court Papers, York Archives, quoted by Lynch 2004).

2.31 Gray notes that the castle was the culmination of the scheme, the *piece de resistance* at the close of a walk from the house. The walk, or ride, would have passed through the earlier northern pleasure ground to the church, and then into the newly landscaped area via the Rock Arch. The remains of a yew walk close to the castle (see Chapter 4 below) suggest that an element of surprise was incorporated into the approach. Visitors would pass through the dark narrow walk and emerge to see the great panorama of Wharfedale with the castle in the

foreground. Although some documents relating to the construction of this approach survive, the majority appear to have been lost. In 1813, when the work appears to have been drawing to a close, the estate mason John Muschamp submitted a bill for building a "*dry sunk fence walling round the new pleasure ground taking in the Castle*", presumably the ha-ha to the north of the castle WYAS HAR/ACC/495 quoted in Lynch 2004).

2.32 Slightly earlier, Lord Harewood's daughter, Mary Ann, mentions various "improvements" undertaken in the north park in her diary for 1801, and in 1810 there is mention of a walk "by the Castle". In the summer of 1815 she also records that she "*spent the morning with the children at their gardens at the castle*", and it is possible that this refers to the flattened area on the south side of the castle marked as a "bowling green" on later maps (Lynch 2004). Jewell also records that that soon after 1813 "*the castle-garden, where the cross walks were very plain to be seen, were planted, likewise the high bank that goes around it*" (Jewell 1819, 57).

2.33 One of the most illustrious visitors to the new parkland was Grand Duke Nicholas of Russia. When he toured Harewood in December 1816 the route included the church and the castle, at which "his Imperial Highness expressed his most unqualified approbation and delight" (Jones 1859, 188-190). A visitor some years later appreciated the castle as a prospect tower and described the view from "the top of this ruined monument" (Grainge 1855, 94).

2.34 Jewell's 1822 description of the new pleasure grounds remains antiquarian and romantic, but there seems to be a greater emphasis on the picturesque and scenic elements. Jewell repeats Hargrove's description of the ground around the castle as containing "half-buried walls and fragments of ruins" (Jewell 1822, 64; Hargrove 1789, 160-161), and this is exactly in line with a taste for the rustic picturesque. Turner's paintings of 1797 and 1798 depict the castle before the pleasure grounds were laid out, while Varley's painting of 1803 shows the fore and middle ground as being quite park-like in character (Hill 1995, 25-26 & 48). All three paintings show the ruins shrouded in ivy, and it appears from other accounts that this was deliberately planted against the ruins from c.1782 for dramatic effect (see Chapter 3 below). The castle continued to feature in both poetry and novels into the mid 19th century. John Nicholson's poem "Lyre of Ebor" described an epic boar hunt encompassing many of the late medieval monuments of Yorkshire, including a description of L'Isle hunting foxes from Harewood (Nicholson 1859, 48-53), while *The Welsh Mountaineer*, perhaps not the most obvious source of information for a castle in West Yorkshire, draws heavily on earlier tourist guides but also imagines a visit to Harewood as if it were still occupied (Hutton 1817, 149-152).

2.35 The 1851 Ordnance Survey map (see figure 6) depicts the layout of the Castle Pleasure Grounds. The western section extends from the west end, opposite the turning to the church off Church Lane, as far as a former quarry which runs across the full width of the pleasure ground as a rocky dell. At the south end of this dell is the Rock Arch. The central section runs from the dell to the sunken path that leads from Bondgate to Castle Well; this lane has a footbridge over it that allows unhindered access through the pleasure grounds. The eastern section, which includes the castle, runs from this sunken path as far as the Leeds-Harrogate road. It contains an upper, middle and lower path, the middle path appearing to head directly to the inserted doorway in the west elevation of the castle.

3 REVIEW OF PREVIOUS WORK AND INVESTIGATIONS

Introduction

3.1 The following chapter deals with the way Harewood Castle has been covered in historical material, antiquarian accounts, and illustrations, maps and surveys from the late 14th century to the present day. It should be noted that many of the antiquarian descriptions are either repetitive or rather verbose, and so only those details that add to or differ from the existing interpretation of the castle structure are included here. The chapter also covers previous archaeological investigations and recent interventions to the castle itself.

Antiquarian Descriptions, Illustrations and Surveys

The Medieval Period

3.2 With the exception of the licence to crenellate, granted in 1366, the earliest known documentary reference to the castle which gives some idea as to its structure or appearance is the will of Margaret de Aldeburgh (c.1355-1391), wife of the second William de Aldeburgh, written and proved at Harewood in 1391. An approximate translation of this document has been given by Jones (1859, 142-145) and this provides some information of the furnishing of the castle during the late 14th century. The will lists at least seven beds, some with elaborate bed clothes, as well as tapestries and cushions, several of which were emblazoned with the arms of Aldeburgh and Balliol. Items of other furniture, plate, armour and clothing are also listed in the will.

The 16th to 18th centuries

3.3 The antiquarian Camden, writing in 1582, stated that the castle was "of good strength" and he was of the opinion that there had been a castle on the site since "very early times", giving a list of holders dating back to the 12th century (quoted in Jones 1859, 134); a subsequent author corrected Camden's history of ownership (Brooke 1723, 65-66). A survey of the coats of arms in the castle, some of which were painted on wood, glass or metal as well as being carved in stone, was made in 1584 by Glover and this is reproduced in several later sources (King 1782, 335-336; Whitaker 1816, 167; Jones 1859, 156-161; Foster 1875, 466-467; see Appendix 5); some authors also make reference to these coats of arms in relation to those surviving elsewhere within Yorkshire (e.g. Norwood 1860, 75). As noted above, a collection of letters written by James Ryther of Harewood Castle to William Cecil, Lord Burghley, around 1587, have been the subject of several publications (Jones 1859, 147-149; Craig 1984; Craig 1985), but unfortunately these do not appear to contain any details relating to the fabric of the building.

3.4 The information contained within the 1656 Bill of Sale for the manors of Gawthorpe and Harewood gives some idea as to the state of the castle at that date, showing that Culter was not solely responsible for it's desecration:

"*The Castle of Harwood decayd, yet the Stones thereof being much Ashler and the Timber that is left fit for building an hansom new house &c may save a deale of charges in the stone work, or els (if allowed to tenants of Harwood towne for repayers and building) would be very usefull & necessary & serviceable for that purpose considering it is a Market Towne therefore the Castle may be adjudged to bee well worth £30. There is belonging to the same a very large Barne*"(quoted in Whitaker 1816, 167).

3.5 The earliest known depiction of the castle forms part of an estate survey of c.1698-99 (WYAS(L) HAR Map 33). The plan of the castle included in the survey is at a small scale but it does show the building to be located within a large irregularly shaped enclosure marked as "The Castle Parke". However, a sketch of the east elevation of the castle in the top right-hand corner of the map provides more useful detail (see plate 4). A mass of ruinous masonry incorporating a doorway and window is shown above and to the rear of the entrance tower. It may be significant that the artist chose to show ashlar masonry only in the upper part of the central area of the elevation and at the base of the north end, although no other evidence exists to suggest that the external elevations were rendered or otherwise covered.

3.6 In c.1720, the architectural draughtsman Samuel Buck sketched the south elevation of the castle as part of a northern tour undertaken on behalf of John Warbuton, Somerset Herald and antiquarian (Wakefield Historical Publications 1979, 285). The sketch, entitled "The Ruins of Harwood Castle" is very small and schematic, but it appears to show a building abutting the east elevation.

3.7 The earliest known detailed plans and section of the castle may be those relating to a proposed conversion of the building to a malting house with living accommodation (WYAS(L) HAR Building Plans 1) (see figure 3). The provenance of these drawings is unknown, but it has been suggested that they were produced in the office of the York architect John Carr, possibly in the 1770s (Goodchild 2000, 9; Lynch 2004). The scheme proposed that a three storey malt house be constructed within the castle, with living accommodation for the maltster on the top floor and a malt kiln installed in the former service area at the north end which was to have a "shed roof" over. The central ground floor hall space was to be divided by a north-south division, with a "growing floor" on the east side and the "withering floor" to the west, and there was a pair of cisterns placed adjacent to the main entrance. Above, on the second floor, were the "barley chamber" and "malt chamber", and bedrooms over. However, there is no convincing structural evidence that the scheme was ever undertaken and, given the suggested 1770's date for the plans, no mention in King's account of 1782, which would surely have made reference to the alterations had they existed at that time.

3.8 A painting of the castle by Nicholas Dall, probably dating to the period 1760-74, appears to accurately depict the ruins at around the same time as the proposed malt-house conversion (see plate 5). Dall (d.1776) was a decorative artist and scene-painter of Scandinavian origin, and he painted four inset landscape paintings which hang in the library of Harewood House; these paintings were exhibited at the Royal Academy in 1774 (Graham-Vernon 2004). The painting of the castle provides a view from the south-east, showing the south and east elevations, with the river Wharfe and Harewood Bridge in the distance. Another painting of around the same period, by Michael Angelo Rooker (1746-1801), depicts the east elevation.

3.9 A detailed account of the castle was produced by Edward King in 1782, in an early journal of the Society of Antiquaries (King 1782, 329-337). He also produces a plan of the structure (see figure 4) and, although there are significant differences from what is known to have survived at this date, there are a number of interesting discrepancies. For example, the wall forming the east side of hall contains two narrow loops ("*at (O O), are loop-holes, defended on the usual manner; and in the apartments above are large open windows*"); it is presently unknown whether these represent an as yet undiscovered basement level, an earlier version of the

large mullion and transom windows which currently exist, or artistic licence, although only one opening is shown on the c.1770s plan. The accompanying description is also not clear about which floor is which, for it mentions that the principal stair ("3" on figure 4) "*does not reach down to the ground, but only goes as low as the first floor*". King also notes two "*curious and large wells, for drawing up timber and warlike machines*" at "8" and "9" on figure 4, which have "*great arches at [the] bottom, to make room for turning the beams*", which presumably refer to the fireplaces and chimneys here. He refers to the buffet in the south-west corner of the hall as being a tomb or altar, or a recess for "*the station of a crossbow man*", in which case the south end of the hall might have been a chapel, and notes that the adjacent opening ("6" on figure 4) is the present entrance. However, in other respects, his description is insightful. For example, he notes that the "lesser staircase" ("5" on figure 4) does not connect with the entrance tower, and that there is a parapet platform around the upper levels, which would now be called wall-walks (see Chapter 5 below) but which he suggests were used to secure "*engines of war or even cannon*".

3.10 A poem also published in 1782 includes a footnote to the castle: "*The remains of the Castle, which seems to have been the Keep, is in a condition to last long, and the present proprietor has judiciously planted ivy around the walls, with a proper fence to protect that cheerful aspiring plant from injury, so much in character with every ruin, and which yearly add to the solemnity of the place*" (Maude 1782, quoted in Lynch 2004). This fence is clearly visible in Turner's painting of c.1798 (see below and plate 9). As noted in Chapter 2 above, the ruined castle would have been a prominent part of the vista looking out over Wharfedale from the rotunda viewing point which was constructed in 1785 for Lady Fleming, Edwin Lascelles's second wife.

3.11 Another early illustrated antiquarian account of the castle was given by Grose in 1787 (Grose 1787 vol 8), which incorporated views of the east and west elevations engraved by Sparrow and Newton respectively and published by Hooper (see plates 6 and 7). The elevations show that the external walls of the ruin are relatively free from vegetation, apart from the recently planted ivy, although the surrounding ground level may have been slightly higher. Although the engravings are stylised to some extent, a number of features now no longer extant or presently obscured by ivy can be seen, for example the ridge-line of a demolished structure against the east side of the south-east tower, and different door and window openings on the west side of the hall; these are features are discussed in the Architectural Survey and Description (Chapter 5) below.

3.12 King's account of 1782 may well have helped to put the castle on the late 18th century "tourist trail", and many of the subsequent publications plagiarise or incorporate his description (e.g. Bray 1783, 263-266). The fourth edition of Hargrove's "History of … Knaresborough", published in 1789, provides a description of the castle, which includes a mention of ruins around the castle: "*the extent of the castle, when entire, must have been very considerable; for now we observe near an acre of ground, around the remaining building, covered with half buried walls, and fragments of ruins*" (Hargrove 1789, 160-161). A later edition also contains a slightly revised description of the castle (Hargrove 1809, 185-193). King's plan may also have served as a model for the more accurate plan reproduced in Whitaker in 1816 (see below).

3.13 The castle is not shown on Teal's plan of parts of the township of Harewood drawn up in 1796 (WYAS(L) HAR Map 44). However, it is on Jeffrey's 1771 map of Yorkshire (sheet 12), where it is depicted as a roofed structure named as "Castle

in ruins". On both these maps, the main road to Harrogate is shown to continue north past the castle, down what is now known as "Fitts Lane".

3.14 As has been mentioned in Chapter 2 above, the change in estate ownership at the end of the 18th century, brought about by the death of Edwin Lascelles in 1795, was the catalyst for the further development of the landscape. Edwin's son Edward 1st Earl of Harewood (1740-1820), and his eldest son Edward, Viscount Lascelles (1764-1814) made major changes to the landscape which included bringing the ruins of the castle into an extension of the Northern Pleasure Grounds; this aspect of the castle's history is discussed in Chapter 2 above). Edwin and Edward Lascelles were also connoisseurs of the arts, and were responsible for bringing artists such as Turner and Girtin to Harewood, who produced some of the more memorable and famous paintings of the castle.

3.15 J W M Turner (1775-1851) visited Harewood in 1797 as part of his extended tour through Yorkshire, Durham and Northumberland, and he produced several sketches and watercolours of the castle between c.1797 and 1808. In March 1798 Edward Lascelles the younger paid 50 guineas for a series of five paintings, including two of castle, from the north and from the south-east. The former (see plate 8) portrays a windswept landscape with lay meadows running almost up to the north elevation whereas the latter (see plate 9) shows the east elevation and was preceded by a pencil sketch; this sketch also includes a more detailed but seemingly unfinished drawing of the inscription above the main entrance (Hill 1995, 25). In both cases, the drawings appear to be a fairly accurate representation of the ruins at that time. In a subsequent smaller watercolour of the view from the south-west, Turner depicted the castle as more decayed, its skyline more broken, the ivy more luxuriant, the battlements more pronounced and the window detail more emphatic, in order to produce a more picturesque version (Hill 1995, 20-27). Turner also apparently produced drawings or watercolours of the interior of the castle (Hill 1995, 15), but these have not yet been found or viewed.

The 19th Century

3.16 An outline plan of the castle is shown on an anonymous survey plan of Harewood dated to c.1810, with a double line, possibly representing the ha-ha surviving to the north of the site, marked close to the north elevation (WYAS(L) HAR Map 33). Other artists, such as John Varley (1778-1842), Peter de Wint (1784-1849) and James Connor, produced various depictions and views of the castle around the turn of the 19th century (Hill 1995, 48). Two watercolours in particular, painted by J C Buckler (1793-1894) in 1817, one from the north-east showing the north and east elevations and one internal view showing the south face of the main hall, are especially useful when comparing architectural details (see plates 10 and 11).

3.17 In the early to mid 19th century, a number of descriptions of Harewood Castle appeared in works by antiquarians and historians. Most give only a few details of the building, concentrating on the manorial history (e.g. Hargrove 1809, 186-192; Bigland 1812, 718-20). Unfortunately, many of the 19th century descriptions and accounts simply repeat or embellish earlier versions, and it is very difficult to establish the origins of some of the more interesting and informative statements.

3.18 The most complete account was given by Whitaker in 1816, who supplemented his rather brief description of the structure with a ground floor plan, a view of the east elevation, together with detailed engravings of the various arms and inscriptions surviving, or at one time present, in the castle and an elevation of the buffet in the hall (Whitaker 1816, 164-173) (see figure 4, and plates 12 and 13).

His plan, which may be based in part on an earlier survey attributed to King (see above), also shows a number of features not noted in more recent surveys (e.g. Emery 1996, 341). A garderobe and stairs are marked in the west wall of the south-east corner tower, and another garderobe to the east of the south-west corner tower, linked to the main room within the tower by a blocked passageway. However, Whitaker's account of the castle is frustrating - it contains valuable insights in that he identifies the buffet as an "ancient sideboard" rather than the tomb canopy of earlier accounts, but then goes on to state that "*the great hall, the windows of which are mere loophole lights, must have been wretchedly dark and uncomfortable*", in direct contradiction to his ground plan. The presence of these loopholes in the great hall repeats King's earlier account (see above), and Whitaker's statements are then repeated in later descriptions (e.g. Parsons 1834, 257).

3.19 Jewell, writing in 1819, included two rather crude drawings of the east and west elevations of the castle, together with a sketch of the main internal staircase (Jewell 1819, 51-58); one of the elevations was later copied as a frontispiece by Cobley (1882). The east elevation is almost certainly based on the 1787 engraving published by Grose, as it does not show the mass of ivy to the north and south ends depicted by Whitaker in 1816. Jewell noted that the extent of the castle's outer works or court must once have been very considerable, stating that "*we now observe a great quantity of ground around the remaining building, covered with half-buried walls, and fragments of ruins*" (Jewell 1819, 52); similar remains had been noted by Hargrove in 1789. According to Jewell, there were two springs to the west of the castle, one called the "Pigeon Well" and the other further to the west, known as the "Vicar Well". During works at the site in the early 19th century, coins, armour and a number of other objects were found in the vicinity of the castle (Jewell 1819, 57-58). In a later edition of his publication, Jewell included only the east elevation of the castle, noting that it was "*nearly all covered in ivy*" (Jewell 1822, 63); the contrast between his sketch in 1819, when there is relatively little ivy depicted, compared to the ivy-clad ruin in 1822 is remarkable.

3.20 Jones gives a slightly fuller account of the castle's structure than Whitaker in 1816, but it is clear that he reproduced much of the text and many of the illustrations from the earlier source (Jones 1859, 134-163; Jones 1864, 220-227) (see plates 12 and 13); however, although his ground plan of the castle is virtually identical to that produced by Whitaker, it differs in one interesting detail, around an inserted opening near the buffet on the west side, where he depicts a window rather than an opening (see figure 5). Jones also noted a well in one corner of the lower level of the castle; this had been cleaned out to a depth of 18 feet in 1772 but was subsequently backfilled (Jones 1859, 161-162).

3.21 Other mid to late 19th century accounts dwell on the manorial history of the castle and the surrounding area, or on Harewood House, and they include few details of the castle's structure (e.g. Grainge 1855, 86-99; Wheater 1888, 92-109). The Ordnance Survey first edition 1851 6" map (sheet 188) shows a sub-rectangular area curiously defined by what appears to be a fence to the south-east of the castle, together with a pathway running around the castle and one leading to the centre of the west elevation (see figure 6). The "Pigeon Well" referred to by Jewell in 1819 is also marked to the west of the castle with the "Castle Well" beyond.

Recent Accounts, Surveys and Investigations

3.22 The castle has continued to attract the attention of archaeologists and historians throughout the 20th century. In 1912, Kitson gave a general description of the castle, noting a number of features not mentioned in previous accounts (Kitson 1913, 176-179). For example, he noted the remains of a platform outside the entrance tower on the east elevation and the remains of a postern gate on the exterior of the south elevation, once protected by a lean-to building, and also stated that a later wing, since demolished, had been built onto the north elevation and the bowling green to the east was either a late 16th or early 17th century addition. Finally, Kitson noted the parallels between the main part of the castle (i.e. not including the northern kitchen extension) and the castle at Dacre or other similar tower houses in Northumberland.

3.23 There are a number of photographs of the castle dating to the early part of the 20th century. An anonymous photograph held by Peter Goodchild and dating to c.1900 (Goodchild collection) shows the structure viewed from the west (see plate 14). Much of the north-west corner and south-west tower is obscured by ivy, but with the exception of the upper part of the south-west tower, the structure is shown much as it survives today.

3.24 Two photographs, both taken in 1918 by Harold Grainger, can be viewed as part of a photographic archive of Leeds (*www.leodis.net*), and both show architectural elements no longer visible; one photograph is an exterior view from the north, showing the north and part of the east elevation as well as the south-east turret which it is thought to have collapsed in 1962 (see plate 15), while the other is an interior view of the buffet and the adjacent opening which has steps leading down from the threshold into the body of the castle; these steps have since been removed, but they appear on photographs reproduced as late as 1948 (Fletcher 1948, 107). Another photograph of uncertain date and provenance is probably of a similar date, this time viewed from the north-east and showing the northern end of the castle. This and the previous 1918 photograph are interesting in that the ivy that is shown in c.1900 as cladding the north-east corner of the castle has been completely removed. A photograph in the glass slide collection of the Yorkshire Archaeological Society shows the entrance tower with grass-covered earthworks to the north (WYAS 1988, 5). There are also a series of photographs of the castle, both views and detailed shots, taken in the late 1940s by Mr K Bowden; these photographs include a view of the south side of the castle showing the levelled area to the south completely devoid of any trees and woodland (see plate 16). Finally, one undated and unsourced photograph depicts the west elevation with young trees recently planted over these earthworks in the foreground (see plate 17); this photograph must date to the early 1950s and again shows no ivy on the visible elevations.

3.25 The castle appears in a number of descriptive accounts of medieval or regional architecture during the mid to late 20th century (e.g. Illingworth 1938, 139-140; Pevsner 1967, 245; Ryder 1982, 99-100), although none of these included any detailed survey of the building's structure. This was rectified by Black (1968, 339-341) and more recently Emery (1996, 339-344), who both published plans of the castle (see figures 5 and 7), together with outline descriptions; Emery also included a schematic plan of the circulation routes within and between the different floor levels of the building (see figure 8). There are also other accounts of varying length and accuracy in more recent works, such as Salter (2001, 40-41), although it is probably fair to say that the castle has not received the wider attention it has deserved, probably due to the fact that there is currently no public access.

3.26 A detailed survey of the castle's fabric was commissioned by English Heritage, and was undertaken in March 1988 by Derek Latham and Associates. This work involved the production of outline elevation drawings and ground and basement floor plans at 1:50 scale, with a resulting discussion of the condition of the stonework and a recommended schedule of repair; the latter was divided into urgent and essential repairs, and provisional cost estimates were prepared. Two reports were actually produced, one in May 1988 which dealt with emergency repairs, and another in March 1989 which provided a wider view and discussion together with some recommendations for presentation and future management (Goom and Cunnington 1988; Derek Latham and Associates 1989). It is interesting to note that at this time the ivy had returned to cover some parts of the external elevations, as it did when the current survey was undertaken. A further structural report was produced by English Heritage in 1994 (Hume 1994).

3.27 The most detailed investigations carried out on the castle precinct and the associated earthworks have been undertaken as part of a long-term study of the wider historic landscape at Harewood (Moorhouse 1985 & 1989). An earthwork survey carried out in 1986 identified the remains of a number of terraced building platforms of probable medieval date with an associated fishpond to the north of the castle (see figure 9). These earthworks continued to the north of the present A61, a late 18th century realignment that cut across the castle's probable medieval precinct. A series of possible medieval garden terraces were also identified to the west of the building, while earthworks to the east were interpreted as a substantial forebuilding and terrace leading to the entrance tower. Moorhouse also states that a large rectangular terraced area, known as the "Bowling Green", was constructed to the south of the castle in the early 19th century (Moorhouse 1989, 6).

3.28 Limited trial excavations carried out in conjunction with the 1986 earthwork survey confirmed that the terraces to the north of the castle represented the remains of timber-framed buildings with stone sill walls and stone slated roofs. Pottery of 12th and 13th century date was also recovered, perhaps providing further support for the suggestion that the existing castle may occupy the site of an earlier manorial complex referred to in the late 13th century (Moorhouse 1989, 6-7; WYAS 1990).

3.29 A detailed discussion of the results of many of these accounts and surveys appears in Chapters 4 and 5 below.

Previous Interventions to the Building Fabric

3.30 Structural evidence indicates that the earliest interventions to the fabric of the castle took place at some time during the later medieval or early post-medieval period (see Chapter 5 below), but there are no known contemporary documentary references to such works. Kitson stated that a later wing, since demolished, had been built onto the north elevation but he did not specify when this was done, or what the function it might have served (Kitson 1913, 176-179).

3.31 As has previously been noted, there is some documentary evidence to suggest that parts of the castle were dismantled during the 17th century. It appears to have been probably uninhabited from around 1630, and one source suggests that it may have been slighted during the Civil War, perhaps after 1646 (Jones 1859, 149). When Sir John Cutler acquired the castle in 1656, the Bill of Sale for the property described the castle as being "decayd", suggesting that some dismantling or collapse had already taken place (Whitaker 1816, 167). Cutler may have carried out further demolition work, re-using the materials to build a number of

dwellings elsewhere; one cottage in Harewood village, apparently built from re-used material from the castle, has the inscription “16I C78” over the door (57-59 Bondgate) (Jones 1859, 150). John Boulter, the owner of the castle until 1738, also attempted to re-use some of the material from the castle to repair farm buildings, but was apparently unsuccessful, finding the walls too difficult to dismantle (Jones 1859, 151).

3.32 The appearance of the castle has changed little since the late 18th century. The ivy presently covering the walls may have been originated from the later 18th century, and it appears to have become much more extensive between 1787 and 1816. However, the early 20th century photographs show that some ivy strands had been cut down and removed. A number of structural alterations also appear to have been made to the castle in or after 1813 when the castle was incorporated into the extension to the Northern Pleasure Grounds (see Chapter 7 below). Recent studies have also suggested that the terraced area to the south of the castle known as the “Bowling Green” is an early 19th century garden feature, perhaps a small parterre (Moorhouse 1989; HET 1997, 20) and not an Elizabethan bowling green as suggested by several antiquarians, although as has already been noted, the terrace is clearly described in the late 18th century by Gough. At a later date, after c.1900, the top of the towers were strengthened with iron bands, all of which are now fallen (WYAS 1990, 2).

4 EARTHWORK SURVEY AND DESCRIPTION

Introduction

4.1 As noted in Chapter 1 above, the earthworks surrounding the castle were surveyed in detail, and the results are presented as figure 10. Figure 11 also provides the contour model for the site. The survey area (see figure 2) covered most of the area previously surveyed by Moorhouse in 1988 (see figure 9), apart from those earthworks to the immediate south and east of the A61 which were not accessible during the current project.

4.2 For continuity of description, the letter-based reference system used by Moorhouse has been retained, although this time with upper case and with some sub-divisions where necessary; as a result, some letters are missing from figure 10, reflecting the fact that some of the previously recorded earthworks lay outside the current survey area (e.g. "C", "M", "N" and "O"). The new survey is useful in that it allows direct comparisons to be made with the previous survey, and a number of discrepancies have been revealed, leading to a re-interpretation of the some of the earlier results.

Earthwork Description

The castle precinct

4.3 The 1988 project design for proposed survey and trial excavation (WYAS 1988) included a sketch plan which marked the known and uncertain extent of the castle precinct's boundary, based on the evidence then available. The precinct was suggested to be sub-square in plan, c.140m in length and width, with the castle perhaps lying towards the south-west corner. The only known section of the boundary was stated to be part of the western side, defined by what was described as "*a substantial break in slope*" (WYAS 1988, 4). It was suggested that the remainder of the precinct boundary might be defined by field boundaries shown on the estate map of c.1698-99 (WYAS(L) HAR Map 33), although it is presently difficult to marry the "uncertain" portion of the suggested precinct with the fields shown on the latter.

4.4 Following detailed survey in 1988, the "known" boundary of the precinct is shown as a north-west/south-east aligned linear depression, on the southern side of what was described as an enclosure (g) that appeared "*to be a later addition*" and an "*extension to the precinct*" (Moorhouse 1989, 6 & 7). An account of the survey and accompanying trial excavations produced in 1990 stated that "*the precinct is clearly defined on the east and west*" (WYAS 1990, 2), referring the reader to letter "c" on the accompanying earthwork plan. However, "c" appears only to the north of the A61, marking an apparently minor earthwork here, which is in a different position to the "uncertain" boundary suggested in 1988.

4.5 The earlier definitions of the precinct boundary are therefore somewhat contradictory. The linear depression defining the western side of enclosure ("G") remains visible as a shallow linear depression, 3.5m wide, although the southern end has been infilled as a result of coniferous plantation undertaken after 1988. The bank previously identified as (c) lies outside the area of the current survey.

4.6 Notwithstanding the admittedly limited idea as to the exact alignment or boundaries of the castle's precinct, there are a number of earthworks that might reasonably be thought to have lain within the area. The majority of these are

located to the north-west of the castle, on the north side of the 19th century ha-ha ("X"), and are represented by two ponds, various building platforms and several terraced areas (see plate 19).

4.7 The smaller of the two ponds ("F") is aligned north-east/south-west and measures c.25m long and c.8m wide internally, widening slightly towards the west end; the base of the interior remains marshy. The steeply sloping internal sides are up to 1.5m deep, and the natural contours mean that the north and east sides of the pond have to be retained by prominent linear banks. There appear to be outlet channels or breaches at either end of the bank defining the north side; that at the east end is relatively minor, whereas that to the west is larger, better defined and appears to have a bank running across the base, perhaps the remains of a sluice. An exploratory trench (Trench A) was excavated across the north bank in 1988, exposing a substantial stone rubble bank, a stone lining and a clay puddled base (Moorhouse 1989, 6; WYAS 1990, 3). In contrast to the other three excavation trenches (see below), the position of Trench A is no longer visible and so it must have been backfilled and re-turfed after recording. A later 18th century view of the castle by Rooker shows a pond holding water; this might possibly represent pond "F", or alternatively a larger pond lying some distance to the south-west of the survey area and also surviving as a prominent earthwork (see below).

4.8 The smaller pond is set to the south of and at a higher level than the larger pond ("B"), and it is possible that water ran from one into the other. Both of the outlets or breaches noted above have associated breaks of slope or shallow linear depressions running north towards the west end of the larger pond; Moorhouse describes the latter as being fed by a spring (Moorhouse 1989, 6), and so any water passing down from the smaller pond would have presumably supplemented this spring. The larger pond ("B") is on a similar alignment to the smaller pond. It is now bisected by the A61 but in its original form it was almost 65m in length and has an internal width of 12.0m. To the west of the A61, the internal sides are steeply sloping and stand up to 1.5m high. The north side of the pond is defined by a prominent flat-topped bank, in places up to 3.0m wide, with some recent disturbance along its northern edge. In contrast, the south side is formed by two parallel north-facing scarps that diverge slightly towards their western ends. Moorhouse states that both narrow ends of this pond have been breached (Moorhouse 1989, 6), although it is further noted that "*a shallow sluice and by-pass channel to the north of the east-west path from the A61 was covered over before it was surveyed*"; this may be the same as the feature described in 1988 as a "*probable fishpond leat*", running "*north-east from the fishpond down the hill slope, surviving as a shallow but broad stretch of marsh*" (WYAS 1988, 4). It is possible that this feature is shown as a thicker black line defining the southern side of plot 384 on the c.1698-99 estate map (WYAS(L) HAR Map 33); if this were to be the case, then the north return at its east end might define the large pond ("B"). The portion of the pond lying to the west of the A61 is shown as still holding water in 1851; more significantly, the earthwork remains of a pond of similar size and form survive some 200m to the south-west, again immediately adjacent to the estate/forestry track leading off the A61.

4.9 The larger pond ("B") was described in 1989 as appearing "*to form part of single period layout of terraced building platforms (d) set within larger terraced areas (e)*" (Moorhouse 1989, 6). In 1989, five sub-rectangular building platforms (d) were recorded, two of similar size on the same north-east/south-west alignment, with three smaller platforms at the western end on a more north-south alignment. The former were investigated by two trial trenches (Trenches B and C), positioned across the northern edge of each platform. According to the 1989 account, these

confirmed that the platforms represented buildings with well-preserved narrow stone sill walls for timber superstructures, roofed with stone slates, and one with a flagged floor (Moorhouse 1989, 6). Pottery from these excavations, and from disturbed parts across a wider area, suggested activity during the 12th and 13th centuries, while the buildings were not thought to have outlasted the 17th century.

4.10 The current survey recorded two sub-rectangular platforms ("D") approximating those investigated in 1988, with north-facing scarps standing up to 1.0m in height and containing a high proportion of stone rubble. However, they are far less regular than shown in 1989, and Trench C is placed slightly further south than shown previously; neither Trench B nor Trench C were backfilled following excavation, and they remain open although partly infilled by leaf debris. Furthermore, there is what appears to be another excavation trench immediately to the north of Trench C, but this does not appear in either the 1989 or 1990 accounts of the excavations. Of the other three platforms recorded in 1989, one can still be seen clearly, and there are faint earthworks adjacent approximating to the position of the other two.

4.11 A fourth trench (Trench D) was excavated in 1988 to the east of the other three. This was excavated to investigate what was described as a large terraced area (h) shown extending to either side of the A61. This terraced area was thought to be a later modification, as it was stated to cover parts of the ha-ha (Moorhouse 1989, 6) built before 1813 (Lynch 2004) and apparently shown on a map of c.1810 (WYAS(L) HAR Map 50). The results from this trench were said to support this interpretation, as it "*contained a series of mostly sterile humic deposits*" (Moorhouse 1989, 6-7). The current survey located Trench D, again left open and not backfilled after excavation. It is placed across the top of a low sub-rectangular platform (not across the north scarp as shown in 1989), which measures 12.0m long by at least 7.0m wide and which appears to be overlain by one of the building platforms ("D") to the immediate west.

4.12 There are therefore a number of problems with the interpretation for the precinct earthworks offered in 1989. The surviving earthworks do not suggest that area "H" overlies the eastern end of the ha-ha and, given that they are shown to extend to either side of the A61 (a line established in 1796-1800), they must surely either pre-date the ha-ha or contain earthworks of several different phases. The latter is probably the most likely explanation; the platform across which Trench D was excavated appears to have more in common with those ("D") to the west, while to the north, there are shallow terraces and scarps running towards the larger pond ("B") which are similar to the terraced areas ("E") further east. These earthworks may be medieval, and were perhaps disturbed by the construction of the ha-ha and other features associated with the laying out of the castle pleasure grounds in the early 19th century.

4.13 The large terraced area ("E") noted in 1989 was badly affected by the subsequent coniferous plantation, with the numerous closely-spaced parallel lines of the tree "ripping" still clearly visible. Nevertheless, the vast majority of the features recorded in 1989 can still be seen. The terraced area appears to divided into two parts of approximately equal size ("E1" and "E2"), each measuring c.30m long by c.25m wide, separated by a wide but shallow linear depression; the scarp defining their north side is the most prominent, and stands up to 1.0m high. The interior of the eastern part ("E1") is largely blank, and has the smaller pond ("F") positioned beyond the scarp at its north end. The western part ("E2") may be further sub-divided into two equal halves by an east-west line, perhaps with a slightly raised feature at the north-east corner. There is a narrower terrace to the north of the

western part, again defined by a prominent scarp up to 1.5m in height. A narrow c.20m long and 4.0m wide sub-rectangular depression set on the edge of the scarp might be the remains of a building, although it was not noted in 1989. To the west of the terraced area lies a further enclosure ("G"); as has already been noted, this was described in 1989 as being a later addition to the precinct.

4.14 There are further terraces surviving to the east and west sides of the castle, and these are described below.

The approach to the castle

4.15 The 1988 survey recorded evidence for a number of communication routes of possible early date around the castle but, as with the precinct area, the information contained within the published accounts is sometimes contradictory.

Early routes?

4.16 In 1989, it was suggested that a trackway (a) running through the north-western corner of the survey area may have been a back or secondary entrance into the castle precinct, subsequently overlain by an enclosure (g) forming an extension to the precinct, and abandoned as a result. Furthermore, this trackway was said to be the western end of "*a very early route from the river crossing at Harewood Bridge, running southwards up the valley side to the church, with an eastward arm running along the valley side*" (Moorhouse 1989, 7). Part of this route to the east, surviving as a hollow way, was surveyed within the North Park area of the Harewood estate in 1985, when it was described as not only providing the main route across the Wharfe here but also acted as an access for the parishioners on the north side of the river who wished to use the parish church (Moorhouse 1985, 13).

4.17 The trackway ("A") survives in the survey area as a flattened linear strip some 5.0m wide, defined by a bank on the west side and the north scarp of terraced area "E" on the east side; the latter appears to overlay the trackway. In 1989, the south end of the trackway was shown as being crossed by the linear bank and adjacent depression defining enclosure (g), but unfortunately this relationship has been destroyed by the subsequent coniferous plantation. However, the line of the trackway becomes visible again further south, where it survives as a well-defined terraced feature just below the ha-ha (outside the current survey area). It appears to continue to the south beyond the current survey area, along the top of a wooded scarp. The line of the trackway appears to be shown on the 1851 Ordnance Survey 6" map, where to the west of survey area it is marked as "Ladies Drive". To the north of Cockett's Quarry on the map the trackway divides into three separate routes. One of these runs south to join the hollow way mentioned above, while the western routes were recorded as earthworks in 1985, although the north branch was erroneously described as part of the late 18th century Sandygate turnpike road (Moorhouse 1985, 13) which in fact lies further south. The alignment of the trackway ("A") shown in 1851 does not appear on the c.1810 plan, although part of the "Ladies Drive" is shown on Teal's slightly earlier 1796 estate survey (WYAS(L) HAR Survey 19). However, at this date, it curved around to the south-east to meet the Porter's Lodge, rather than continuing northwards past the castle. It is similarly depicted on the c.1698-99 plan (WYAS(L) HAR Map 33), although at this date it has a junction with the main route from Harewood village to the church, later utilised as part of the Sandygate turnpike road.

4.18 The trackway ("A") may also survive as a linear depression running for a short distance to the north of the existing estate track leading off the A61, which clearly post-dates it, as does a narrow terrace on its north side. In 1851, the trackway is shown as continuing to the north of the A61, curving to the north-west and then ending at a field boundary, although a field boundary beyond may continue its line close to the Holme Beck. There are further denuded earthworks in the area of coniferous plantation to the north-west of the existing estate track, some of which resemble very shallow terraces, and towards the north-west end of this area there may be some ridge and furrow, although the whole area has been so affected by forestry works that it is difficult to be certain.

A formal approach?

4.19 In the 1988 proposal document for the castle precinct survey, the sketch plan and accompanying text describe a terraced way, partly overlain by later quarrying spoil, with a possible forebuilding at the eastern end, suggested to probably form the original access to the castle (WYAS 1988, 5-6). Following the survey work, this was more firmly re-stated (features (k) and (j) on the accompanying plan), with the addition of a small structure (l) at the western end of the terraced way, said to be "*in front of a bridge over a now filled-in ditch down the eastern side of the castle*" (Moorhouse 1989, 6). It was furthermore stated that "*the castle complex as a whole was reached from the earlier, pre-A61 line to the barbican [which] has been destroyed; only its junction with Fitts Lane survives (m)*" (Moorhouse 1989, 6).

4.20 The current survey has cast doubt on a number of these interpretations. The interpretation of a possible forebuilding (at "J") close to the curve of the present A61 is not convincing; the north side is formed by a small linear spoil heap containing a high proportion of stone rubble, tipped from south-west to north-east, with the base of much larger spoil heaps to the south (see below). The proposed terraced approach ("K") is formed by a c.6m wide break of slope, less steeply sloping than the more prominent north-west facing scarps above and below it but not markedly so. This terrace way ("K") narrows towards its western end, where the small structure ("L") shown in 1989 is defined by a steep north-facing scarp, 1.0m high and containing a high proportion of stone rubble, some of which appears to be laid. The scarp runs at a slight angle across the proposed terraced way ("K") and is not directly aligned on the base of the castle's entrance tower. Interestingly, in 1912 Kitson makes reference to the "*remains of a platform outside*" the north-east (entrance) tower (Kitson 1913, 177), while an 1817 watercolour by Buckler appears to show just such a feature here (see plate 10), although no terrace is indicated extending further to the east.

4.21 There are other features to this side of the castle. Above the terraced approach ("K"), a further terrace (i) was depicted in 1989, perhaps contemporary with those to the west (see below). As with the terraced approach, there is a break of slope here which is less steeply sloping than the c.3m high north-facing scarp to its immediate south, but it is much narrower than shown in 1989. At the west end of this scarp, the remains of a low stone wall ("Q") are visible butting the castle's south-east tower. The east face of the tower retains evidence that a two-storey building with a pitched roof was once positioned here, possibly timber-framed and using the existing stone wall as a sill wall. The building was clearly a later addition to the castle, although it was demolished before the end of the 17th century as the scar of the former roof line is shown on the marginal illustration of the castle on the c.1698-99 plan and more prominently on the 1787 engraving (see plate 6). Below the north-facing scarp defining the northern side of the terraced approach, a sub-

rectangular feature (p) with exposed walling to the long sides is shown in 1989, although it is not referred to in the text. This feature ("P") survives as a 0.5m high north-west facing scarp, with evidence for stone walling along the top - might this be the remains of the "very large barne" mentioned in the 1656 Bill of Sale (see Chapter 3 above)?

4.22 The terraces ("I1" to "I3") to the west of the castle are better preserved than those to the east, although they are currently concealed by a dense modern plantation of yew. Three terraces are shown in 1989, with three un-described sub-square earthworks at their west end, and a platform (v) at the east, described as resulting from the early 19th century creation of a large earthwork (u) to the immediate south of the castle. Above (south of) the terraces, which were proposed as possible medieval gardens contemporary with the castle, an early 19th century terrace walk (w) gave access to the castle and the large earthwork (u) (Moorhouse 1989, 6).

4.23 The terraces stretch for some 45m to the west of the castle, run approximately parallel to the early 19th century ha-ha ("X"), and are separated by steep north-facing scarps standing up to 1.50m in height and with stone rubble eroding out of them in places. The surfaces of the lower and middle terraces ("I2" and "I3") slope gently downwards from south to north, and only the upper terrace ("I1") now maintains a relatively even surface. The latter, and highest, is continuous with the platform ("V") close to the castle, rather than being overlain by it as shown in 1989. The three sub-square earthworks shown in 1989 at the west end of the terraces are also now contained within the yew plantation. The largest is represented by a sub-circular depression, some 3.0m deep on the south side and cut into the steep natural slope. It has a low bank curving around the northern, downslope, side. A smaller U-shaped depression, also cut into the slope and open to the north, can be seen to the west, with a sub-rectangular feature to the east. The largest earthwork is almost certainly a former quarry; there are several sub-oval quarries further west, cut into the natural slope both above and below the ha-ha ("X").

Quarrying and tipping activity

4.24 The 1988 survey identified a substantial complex of quarries (r) to the south-east of the castle; for the purposes of description, these have been further sub-divided in the following description and on figure 10. The quarries were described as containing at least five distinct phases of working, each with its own access point, and at least one associated building. They were suggested as almost certainly having provided the stone for parts of Harewood House and its associated buildings, and to have become disused by the late 18th century, having therefore a relatively short lifespan (Moorhouse 1989, 7). However, Murphy notes that the Millstone Grit sandstone outcropping within the quarries is consistent with that used to build the castle, and that it contains widely spaced bedding planes that would have allowed blocks of the size used in the castle to have been sourced from here (Murphy 2005).

4.25 Described from south to north, the quarries are as follows. At the southern end, there is a flat-topped lobe-shaped spoil heap ("R1"), some 25m long and standing up to 2.0m in height. The spoil has been tipped from south to north and it appears to be made up of soil rather than containing a high proportion of small stone rubble, as is the case elsewhere. There is a sub-circular depression at the north tip of the flattened top, possibly a tree-pull, one of several in this area (see below). In 1989, Moorhouse noted a sub-square structure (t) to the south of the spoil heap, although at the time of the current survey only a faint angular scarp was visible

here ("T"). To the north, there is a c.30m long irregularly shaped depression with steeply sloping sides up to 3.0m in height and a slightly raised sub-rectangular mound in its base ("R2"). The west side of the quarry angles around to the north, and is continuous with the north side of the large earthwork ("U") to the south of the castle. The east side of the quarry appears to be surmounted by a small flat-topped spoil heap containing a high proportion of small pieces of angular stone rubble. This separates this quarry from another smaller area of quarrying ("R3") to the east, formed by a steep-sided sub-oval depression, c.15m long and up to 3m deep. A curvilinear depression leaves the north side of the quarry and then curves around to the north-west as a bank ("S"). In 1989, it was suggested that this bank was built to narrow the entrance to the largest area of quarrying ("R4") (Moorhouse 1989, 6).

4.26 The latter ("R4") comprises a large steep-sided U-shaped depression, over 40m long and with a maximum depth of between 5m-6m. The south side has several faces of outcropping freestone visible, but these retain no evidence of tooling marks or other working practices. The depression was formerly open to the north but, as has been noted above, the entrance may have been narrowed by the creation of a bank ("S"). In the resulting narrow gap, there is a heap of partly dressed stone, including pieces that are over 1.0m square. Moorhouse suggests that these were deliberately placed here to block and discourage illegal use of the quarries before the existing line of the A61 was created (Moorhouse 1989, 6). However, if the quarries were used to supply stone for Harewood House, then they must presumably have been in use some time in the period between 1759, when the foundation stone was laid, and 1771, when the house was finally ready for occupation. It seems more likely that any blocking would have been made after the A61 was realigned in 1796-1800, as access would then have been easier. The blocking would no longer have been needed once the adjacent estate wall was built; this must have been done after 1796, as Teal's survey of that date notes that the wall is to follow the line of the turnpike road.

4.27 The northernmost parts of the quarry complex ("R4") are formed by further spoil heaps ("R5"). Of these, the southern tip appears to originate at a point very close to the south-east tower of the castle, and then extends for over 35m to the north-east, bifurcating into two unevenly-sized flat-topped lobes which contain a high proportion of small pieces of angular stone rubble. These may overlie the much higher northern tip, which runs along the western side of the largest quarrying area ("R4") and also contains a high proportion of small pieces of angular stone rubble; it appears to partly obscure terraced earthworks ("I") and ("K") to the west.

4.28 The current survey also included further quarries ("R6") to the south-east of the castle, not surveyed in 1989. These lie c.90m south of the quarrying complex described above, and are represented by two separate sub-angular depressions, up to 30m long and 5m deep, with steeply sloping sides. The northern quarry has some outcropping freestone visible to the interior, and a low bank along the top of the north side, perhaps the remains of a wall or fence to prevent stock from falling into the feature. Both quarries are open to the north-east and were accessed from the direction of the A61, although this access was subsequently blocked by the establishment of the estate wall, probably after 1796.

4.29 Many late 18th and early 19th century illustrations of the castle show the quarries to some extent in the foreground, sometimes exaggerating their closeness to the castle and relative size for dramatic effect, contrasting the wildness of the castle setting with the Wharfe valley beyond (see plates 5 and 9). However, of more interest is a path shown curving around through this area on the Ordnance Survey

map of 1851, forming part of a circuit around the castle (see figure 6). This suggests that the quarries were incorporated into the pleasure grounds laid out around the castle during the early 19th century (see below). The route of the path may have taken in part of the northernmost spoil heaps ("R5") and then appears to have curved around the base of the terracing to the north, passing close to a building platform ("P") and along the top of the ha-ha ("X"). This raises the issues of post-abandonment landscaping of the quarries to include them in the pleasure grounds, and perhaps also gives some clue as to the location of the old stable, somewhere near the castle, which had been converted into a summer-house by 1813 (Lynch 2004).

The Castle Pleasure Grounds

4.30 The detailed history of what Goodchild has termed the "Castle Pleasure Grounds" is covered in Chapter 2 above, and so only the information relevant to the earthwork survey is given here. Although there appears to have been an acknowledgement of the importance of the castle as an element of the wider landscape of Harewood House from the early 1780s, and the Lascelles' family took walks by the castle in 1810, the creation of the pleasure grounds around the castle does not appear to have begun in earnest until after c.1811. These grounds were linked to the earlier Northern Pleasure Grounds. Some of the family children had "gardens" at the castle in 1815, and in 1816 reference is made to the "*newly laid out ground inclosing the castle*". Surviving invoices and bills suggest that the part of the ha-ha running through this area was either complete or nearing completion by 1813, and reference is also made to an old stable converted to a summer-house. Ruins around the castle, noted at the beginning and end of the 18th century, were apparently cleared away after c.1819. Jewell, writing in 1819, noted that "*The castle was taken into the new pleasure grounds, in the year 1813, and soon after the castle garden, where the cross-walks were very plain to be seen, were planted, likewise the high bank that goes around it*" (Jewell 1819, 57). The creation of the pleasure grounds was almost certainly accompanied by minor alterations to the castle, including repairs.

4.31 The ha-ha ("X"), apparently nearing completion in 1813, remains a prominent feature, effectively bisecting the survey area. It follows a relatively straight north-east/south-west alignment through the survey area for a length of over 150m, angling to the south at the south-west end of this section. It is formed by a revetment wall built of the same Millstone Grit sandstones as are used in the castle. The wall stands up to 1.4m in height but is badly collapsed in many places. It stands on the southern side of a boggy 3.0m wide ditch, with a spread bank of similar width running along its north side. It is noticeable that the ha-ha and the terraces to either side of the castle are on a similar alignment, whereas those features to the north are set at a slight angle to it.

4.32 After the creation of the pleasure grounds, the main access to the castle was along a terraced trackway ("W"), running along the summit of the steep slope to the west of the castle. This trackway is up to 3.0m wide, and it can be traced for some distance to the south-west of the survey area. In 1851, it entered the woodland around the castle to the south of the "Castle Well", via a bridge over the sunken path leading south from Bondgate; the trackway subsequently split into two and then three branches which went around castle, extending as far as the A61. The route ("W") recorded in the survey area led directly towards a doorway opening created from an earlier window in the west wall of the castle's lower hall. To the south-west of the survey area, the trackway is lined with tall holly bushes, now unkempt but vaguely triangular in shape. These appear to have been

deliberately planted to line the trackway, and although they are perhaps unlikely to form part of an early 19th century scheme, they support Lynch's argument that the castle was somehow concealed by planting as it was approached in the 19th century, only to be revealed fully when it was nearly reached (Lynch 2004). It is also interesting to note that the remains of a belt of mature sweet chestnut trees, present as both surviving trees and large stumps, is concentrated on the sloping bank between the trackway and the ha-ha. These fade out at the south-western limit of the survey area, but a number of similar specimens survive to the immediate east of the castle.

4.33 The earlier 1989 survey included the large earthwork (u) to the immediate south of the castle as part of the early 19th century pleasure ground works. It was described as a large terraced area, symmetrical with the castle, banked on the west and south and set with uniformly spaced oak trees, most of which survived only as tree holes. It was further noted that the northern part was built up using a core of large blocks of stone, that the earthwork's construction may have disturbed medieval features and that it was traditionally described as the "Bowling Green" (Moorhouse 1989, 6). However, the earthwork pre-dates the creation of the early 19th century pleasure grounds, being described by the antiquary Richard Gough in the late 18th century as a "*triple square entrenchment on the hill sloping down to the river. The innermost vallum on the south and west side is entire and high*" (quoted in Parsons 1834, 257); in 1912, Kitson suggested that it was probably an Elizabethan addition, and described it as a "bowling green" (Kitson 1913, 179). The earthwork is curiously depicted on the Ordnance Survey 1851 map, as almost a fenced area (see figure 6).

4.34 The earthwork ("U") is c.55m square in plan, and is defined by well constructed banks on the south-east and south-west sides, standing up to 2.0m in height. The south-west bank is somewhat wider and flat-topped, while the south-east bank has been breached towards the centre, and possibly further disturbed at the eastern end. The north-west side is defined by a steep north-facing scarp over 2.5m high, and the remains of a flight of stone steps are set in the centre, although none of the large blocks noted here in 1989 could be seen. The scarp turns through 90 degrees at its north end and then runs south-east into the area of quarry workings ("R"). Although planted with trees, the interior of the earthwork appears largely flat and featureless (see plate 36), although there may be a very slight narrow platform running the length of the north-east side, with some possible wall sections eroding out of its south end. At the south end of the possible platform, there may be an original entrance into the interior, with perhaps also a later entrance at the opposite south-west corner, linked to the terraced trackway ("W").

4.35 There are a number of faint earthworks to the south of the feature described above, almost all formed by shallow north-facing scarps, following the same general alignment as the terraces to either side of the castle. They might possibly also be the remains of much denuded terracing, but they could equally result from woodland management practices; in at least one case, several felled trees have decayed, become overgrown and begun to resemble a linear scarp. To the east of the main feature, there appears to be a curving line of tree-pulls and surviving trees, commencing at the southernmost quarry spoil heap ("R1") and then running around to the south. It is possible that these may form a remnant of the early 19th century works, perhaps designed to screen the pleasure grounds from the line of the turnpike road.

Earthwork Interpretation

4.36 The current survey has raised a number of questions regarding the earthworks around the castle, and these are outlined below. However, it should be noted that it is likely that these questions will be refined and changed as a result of future research, particularly the detailed recording of the castle structure.

4.37 It is probable that the earthworks recorded in 1989 and as part of the current survey do include features that pre-date the mid/late 14th century castle. The 12th and 13th century pottery recovered from the trial trenches to the north of the castle may indicate activity, and perhaps settlement, in the area at this date, although the trenches were limited in scale. Any buildings in this area may have been associated with Isabell de Fortebus' late 13th century manorial complex, although again the exact location of this complex within Harewood township remains uncertain. However, it is also likely that the mid/late 14th century castle was surrounded by contemporary buildings, within some kind of precinct or enclosure, and indeed traces of these appear to have survived into the early 19th century.

4.38 The boundaries of the precinct are now difficult to establish with any certainty, although a number of suggestions can be made. Even allowing for the damage caused by the modern plantation, the apparent lack of earthworks to the north of the modern estate track running from the A61 perhaps indicates that the precinct did not extend much further than this. The eastern and western limits may well have been those proposed by Moorhouse in 1989, although the large pond lying adjacent to the modern estate track outside and to the south-west of the current survey area might indicate contemporary medieval activity extending this far.

4.39 There was probably also some sub-division within the precinct, perhaps inner and outer courts or yards, as were known to have existed at a number of other late medieval castles in North and East Yorkshire. In this regard, comments made in 1989 and 1990 after the earlier survey are of some interest. It was thought that some of the platforms and terraced areas (d and e) to the north of the castle suggested the remains of contemporary buildings and, given that the main vista from the castle was to the north, it was perhaps surprising that these more functional elements of the precinct were not placed to the south (Moorhouse 1989, 7; WYAS 1988, 6). The whole question of viewing from castles and other medieval residences, and indeed of the contemporary designed landscapes that are now recognised to surround them, has undergone much further research since the late 1980s. The way in which the man-made and natural features of a landscape may have been viewed from a building such as Harewood Castle can only be properly considered through detailed recording of both the landscape and the building from which it was to be seen, and the former still remain under-represented in published accounts.

4.40 The placing of the castle on a steep slope on a spur of land projecting out from the south side of the Wharfe valley strongly suggests that wide-ranging views were an important consideration in its original location and design. Indeed, since the mid 19th century, there has been much speculation that the castle and specific spaces within were placed to give views across the Wharfe valley, for military, aesthetic or other reasons, and while this may in part be correct, a detailed consideration of the castle structure argues for a less straightforward concept of viewing (Richardson, *in prep.*). It may not have mattered that parts of the castle precinct were visible from this and other chambers; McNeil has argued for a passive use of the landscape in the view, with the lord looking out on to parks, fields, rural and urban

peasant settlements (McNeil 2006). Warnke makes a similar point regarding the calendar scenes in the *Trés Riches Heures* of Jean, Duke of Berry, noting that the tracks that quarter the land into neat rectangles, with workers faithfully going about their tasks in a strictly prescribed framework (Warnke 1994, 9). It might be argued that the terraced areas ("E1" and "E2") and perhaps also the ponds ("B" and "F") bear a passing resemblance to elements of medieval designed landscapes surviving elsewhere in Yorkshire, but again the form and placing of the windows within the castle's principal chambers could equally indicate that more distant, natural, objects in the landscape, such as Almscliff Crag, were the focus of interest.

4.41 It should also be stressed that it may be possible to overestimate the importance of the view from the castle in its original design, and proper consideration should also be given to the castle as an object to be viewed itself. The slope setting and massing of Harewood Castle within a surrounding precinct might be seen as an example of the continued fashion throughout the late medieval period and into the 17th century of the use of a tower within a courtyard arrangement as a symbol of royal or baronial power. Dixon and Lott note several examples of tower houses in the Midlands and the north of England where the importance of the tower is the "*signalling out of the lord's apartments above the roofs of an adjacent range of buildings*" (Dixon & Lott 1993, 95). Such an arrangement has been potentially recognised at other Yorkshire castles, such as Ayton Castle near Scarborough in North Yorkshire (Dennison & Richardson 2008), and this would also seem to be eminently applicable to Harewood, especially if the external elevations were rendered, as the c.1698-99 marginal illustration of the castle seems to suggest.

4.42 Given the importance apparently attached to the landscape setting of the castle, it is highly likely that it would have had an original approach which was both formalised and perhaps deliberately contrived to display the building in its wider setting. The only original entrance to the castle was through the north-east tower, perhaps making an approach from this direction the most likely, although the route proposed in 1989 is not convincing for several reasons. Equally, it is not clear how the terraced way (k) was to be reached from the junction (m) with Fitts Lane. The proposed forebuilding (at "J") appears to comprise quarrying activity rather than a structure, and there is also a c.3.5m drop to its immediate east; even allowing for the cutting and terracing resulting from the construction of the turnpike road in 1796-1800, and considering the level of the natural ground to the east of the road, it is difficult to see how such a forebuilding would have been accessed. The terraced way itself ("K") does not slope as much as the adjacent terraces, but it is not level and, although it is possible that some slumping and soil creep may have occurred since the 1988, it is difficult to see this route as the main access to the castle. The structure ("I") at the west end of the presumed terraced way is more likely to have been a contemporary building or platform, and it does seem possible that a bridge led across to the north-east tower from here, although there is no clear indication of the ditch suggested in 1989 to have once existed here. In addition, the fact that the possible back entrance ("A") to the precinct appears to have remained in use as a trackway into the mid 19th century also calls into question the relationship of some of the earthworks in this area. Whether one considers them to be actual defensive features or merely the trappings of such, the concentration of military features at the north-east corner of the building (the portcullis, the arrow-loop like openings in the north face of the north-east tower, the massive battered north wall of the lower block with only small openings at a lower level) might indicate an approach from the north rather than the north-east along the terraced way ("K"). By comparing Harewood to other late medieval residences, one might also have expected a more convoluted approach than

directly along the terrace. However, it is acknowledged that there is at present no convincing alternative original approach to the castle.

4.43 An approach along the terraced way ("K") also pre-supposes that the terraces here are late medieval in origin. In 1989, it was suggested that the terraces to either side of the castle were possibly the remains of contemporary gardens, and suggestive of a planned layout. The latter is certainly true, especially when one also considers the large earthwork ("U") to the south of the castle; taken together, the three elements form a T-shaped arrangement with the castle at the centre. The large earthwork to the south is known to pre-date the late 18th century, and the description given by Gough in 1789, with its "triple entrenchment" is suggestive of some kind of moated enclosure; it is also interesting to note that the earthwork is open to the north and east sides, a recommendation made for pleasure gardens as early as the late 13th century due to belief in the health and purity of winds from this direction, and one which persisted into the late medieval and early post-medieval periods (Baumann 2002; Rawcliffe 2008). The 1787 engraving of the castle, although partly stylised, appears to show the terracing to the west of the castle (see plate 7), while the c.1698-99 marginal illustration might arguably depict the terraced way ("K") (see plate 4).

4.44 There is therefore reasonable evidence that the terraces and the large earthwork do not form part of the early 19th century works undertaken around the castle, but it remains far from certain whether they are contemporary with the castle i.e. mid/late 14th century in date, or are slightly later in date. Shallowly terraced gardens are known to exist at some late medieval castles in Yorkshire, such as at Ravensworth in North Yorkshire, and it has been argued that a terraced garden was created at Bassingbourne in Cambridgeshire by John Tiptoft, Earl of Worcester, between 1461-70, perhaps as a result of him having seen new gardens of the Renaissance in Italy during the 1450s (Oosthuizen & Taylor 2000). However, the arrangement and form of the earthworks at Harewood appears to more closely resemble a late 16th or early 17th century arrangement (for example, see Henderson 2005, 111), although this would seem to contradict the known history of the ownership during this period (see Chapter 2 above), particularly James Ryther's apparent impoverishment in 1595 and the sale of the castle to clear family debts in 1600.

4.45 If these earthworks are 16th or 17th century in date, this would have major implications not only for the castle itself, but also for the creation of the castle pleasure grounds in the early 19th century, as they would have been incorporating or modifying an earlier scheme, rather than creating a new one. It has already been noted above that the ha-ha ("X") runs parallel to the terraces within the survey area, while the description of the castle garden given by Jewell in 1819 might easily be applied to the large earthwork ("U") to the south.

4.46 The relationship between the castle pleasure grounds and the quarrying complex ("R") also needs further consideration, for a number of reasons. It is possible that, rather than supplying stone solely for Harewood House, the quarries may have been used in part for the ha-ha and perhaps also the estate wall in this area. The spoil tips ("R5") at the north end of the complex may be made up from dressing waste, and given that they appear to originate close to the castle, could be a result of repairs undertaken when the pleasure grounds were created. In addition, it is possible that the flat-topped spoil heap ("R1"), which appears to be predominantly of soil rather than stone, may have been a viewing area, looking out to the north and north-east, at the end of a line of trees. Finally, it is not impossible that some

of the quarries supplied stone for the creation of the metalled surface of the turnpike road itself at the end of the 18th century.

5 ARCHITECTURAL SURVEY AND DESCRIPTION

Introduction

5.1 The castle is described below, beginning with the external elevations, and proceeding to the interior. The description refers to the basement and ground floor plans (figures 12 and 13), and the enhanced photogrammetric plots of the elevations (Elevations 1 to 30; figures 15 to 24), as well as scale drawings of five doorway and window mouldings (A-E on figure 25). Figure 7 depicts the floor plans as produced by Emery, and figure 14 depicts a sketch section through the building, based on information supplied by Latham and Associates (1989). As previously noted, the castle is aligned north-west/south-east but, for ease of description, it is considered to be aligned north-south.

5.2 In the following text and on the figures, certain features have been allocated unique numbers to allow for cross-referencing, e.g. D1 or W14. The letter refers to the type of feature (S = latrine chute, spout or drain; D = doorway; W = window). Only features which have been recorded and/or positively identified by the present survey are given identifying numbers; where the interpretation is ambiguous, for example where no dressings survive around an opening, no identifier has been allocated. It should be noted that these feature numbers do not correspond with those used in earlier surveys of the castle (e.g. Latham and Associates 1989; Hume 1994).

5.3 It should finally be noted that the following description is based on the photogrammetric survey undertaken in March 2000, with enhancement and updating being undertaken between March and November 2000. It is highly likely that significant additional information will be gathered during the subsequent repair and consolidation works to the castle, resulting in the substantial expansion and revision of the descriptions given below.

General Characteristics

5.4 Harewood Castle is built from locally quarried sandstone of the Millstone Grit series, a stone of varying hardness and quality. The facing stones are of squared blocks which are coursed in both the internal and external wall faces, giving the masonry a regular appearance. All the dressings are of the same sandstone, although some have a slightly finer grain, which allowed for remarkably detailed carvings to be used in, for example, heraldic crests, as well as doorway and window surrounds. Apart from one single example on the external face of the south side, the squared blocks are placed so as to be flat-bedded, although the fireplace mantels are face-bedded to avoid failure due to repeated heating and cooling. The corner quoins are predominantly plane bedded. The rubble infill between the two wall faces is comprised of metamorphic pebbles as well as weathered pebbles and small angular blocks of coarse sandstone and limestone. The only part of the castle not built of Millstone Grit sandstone is an inserted fireplace positioned at first floor level on the east side of the main hall (Murphy 2005).

5.5 As previously noted, the castle is built into a considerable north-facing slope on the valley side (see plate 2), and has a relatively simple plan. The building is based on a large rectangular central hall, with a tower in each corner, and a north wing (see figure 13). The two southern towers are surmounted by square turrets, although that in the south-east corner has recently fallen (see plate 3). Overall, the building has a maximum length of 31.8m and a width of 20.0m, while the tallest

wall (the north side of the north-west tower) stands to a height of over 25m. At ground floor level, the walls of the hall are 2.2m thick, while those of the north wing are slightly thicker. The hall is characterised by large, square-headed windows with deep embrasures, containing seats and/or intra-mural passages to other rooms or chambers. All the roofs were pitched, with the ridges running north-south along the long axis of the hall and east-west over the north wing, and high level roof-top walks were provided.

5.6 The main and only entrance into the castle was through a gateway in the north-east or entrance tower, and two newel stairs served nearly all the floors. Use was made of the falling ground to create multi-levels, not necessarily in line, at either end of the building. As a result, the body of the castle is of two stories, the lower northern extension has four stories, and the southern towers are of five floors, rising well above the hall block (see figure 14). The overall effect was to provide a stepped structure, falling from south to north in line with the natural slope. The structure is now ruined, and no floors or roofs survive.

External Elevations (East Side)

5.7 The front of the castle, i.e. the east elevation, is composed of seven co-joined wall faces (elevations 2 to 8), due to the returns associated with the south-east and north-east (entrance) towers. Each elevation is described in turn, from south to north.

Elevation 8 (figure 17)

5.8 The southern part of the castle's east side (elevation 8), which forms the east side of the south-east tower, has two chamfered off-sets, one at 95.0m OD, and one at 89.0m OD. The wall face also steps out above a chamfered string course, some 4m below the top of the tower. Above the upper off-set, the wall face is extensively collapsed at the north end of the elevation.

5.9 There are a total of six window openings in this elevation, all of which survive in a good condition externally. Window W6, which lights a circular stairwell at ground floor level, is very narrow and has a chamfered surround. Window W5 to the south lights the ground floor room in the south-east tower while above it window W4 lights the first floor within the tower. Above the lower off-set, a third window (W3) illuminates the stairwell, while a wider, but similarly chamfered window (W2) lights the tower's second floor room. The topmost surviving window (W1) relates to the tower's third floor level. Windows W6, W5, W4 and W3 are all of the same square-headed and chamfered form, while windows W2 and W1 are larger and more square.

5.10 Several other features of note survive within the elevation. To the north of window W4, a crudely inserted doorway (D1) with a shallow rebate and slightly shouldered outline, its threshold 3m above external ground level, is visible (see plate 20). This doorway formerly led into the principal newel stair and is associated with a prominent roof scar cut into the wall face. The scar represents a pitched roof, 6.2m wide and 3.5m in height. Some idea of the roof structure can be gained from shallow sockets and scarring that survive around window W3, now contained within the roof line. It appears that the roof had principal rafters, each supporting a pair of purlins, with two vertically aligned sockets above the window perhaps representing the ridge-piece and ridge-brace, although the upper socket is set quite a way below the apex of the roof scar. Alternatively, it might represent the crown-plate of a crown-post roof, supported by a brace, which would then have

significant implications as to the date of the roof and the building it covered. There is a further shallow socket to the immediate south of window W3, but it is not certain if this is associated with the roof.

5.11 The former building represented by the roof scar, inserted doorway (D1) and associated features was clearly a later addition to the main castle structure (see plate 20). The remains of a stone plinth ("Q" on figure 10) running east from the castle and associated with the building suggest that it may originally have been timber-framed. The roof scar is clearly visible on the very late 17th marginal illustration of the castle, as is at least one of the sockets and the doorway (see plate 4). It is therefore curious that a building is shown in this position by Buck on his early 18th century sketch. The roof scar is again visible on late 18th century depictions of the castle, such as the engraving accompanying Grose's 1787 description (see plate 6). These depictions also show the ivy beginning to grow at the south-east corner of the castle, which was to obscure this area for much of the 19th and 20th centuries.

5.12 Just below the lower off-set, there is a projecting drain (S1), probably associated with a garderobe in the second floor of the tower. This drain is of a type found throughout the castle, and is plainly cut from a single stone. There are also two possible levelling courses visible in the elevation, at 94.0m and 9.75m OD.

5.13 At the top of the elevation, the remains of a cruciform loophole survive; this is one of a number incorporated in the upper turrets above the two southern towers. The 1787 engravings and later paintings show that this turret was originally higher, incorporating a second cruciform loophole above the surviving example, and with a parapet decorated with shields, as is the case in the south-west tower (see below).

Elevation 7 (figure 17)

5.14 The northern return of the south-east tower has a continuation of the lower off-set noted above, but the elevation no longer stands to the height of the upper off-set, due to collapse. There are two windows in this elevation (W7 and W8) which are relatively well-preserved, and both are of the plain, square-headed, chamfered form found elsewhere in the castle, although their dimensions appear to vary slightly. Both these windows light the stairwell at first and third floors respectively. There are no obvious levelling courses, as seen on the adjoining elevations.

5.15 At the foot of the elevation, a low stone revetment wall, up to 1.0m high ("Q" on figure 10), continues to the east beyond the building for a distance of almost 10.0m, forming a sill wall and revetment for the terrace associated with the building or lean-to formerly attached to elevation 8.

Elevation 6 (figure 17)

5.16 The central part of the east elevation (elevation 6) forms the east side of the central hall, but the exterior is relatively unimposing given the relatively short length of the wall face (7.2m), and the fact that it is flanked on either side by the adjoining towers. However, these aspects are compensated for by the elaborate treatment of the three main windows, and the added interest provided by a projecting bay at first floor level on the south side.

5.17 The wall is thickened at the base, with a chamfered off-set immediately below the cill level of the ground floor windows, and there is a chamfered string course near

what is now the top of the wall. Neither of these string courses extend onto the adjacent faces (elevations 5 and 7), although the parapet of the wall-top walkway above projects slightly. Two drains (S2 and S3), symmetrically positioned 0.9m below this string course, run from the gutter of the roof over the hall.

5.18 The fenestration in this elevation includes two formerly mullioned and transomed windows (W12 and W13) at ground floor level, which light the lower hall; the window surrounds are chamfered externally (moulding C on figure 25), and they have square heads (see plate 20). Window W12 appears to have an arched head on the c.1698-99 depiction, but this would appear to be an inaccuracy in the drawing. A third mullioned and transomed window (W10) lights the upper hall at first floor level. This is the best preserved of its type in the castle; it measures 1.3m wide and 2.4m high, and the transoms remain *in situ*. To the south, where the wall face is corbelled out to accommodate another intra-mural passage, there is a chamfered, square-headed window (W9).

5.19 There are two small plain windows at the extreme north end of the elevation, in the angle with the entrance tower. Both light intra-mural passages, window W11, directly over window W14, lights a passage linking the upper hall and the chapel (see below); this passage was not noted by Emery (see figure 7). Both these windows appear to be truncated by the south return of the entrance tower (elevation 5) which might be of significance (see plate 21). Finally, a change in the masonry can be seen in elevation 6 at 85.5m OD, at the base of the corbelled-out intra-mural passage. This probably represents a levelling course, as the stone above is generally thinner and less well laid than that below.

Elevation 5 (figure 16)

5.20 This elevation forms the south side of the entrance tower, which is of a similar height to the adjoining parts of the building; the topmost parts are collapsed however, but there is evidence for a chamber above. The face is continuous, except for a chamfered off-set 2.5m below the present wall top.

5.21 There are two windows in this elevation. The lower one (W16) is square-headed, narrow and chamfered, and lights the first floor within the tower; this room is called the “portcullis chamber” by Emery (1996, 341). A drain (S4) runs from a sink located below this window. The upper window (W15) is one of only two of its kind in the castle, both of which light the second floor chapel. The window is of two lights with a quatrefoil head and sunken spandrels, although the mullion is no longer present (see plate 21).

5.22 There are two types of stonework visible in this elevation, which are also clear on the east and north sides of the entrance tower (elevations 4 and 3, see below). The boundary between the two types is horizontal, and is found at c.84m OD. Below this level, the sandstone is more grey, and appears to be harder or eroded to a lesser degree, with finer tooling marks. Above it, the stone is more yellow in tone, and retains less definition. This difference may be accounted for as a construction break, or change in the source of stone.

5.23 There is also an irregularity in the stonework immediately above window W15, where a stone is set at an angle, with packing around it; this may also be attributable to a construction break, or possibly to an infilled putlog hole (see plate 21). Alternatively, and more likely, it may be an abandoned relieving arch, such as that which survives on the opposing elevation (elevation 3, see below).

Elevation 4 (figure 16)

5.24 The east side of the entrance tower was the most prominent elevation to a visitor approaching the castle, and was given special treatment, possibly intended to convey a sense of impregnability, together with decorative embellishment which did nothing to enhance the building's defensive character.

5.25 The approach to the entrance may have been along a terraced way from the east (see Chapter 4 above), but subsequent erosion and soil movement has resulted in the loss of its definition as well as of any metalled surface. The wall is thickened to a wide chamfered plinth surviving in places around the foot of the elevation; this continues around the adjoining face to the north (elevation 3), while at the south end, it appears to have run only as far as the tower's south-east corner.

5.26 The entrance to the castle is via a centrally-placed doorway (D2), which is 1.8m wide, with a shallow pointed arch and chamfered surround (moulding A on figure 25), terminating in plain stops; the threshold does not survive. Above the doorway, the elevation contains only one window (W17), and the large area of unbroken masonry between the two openings, necessary to house the portcullis, contributes to the fortified appearance of the building (see plate 20). Window W17, formerly a three light traceried window, belongs to the second floor chapel, and is more concerned with ornament than defence. Only the upper part of the tracery remains, where there are the tops of quatrefoil heads. The window is surmounted by a carved panel reading "*vat sal be sal* " ("what shall be shall"), which was the Aldeburgh family motto, and is flanked by the Balliol arms on the left and the Aldeburgh arms on the right (Emery 1996, 339; see plate 13).

5.27 Immediately above the panel is the base of an unidentified feature, evident as a moulding running for 2.8m along what is now the top of the wall. It is not clear whether this was the base of a window, although it does not appear to be a set of machicolations, as might be expected in this location; it may be the remains of a hood mould, and such a feature is depicted by Turner in his painting of c.1798 (see plate 9), on Buckler's 1817 watercolour (see plate 10), and possibly on the c.1698-99 drawing (see plate 4).

5.28 As noted above, there is a change in the character of the stonework at about 84.0m OD, as well as a difference in tooling and the finish of the stones in the lower parts of the elevation. A small area around the right side of the doorway also has very well defined tooling marks. A detailed pencil sketch of the castle by Turner in 1798 and an equally detailed watercolour by Buckler in 1817 (see plate 10) both show the lower right-hand side of the doorway to be collapsed, and so the well defined tooling must be a post-early 19th century repair, perhaps associated with the creation of the pleasure grounds around the castle during this period.

Elevation 3 (figure 16)

5.29 The north side of the entrance tower contains a total of four windows, with the possible evidence for another at the top of the elevation. The face is divided into three by the chamfered plinth or off-set 2.5m above ground level, and by the higher chamfered off-set matching that on the south side (elevation 5). Additionally, the difference in masonry types at around 84m OD is clear on this elevation (although now masked by ivy), and there is an area of stonework around the lower east end where the more prominent tooling is evident.

5.30 The openings in this elevation include a much enlarged basement level opening (W21) in the angle at the west side of the elevation. Although badly collapsed, enough survives to suggest a narrow, unchamfered loop; this would have provided a small amount of light into a now buried basement room under the north end of the hall (see figure 12). Window W20 above this is also defensive in character, being a very slender loop with a wide internal splay. Both this and window W21 below would give good coverage over any approach from the east. The absence of such openings in the south side of the tower illustrates how defence was not taken as seriously as it might have been, although this side is uphill and so any opening here would have been of limited value.

5.31 Window W19 lights the first floor level within the tower, although its external form is currently obscured by vegetation. This window was mostly visible in 1989 when it was shown to be a chamfered rectangular opening similar to window W27 in elevation 2 to the north (Latham and Associates 1989, figures AL(O) 4); it is also clearly shown on Buckler's painting of 1817 (see plate 10). At second floor level, window W18 lights the chapel. This is of the same form as window W15 in the tower's south face (elevation 5), but it is located nearer to the centre of the elevation and has an offset relieving arch above.

5.32 The top part of the elevation, above the upper off-set, contains what appear to be the partial remains of a fifth window, although the exact nature of this feature is not clear from ground level. There is also a rainwater drain (S5) at the right side, above the off-set.

Elevation 2 (figure 16)

5.33 The northern end of the castle's east side forms the east side of the north wing, which is set at right angles to the main hall block. Due to the falling ground level to the north, it has a full height basement (see plate 2). This basement is approximately defined by the lower chamfered off-set, below which the wall face has a shallow batter, no doubt intended as a strengthening feature. The elevation is further broken by a narrow chamfered off-set at c.87.5m OD, and also along the angle with the entrance tower, which steps out to accommodate the upper parts of a newel stair. There has been some loss in height along much of the top of this elevation, although how much is at present unclear; this wall top would have been a high level walkway protected by a parapet. A possible construction break can also be seen at 84m OD, continuing that seen on the elevation to the south.

5.34 At basement level, there are two windows: window W29 is a centrally placed, chamfered, rectangular window, lighting the eastern basement room, while window W21 (noted above) is set in the angle with the entrance tower. Directly above this, window W28 is a very small opening to the newel stair, which is also lit by windows W22, W25 and W26 (the latter now hidden by ivy). As with windows W11 and W14 on elevation 6, window W28 appears to have been truncated by the north side of the entrance tower.

5.35 The main, ground floor, level within the north wing is lit by window W27 which has the same external form as window W29 below. However, on Turner's 1798 watercolour, the window appears as a cruciform shape. This might be interpreted as artistic license, were it not for the fact that the window is similarly depicted on Turner's pencil sketch of the same year and more significantly the late 17th century marginal illustration (see plate 4). One has therefore to assume that either the window was originally of this form but was subsequently rebuilt after c.1800 (for which there is no clear structural evidence), or that it had decayed or been

damaged so that it resembled a cruciform loop and was so depicted by both Turner and the anonymous 17th century draughtsman (see plate 9; Hill 1995, 27). The first floor window (W24) is a much larger, two-light mullioned window with a rebated chamfer, which lights the chamber in this end of the wing; this room is called the "Steward's Chamber" by Emery (1996, 343). Above it, at second floor level, is an even more elaborately moulded window (W23), with the remains of both mullion and transom *in situ*. Two drains above this window (S6 and S7) run from the roof over the wing, which appears to have been surrounded by a parapet on this side, which is corbelled out slightly. The detail of drain S6, formerly draining the southern side of the roof, and passing through the wall thickness, can be seen from within the newel stairs.

External Elevation (North Side)

5.36 The north side of the castle is represented by a single elevation (elevation 1 on figure 15). A large part of this elevation was obscured by ivy at the time of the current survey, but there are earlier records and photographs of this elevation.

Elevation 1 (figure 15)

5.37 The two chamfered off-sets present on the east face of the north wing continue around to the north side, of which two thirds are now obscured by ivy. Although the pattern of openings can to some extent be established from the interior elevation, there may be a number of features which cannot be identified at present; additional features were recorded in 1989 when vegetation cover was not so extensive (Latham and Associates 1989, figure AL(O) 4), and by the earlier 1918 photograph (see plate 15).

5.38 At basement level, window W37 is extensively collapsed, and its original form is unclear; it lights the entrance to a garderobe within the wall thickness, which is in turn lit by a very small opening just to the west, W38. The outlet for this garderobe (S12) remains in place just above ground level, although much of the surrounding masonry is collapsed to create an opening 2.5m high by 1.5m wide. Two drains (S11 and S13) to the right and left of this opening probably served the basement rooms, although the exact sources within the interior of the building are not presently clear. There is another drain (S14), further to the right and just below the lower off-set, which appears to come from the well area inside this part of the building.

5.39 At ground floor level, each of the two rooms in the north wing are lit by windows in this wall: W35 is a plain, rectangular opening to the exterior, whereas W36, now hidden by ivy, is a wider, chamfered and rebated opening (moulding E on figure 25). A drain (S10) below W35 comes from a sink in the eastern first floor room. There is also an opening above this drain, which appears to be a fallen stone.

5.40 At first floor level, window W33 can just be identified, although its form cannot be clearly seen through the vegetation; it appears to light a garderobe or intra-mural passage. More was visible in 1989 when Latham noted that much of the surround had collapsed (Latham and Associates 1989, 10 and figure AL(O) 4); a similar situation is depicted on the 1918 photograph (see plate 15). There is another large window at this level (W34), which is now totally obscured from the outside. There is also a drain at first floor level (S9), probably associated with a first floor garderobe in the wing's north-east corner; a narrow opening, W32, appears to be a window to this garderobe, and has a lower lip, perhaps indicating a sink within the embrasure.

5.41 The second, top floor of the wing, has two windows: W30 and W31, the latter entirely obscured by ivy on the external face. W30 however is sufficiently clear of vegetation to establish that it has an elaborately moulded surround, and is of the same form and dimensions as window W23 in elevation 2; it was fully exposed in 1989 and on the 1918 photograph when vegetation growth was either not so extensive or absent. There is also a drain to its left (S8), presumably for a garderobe.

External Elevations (West Side)

5.42 The west side of the castle has three main faces, those of the north wing and north-west tower (elevation 18), the main hall block, which is set back (elevation 16), and the south-west tower (elevation 14), as well as the two returns adjoining the hall block (elevation 17 and 15). Each elevation is described in turn, from north to south.

Elevation 18 (figure 15)

5.43 As with the north elevation, a large part of this elevation was obscured by ivy at the time of the current survey, but there are earlier records and photographs which allow the full extent of the elevation to be seen.

5.44 The chamfered off-sets evident on the north wing's north face appear to continue unbroken around the corner onto elevation 18, where the lower one steps up, albeit now partially buried by soil movement, on the pronounced slope. There are two windows at basement level. Window W48, although much collapsed, appears to have been a chamfered, rectangular opening, and may formerly have been in a higher position relative to external ground levels; this was incorrectly identified as a door by Latham in 1989. Window W49 to the south is a small, narrow loop illuminating the base of a stairwell, now partially hidden externally by landslip. The 1989 survey identified another window on the north side of window W48 (Latham and Associates 1989, 11 and figure AL(O) 5), but this is not visible and appears to be an error. To the south, window W47 lights the top of the stairwell, at ground floor level.

5.45 The main kitchen room at ground floor level in the west side of the north wing has two windows, W44 and W45, both chamfered rectangular openings, set at a high level for the room they light; the detail of window W44 is mostly obscured by ivy. Similarly, window W46 is of the same form, and at a high level within the ground floor lobby in the north-west tower.

5.46 The first floor level within the wing has a mullioned window, W42, to the main room, while the north-west tower is lit by a chamfered window, W43. Between the two, an external doorway (D3), accessible by steep steps down from the first floor of the wing, has a crude outline and shallow rebate (see plate 22). It is not shown on the 1787 engraving (see plate 7), but neither is window W45, and Emery (1996) suggests it may originally have been a narrow opening lighting the access to a first floor chamber. This doorway is flanked by a groove running either side of the lintel, presumably representing the roof line over an adjoining external stair, although it does not match up precisely. Like doorway D1 on elevation 8, this doorway is evidently a secondary feature to the castle and probably utilises an existing recess or passage, and window W48 might have been subsequently altered from another opening into this temporary lean-to structure.

5.47 The north wing's second floor has two windows, W40 and W41, both heavily vegetated and obscured. Window W40 is shown on a 1940s photograph as having mullions and transoms, and is of the same form as the upper level windows (W23, W30 and W31) in the other sides of the north wing. Both windows are also shown on the 1787 engraving.

5.48 At third floor level there are two windows (W39 and W86). They are now both obscured by ivy but they were visible in 1989 (Latham and Associates 1989, figure AL(O) 5), and on earlier photographs. The north one (W86) is similar to window W49 in the basement. The top of the wall is heavily vegetated, and any features such as drains cannot be identified at present.

Elevation 17 (figure 19)

5.49 The south return of the north-west tower measures only 2.9m wide, and up to 14.0m high. At ground level, the wide off-set present on the west side of the north wing is either absent or buried, and a projection through from elevation 18 shows that it would be 0.5m below the current ground level. However, a short stretch of chamfered plinth exists at the right (east) side of the wall, and this appears to continue south, to be overlapped by the adjoining west elevation of the hall (elevation 16). The upper chamfered off-set continues around onto this elevation however, but terminates at the angle with the main hall block.

5.50 There are three windows in this elevation. Window W52 is a tall, chamfered, rectangular opening which lights the tower's first floor, while window W51, at second floor level, is an enlarged or collapsed opening with shouldered outline, but whose original form is unclear. A smaller opening at third floor level, W50, is chamfered and rectangular. There is a drain (S15) below this opening, which probably issues from a garderobe within the wall thickness, although this cannot be ascertained without access to the upper parts of the building. The present top of the elevation is plain, and lacks any features, suggesting that some collapse has taken place.

Elevation 16 (figure 19)

5.51 The west side of the hall block is densely fenestrated, suggesting that defence played a secondary role to ornament and convenience in Harewood castle's design. This elevation is almost entirely unvegetated, and contains a number of well defined openings which can easily be seen from ground level; this side is also usually the first to be seen by visitors today, who generally approach the castle from the west (see plate 23). The elevation shares many features with the east side of the hall, with a chamfered off-set immediately below the ground floor windows, and a shallow corbelled parapet above the first floor windows.

5.52 The ground floor, occupied by the lower hall, has the remains of four windows, of which two, W57 and W58, were formerly mullioned and transomed, and match windows W12 and W13 on the east side. To the right, window W59 is a slender chamfered loop to a buffet, and at the very south end of the elevation, a tall opening W60 has been hacked through the wall to create an entrance into this side of the castle. The 1787 engraving appears to show the top of a four-light mullioned and transomed window here (see plate 7), similar to those to the north, although some five years earlier in 1782 King showed this as a doorway, and described it as "the present entrance" (King 1782, 330; see figure 4). This suggests that, although the terraced walkway ("W" on figure 10; see also Chapter 4) created in the early 19th century as part of the Castle Pleasure Grounds leads

towards this opening, the opening itself pre-dates the pleasure grounds. It is possible that Jewell also shows the enlarged opening in 1819, although this is not certain (Jewell 1819, 36).

5.53 The upper hall has a much enlarged window at the north end, W53, which may well have been another mullioned and transomed window. However, the pictorial evidence for this window is contradictory: the 1787 engraving depicts an arched head with a triangular feature off the top right-hand corner, whereas a 1900s photograph hints at a square-headed opening (see plates 7 and 14). To the south is a relatively well preserved mullioned and transomed window (W54). Window W56, at the south end of the elevation, has an external rebate and a low elliptical arch, typical of later inserted openings in the castle; Emery (1996, 342) believes it to have been an oriel window but no structural evidence for this survives, although the 1787 engraving suggests it was longer than at present. This window may have been inserted, or may have been enlarged from an original opening. Above window W56, a narrow, chamfered window (W55), appears to light another passage; this probably contains a garderobe drained by the opening (S18) below and to the right.

5.54 Two further openings (S16 and S17) formerly drained the roof over the hall, alongside which a wall-top walkway was protected by a tall parapet which survives most extensively at the south end; this has a shallow corbelled course at its base.

Elevation 15 (figure 19)

5.55 The north side of the south-west tower is the castle's tallest elevation, and stands up to 25.2m high, although this includes a narrow turret which surmounts the main tower; a large part of this area is not clearly visible from ground level. The tower itself is divided by two chamfered off-sets which do not correspond with those on the main hall block. There are five windows (W61 to W65) to the main part of the tower, all of the same chamfered, rectangular form, although of varying external dimensions. Each window lights a floor within the tower, the levels of which do not correspond to those in the adjoining hall block (see figure14).

5.56 To the left of window W61, a narrow area of corework forms a scar of the former parapet wall along the side of the hall block, and the outline of the triangular coping is clearly visible. To the left of this, i.e. inside the parapet, a doorway (D9) leads out of the tower, and from there to a now almost entirely collapsed stair, leading up over the roof of the hall (see elevation 20).

5.57 The turret at the top of the tower also has an external doorway (D4), the access to which is not evident from ground level, but was presumably gained from steps leading from a wall-top walkway. There is a plain heraldic shield at the top of the wall face (details not visible), and the appearance of the turret suggests that it stands to close to its original height. Angle-irons and iron strapping around it are clearly an early 20th century attempt to prevent collapse; photographic evidence implies that these features were added between the 1900s and the 1940s.

Elevation 14 (figure 19)

5.58 The south-west tower's west side has a regular appearance, with the turret located over the southern half, standing to 6m high.

5.59 There are three windows (W66, W67 and W68) within the main tower, all of the same rectangular form and closely similar in size. These relate to the first, third

and fourth floor rooms within the tower. At the top of the tower, a shallow corbelling supports the turret, pierced by two cruciform loopholes positioned one over the other. There also appears to be a rainwater drain (S19) above and to the right of the upper loophole, although this is not clear from the ground. A plain shield is located at the top of the turret, which appears to stand to close to its original height; the 1787 engraving implies a crenellated top to the turret (see plate 7), although later paintings and photographs show that it was only the corners which were raised.

External Elevations (South Side)

5.60 The castle's south side has three main faces, with the two towers (elevations 13 and 9) flanking the recessed south side of the main hall block (elevation 11). There are also a number of asymmetrical returns (elevations 10 and 12).

Elevation 13 (figure 18)

5.61 The south side of the south-west tower is plain in appearance and similar in many aspects to its west side (elevation 14), incorporating two chamfered off-sets as well as the slightly overhanging upper turret which is c.6m high. There are two holes or sockets at ground floor level, near the east side of the tower; if they are sockets they may have held timbers for an adjoining ephemeral lean-to structure, but they appear to be fallen face stones, which are also missing on the early 1940s photograph. There are three windows above these, all plain, rectangular, chamfered openings of a similar size (W69, W70 and W71), which light the second, third and fourth floor rooms of the tower (see plate 24).

5.62 Near the top of the main part of the tower, there is a drain opening (S20), presumably for rainwater, while above this the turret rises as on the west side, with two cruciform loopholes and a plain shield at the top. The iron banding on the east side has fallen.

Elevation 12 (figure 18)

5.63 On the east face of the south-west tower, the two chamfered off-sets continue around from the south face (elevation 13). There are no features to the main face of the tower, but it incorporates a shallow projection, 0.50m wide, rising almost the full height of the elevation; for ease of description, a number of features appearing on the south face of the projection (elevation 11) are described here.

5.64 The primary purpose of the projection appears to have been to house the garderobes (or at least their chutes) serving the uppermost chambers of the south-west tower. The bases of these chutes are not visible, and so must emerge below the existing ground level. The fact that the projection relates to a structure on the upper levels of the tower, yet rises from ground level, implies a quite detailed idea of how the upper levels of building would be organised when construction commenced. The base of the east face of the projection incorporates another chamfered off-set below that carried round from the main body of the tower. Above the former, a very small angled window W72 may light a garderobe. The east face is then corbelled out and contains another narrow window W73. The top of the projection is formed by a steep single pitch roof, formed from masonry courses but with the appearance of stone slates. The uppermost surviving part of the main tower rises c.1.50m above the roof.

5.65 The east face of the south-west turret stands to a height of c.7m above the main elevation (not shown on figure 18). It contains a doorway at the base, with no further openings, and survives to a similar height as on the west and south sides; this doorway has the appearance of a window in the 1787 engraving (see plate 6).

Elevation 11 (figure 18)

5.66 In addition to the south side of the hall block, this elevation includes the south side of the small projection within the angle with the south-west tower. However, for ease of description, this has been described under the main west face (elevation 10) of the south-east tower.

5.67 The south side of the hall block survives to 14.5m in height, and contains a number of features relating to both the original construction and apparently also later alterations (see plate 24). The elevation is divided into three parts by two chamfered off-sets. The lower off-set is continuous with that to the adjoining south-west and south-east towers, but the upper off-set is placed at a higher level than the equivalent feature or the towers.

5.68 The only window below the level of the lower off-set is a small chamfered rectangular opening (W80) lighting the garderobe which served the first floor chamber of the south-west tower. At a higher level, but still beneath the off-set, there are three shallow recesses or sockets, formed by a pair to the west and a single example to the east; the latter is slightly deeper than the other two. Above the off-set, the dominant features are two large rectangular openings (W76 and W77). Their size led Latham to suggest that they were both doors accessed by an external stair (Latham 1989, 12), and it was previously though that they were created as part of the early 19th century alterations to the castle, perhaps to give access onto a platform or balcony to look out over a bowling green to the south. However, they are clearly visible on a late 18th century oil painting of the castle by Nicholas Dall (active 1760-1777) (see plate 5), and therefore must result from activities pre-dating the creation of the Castle Pleasure Grounds. The openings may possibly have been used as doorways at a later date, as the pattern of damage to either side of both suggests hinge blocks for outward opening shutters or doors. Nevertheless, close internal inspection shows that both openings were originally formed by deeply splayed windows, probably no more than 0.5m wide externally. Window W77 accommodated two garderobe chutes within its splays. It is noticeable that many garderobe chutes appear to be clustered around the angles of the hall block and the two southern towers here, and they may possibly have discharged into pits. The concentration of garderobes here may also explain why the majority of the windows are so narrow, and why the inner faces of the towers contain no windows apart from at their upper levels.

5.69 The large openings (W76 and W77) are flanked by much smaller windows; window W79 to the west and window W78 to the east, both almost certainly lighting garderobes serving chambers in the adjacent towers. Above the larger openings, there are three square sockets or recesses, measuring between 0.10m to 0.35m in depth; these are also visible on Dall's late 18th century painting. Immediately to the east, a small chamfered window W75 lights the garderobe of the third floor chamber of the south-east tower; below the window, there is a spout (S22). Above the window, set some c.2m higher than the large openings, there are further recesses, all set at the same height. A row of four small blocked recesses, spaced at equal centres and resembling putlog holes, have two larger recesses to the east; one of these contains a piece of timber. There is single small chamfered window W74 at a higher level, again lighting a garderobe. Some

0.5m to the west, a blocking of the same proportions as the window may be visible. It seems likely that this represents either a change of design or a mistake during the original construction process, with the window's position having to be changed to fit into the garderobe.

5.70 The window W74 and its blocked counterpart are set immediately below the upper chamfered off-set. Above the off-set, to the top of the elevation, the masonry has been repointed using a thickly applied white lime mortar. The top two courses of the central part of the elevation form five corbels of a set of machicolations, 2.5m wide (see plate 24). It is assumed that there was some sort of structure surmounting these, but it has completely collapsed. To the east, a spout (S21) would have drained whatever existed on the upper part of the castle here.

Elevation 10 (figure 18)

5.71 On the west face of the south-east tower, there are two chamfered off-sets at the same levels as those surviving to the south-west tower, and these continue around to the south face (elevation 9) of the tower. The lower off-set may mark a construction break, as the stone above appears better dressed, although this might result from differential erosion. The only window to the main tower face is a rectangular chamfered opening W82, lighting the uppermost chamber of the south-east tower. There are two blocked putlog-like recesses below the window, similar to those noted on elevation 11 but at a slightly higher level, and a further socket or recess to the east of the window. Towards the top of the elevation, there are two further sockets or recesses; the west recess has been blocked, while the east recess may be a spout (S24).

5.72 The main face of the tower incorporates a shallow projection, 0.5m wide, rising 5.80m above the existing ground level here (see plate 24). The primary purpose of this projection appears to be to house the chutes of garderobes serving chambers in the south-west tower. Neither chute base is visible, and so they must emerge below the existing ground level. Both garderobes were lit by small windows, W78 and W81, but both of these have been largely destroyed or collapsed. The top of the projection is formed by a steep single pitch roof, formed from masonry courses but with the appearance of stone slates.

Elevation 9 (figure 17)

5.73 The south side of the south-east tower is relatively plain. It is divided by two off-sets, located at the same levels as those on the south-west tower, and is also corbelled out at the top, where the remains of a turret survive.

5.74 The fenestration in this face is confined to three rectangular, chamfered windows of the same size (W83, W84 and W85), which light the second, third and fourth floors of the tower, but are not aligned, probably because of the presence of flues within the wall (see plate 24). The highest window (W83) is almost centrally placed in the elevation. At the top of the main tower, a rainwater spout (S25) drains the roof, in this instance projecting by c.0.3m from the wall face, significantly more than any others at the castle; whether any of the other drains originally projected by a similar amount, but have since been truncated, is not known.

5.75 At the top of the tower are the remains of the turret, which has an intact cruciform loophole to match that in the tower's east side. The turret survives to a height of just over 2m; however, the 1787 engraving and later photographs show that it

originally extended twice as high to contain a second cruciform loophole (see plates 6 and 17).

Internal Circulation and Elevations

5.76 As noted in the introduction above, the interior of the castle is divided into six main parts. The hall block forms the central axis, and there is a tower at each of the four corners, and a north wing to the north. The floor levels vary from one part of the building to another, due to both the natural slope of the ground, and to the different room heights (see figure 14). The primary access between floors was via two newel stairs, the main or principal stair in the south-east tower, and a smaller service stair at the junction of the entrance tower, hall block and north wing (see figure 13). There are also numerous intra-mural stairs and garderobe passages, not all of which can be identified without access to the upper parts of the structure. The interior is described below, considering each element in turn.

Entrance tower (elevations 23 to 26, figure 22)

5.77 This tower or porch forms a small lobby prior to the entrance into the hall. It represents the only original entrance into the castle, and as such was equipped with a number of features to enhance its secure status. The outer double doors (D2) appear to have been secured by two horizontal bars, the slots for which are clear on both sides of the doorway (one lower one and a pair at a higher level). A portcullis slot is also clearly evident just within this doorway, and the deep splay to window W20 also, theoretically, provided defensive cover to the north (downslope) side of the entrance. One of the stones at the head of this splay has the letters “va” carved into it, apparently the start of an unfinished tablet, probably with the Aldeburgh motto, as on the outside of the tower (elevation 24).

5.78 The internal doorway into the hall (D5) is considerably more ornate than the outer door (D2), with a more complex moulding (moulding B on figure 25), with stops, and a hood mould with head stops; the latter are badly eroded. The arch is collapsed above the springers (as is the whole of this wall up to the top of the second floor doorway), and the surviving jambs are badly eroded in places (see elevation 21). On the hall side of the doorway are two bar holes, that on the south side extending for some 1.6m into the fabric.

5.79 The floor within the entrance porch is now of earth and rubble, and lies c.1.0m below the assumed level of the original floor, which has been removed. There appears to have been a passage at basement level beneath the entrance (see figure 12), but this is now largely infilled and its original form and function cannot be ascertained. However, Jones (1859, 161) mentions a solitary unlit cell in this location which does not appear to have been identified by later surveys.

5.80 The former position of the first floor within the entrance tower is clearly evident as a group of joist sockets in both north and south walls (elevations 24 and 25), and this room was presumably used to lower and raise the portcullis; Emery (1996, 341) calls this room the “portcullis chamber”. It is accessible via a doorway (D6) in the north wall, directly from the adjoining newel stairs. There may once also have been a stair from the lower hall which originates in doorway D15 in the north embrasure of window W13. This intra-mural passage is lit by window W14 and, although there is no lining or floor remaining, the stairs can be seen in the coursing of the facework in the interior elevation of the hall. The portcullis chamber is lit by windows in both north and south walls (W19 and W16), both of them with low rear splays, that in the south side (W16) having a sink or drain within the splay.

5.81 The position of the second floor, used as the chapel, is evident at the base of the window reveal in the south side (W15) and as a groove in the east wall. In contrast to most of the other windows in the castle, which appear to have been shuttered, the chapel's three windows (W15, W17 and W18) appear to have been glazed, as evidenced by narrow grooves within the reveals. They have wide, semi-circular rear arches, and there is a piscina in the eastern reveal of the south window (W15), as well as an aumbry adjacent to the north window (W18). A fourth arch, in the west side, appears to be the head of a doorway (D8) through to the hall block; in its north reveal are the faint remains of a scar suggesting a screen partitioning it from the upper hall.

5.82 There are a variety of heraldic shields decorating all four internal walls of the chapel, ascribed to the Sutton, Aldeburgh, Balliol, Thweng, possibly Giffard, Constable, Ros and Vipont or Lowether families (the latter depending on the colouring) (see plate 25). The fact that these shields have all been previously recorded (e.g. King 1782, quoting Sir William Dugdale; Whitaker 1816, 166-167; Jones 1859, 157-160) means that it is possible to identify those which survive (see Appendix 5).

5.83 The chapel now forms the top floor of the entrance tower, although there appears to have been a chamber above, as evidenced by the remains of a window and a blocked door; this is not clear without closer inspection. In the south parapet, a doorway (D7) is located at the top of what appears to be a flight of narrow stairs, leading up through the hall's east wall from an embrasure of one of the upper hall windows (W10); the parapet level is also accessible from the north, through a doorway from the smaller newel stairs (not shown). In the west side of the entrance tower, a large recess can be identified in the outer face of the hall parapet; this cannot be inspected in detail without proper access.

The Hall block (elevations 19 to 22, figures 20 and 21)

5.84 The main body of the castle is a now undivided room, measuring 16.5m long and 9.0m wide internally. Vertically, there are four floor levels evident, with a small basement in the north end. A lower hall, probably with a screens passage, occupies the whole of the ground floor, and there was an upper hall above, with also a balcony or mezzanine floor at the south end at a higher level (see figure 21). Above this is a wall-walk running around the roof, enclosed by parapets of indeterminate heights, with chambers in the adjoining towers. The sloping ground may well mean that the south end of the lower hall was built on natural rock.

5.85 The doorway from the entrance tower (D5) leads into the north-east corner of the lower hall. A shallow socket or slot at the base of the wall, together with one adjacent to the doorway opposite (D10), may have been associated with a partition across this end of the hall, creating a screens passage. However, the two do not align, perhaps suggesting that the partition was staggered in plan.

5.86 The screens passage would have given access to the north wing via three doorways (D10 to the lobby and then kitchen, D11 to the buttery, and D12 to the east basement room), and also contained a cupboard recess adjacent to the latter (see plate 26). These three doorways vary in form: doorway D10 (elevation 22) has a relatively complex moulding (moulding D on figure 25) and a pointed arch, while doorway D11 has the same moulding and outline, but is of a smaller size. The doorway to the basement stairwell (D12) is very plain, with a flat lintel and no moulding.

5.87 Within the lower hall proper, the focus was at the upper, south end, where there is a large fireplace in the centre of the south wall (FP1, elevation 20) (see plate 27). This fireplace is now plain, and a more ornate surround may have been robbed from it, although it is shown in this condition on Buckler's 1817 watercolour (see plate 11); one loose stone lying in this area is moulded and perforated, and may derive from it. Black (1968, 339) and Emery (1996, 340) note the presence of a stone kerb marking a dais towards the south end of the hall, but this is now only visible as a slight step to the north of the position noted by Emery. Stone benches 0.4m wide partly survive *in situ* along the long side walls.

5.88 A "buffet" or sideboard (elevation 22), formed by an ornate recess towards the south end of the west side of the hall, with detailed carving around a crocketted ogee hood-mould, also survives in relatively good condition, although there has been some erosion and vandalism in recent years (compare plates 13 and 30); this buffet is back-lit by a narrow window (W59). Two small slots just above the cornice may have supported a curtain draped across the front of the niche; one of these sockets is shown as being blocked on a photograph from the early 1940s. There is also a small, plain recess in the hall's south-east corner.

5.89 The four surviving windows lighting the lower hall (W12 and W13 in elevation 21, W57 and W58 in elevation 22) have or would have had segmental rear arches, and stepped bases leading to benches within the embrasures, although these are now eroded to a varying degree; the best example can be seen in window W58 in the centre of the west wall (see plate 28). Although the evidence is patchy, the reveals of these windows have grooves which suggest that all four lights in each were glazed and shuttered, the upper lights being fixed and the lower lights able to be opened. In the south-west corner, the enlarged opening of window W60, also below an internal arch, gives access into the ground floor of the south-west tower via doorway D13. As noted above, another passage may have led from window W13 in the east elevation via doorway D15 to the portcullis chamber.

5.90 In the hall's south-east corner, doorway D14 (elevation 21) leads into the castle's main stairs located within the south-east tower (see plate 29). This doorway has a semi-circular arch with a moulding profile similar to the door (D10) on the other side of the hall, and has two bar holes in the south reveal, on the stairs side, allowing the stairs to be secured. This principal stairway is generously proportioned and well-lit, and it gives access to some, but not all of the chambers within this tower (see below).

5.91 Another doorway towards the north end of the west side of the lower hall, D17, is of a chamfered, shouldered form, and this leads to the now largely collapsed remains of a short set of stairs to a basement store room below the lower (north) end of the hall. This room is now mostly infilled with rubble and soil, but its general outline can be seen (see figure 12). It would have been lit, albeit poorly, by a single window in the north-east corner (W21). A shallow unlined recess in the north wall may have been an original feature, but is considered more likely to be the result of erosion.

5.92 A lobby off the stair which precedes the entrance to the upper hall is lit by window W9 in the east wall, and contains a small niche, with an ogee head, in the north side, the only known example of such in the castle. The doorway into the upper hall (D16), has the same moulding as doorway D10, but notably the moulding faces into the lobby, rather than into the hall. Only the north part of the doorway now survives.

5.93 The upper hall or solar was carried on four massive beams spanning the width of the block, their ends set into the walls, and supported by impressive but plain moulded corbels, of which four survive, two on each side; there are also rows of joist sockets in the north and south walls. The position of the corbels suggests that the height of the lower hall was c.6.5m. The easternmost of the four beams was set at a slightly lower level than the other three. The floor joists of the southern end of the upper hall were presumably lodged across the beam, rather than being jointed into it. However, they may have been tenoned into the next beam to the north, at which point the floor appears to have stepped up slightly; if so, the floor of the northern half of the upper hall was set at a higher level than the southern half, perhaps denoting the former upper end.

5.94 The doorway (D16) opened beneath a raised balcony or gallery situated at the south end of the hall (elevation 20). This has been completely removed, although surviving structural evidence indicates that it was a wholly timber structure, projecting some 4.0m from the hall's south wall. The northern limit of the structure was supported on a substantial east-west aligned beam, set c.3.0m above the internal floor level and supported on corbels at either end, although only that to the west end now survives. Four equally substantial timbers, spaced at equal centres, ran between the beam and the south wall of the hall, and these in turn supported closely spaced east-west floor joists, the sockets of which survive to the west wall (see plate 28). There is a horizontal band of scarring to the south wall face immediately above the former joist level; the extent of the damage suggests that a flagstone rather than a board floor may have been removed. The gallery may have had timber posts set beneath the main beam to help support it, or perhaps even a partition, so that the south end of the hall was an entirely separate space. Beneath the balcony/gallery area, there is a fireplace (FP3) with a flat stone lintel placed in the centre of the south wall. It is flanked by a wall cupboard to the west and a doorway (D21) to the east (see plate 27). The doorway appears to give access to a mural passage leading to a chamber in the south-east tower. The upper level of the gallery/balcony was lit by two windows, W76 and W77 (see above). At c.2.2m up the window openings W76 and W77, a line of shallow recesses or sockets are visible crossing the south wall of the upper hall (see plate 27). The sockets run level between the window openings but then slope gently downwards towards either side of the gallery. They appear to continue around the interior of the window openings, and to be a later alteration. Their purpose is presently unclear; they may represent the remains of some sort of canopy installed over the gallery, or alternatively may belong to a much later period and relate to the conversion of this space to another use. However, all these features are clearly visible on Buckler's 1817 watercolour (see plate 11).

5.95 Moving out from beneath the balcony/gallery, the upper hall was originally lit by three principal windows, two to the west wall (W53 and W54, elevation 22) and one to the east wall (W10, elevation 21), with a further smaller window (W56) at the south end of the west wall beneath the balcony/gallery. The latter has a broad segmental rear-arch and was originally provided with a wall cupboard to the north side and a doorway D38 to the south, giving access to a mural passage leading to a chamber in the south-west tower. However, as has already been noted, the window itself has subsequently been much altered.

5.96 To the south of the window opening, there is a pentagonal area of reddening to the wall with an iron stain at its head; this might mark the position of an older fitting, or perhaps a more recent sign. To the north, window W54 (elevation 22) is better preserved, and is of similar form to the principal windows lighting the lower hall.

The base of the window opening is set c.0.6m above the former internal floor level, and it has a broadly segmental rear-arch over with shields (now blank) to the keystone and springers. Internally, the sides of the window opening are parallel, while the base is stepped. This has been partly removed, but was probably of a similar form to those noted to the lower hall windows, with a stepped central wall forming the access into the window, with two further steps running around three sides of the window opening. These steps would have formed additional areas in which people could be seated to observe activities in the upper hall. The window itself was of mullioned and transomed form, and of four lights; the upper lights only had fixed glazing. However, in common with virtually all other windows throughout the castle, all four lights were originally fitted with external iron grilles, comprising two cross-bars and a single vertical standard socketed into the frame. They are also all rebated to the interior, to allow for internal shutters to close flush with the frame. There is a wall cupboard in the north side of the window, while a doorway D41 in the south side opens into a mural passage leading to a chamber in the south-west tower.

5.97 The northern principal window in the west elevation (W53, elevation 22) is assumed to have once been very similar to window W54 but has been subject to considerable alteration. The base was hacked out and lowered to the level of the internal floor, while the original parallel sides of the window opening appear to have been cut back and partly rebuilt to a wider splayed form. The rear arch was taken down and crudely rebuilt at a shallower angle. The window itself may have been removed and blocked up, although it is difficult to be certain as this area has itself subsequently either collapsed or been removed. Finally, a small square flue opening was made in the rebuilt head of the window opening, venting out through the wall-walk above, which runs along the west side of the upper hall roof. The combined evidence suggests that the window was converted into a fireplace, and is one of a number of alterations undertaken to the north end of the hall (see below), although it is not certain if they are all contemporary.

5.98 The principal window to the east wall (W10, elevation 21) is of very similar form to that described for W54 in the west wall above, and is indeed the best preserved of the upper hall windows; it is also provided with blank shields to the rear-arch. It has a wall cupboard to the south side and a doorway D42 to the north side. The doorway appears to open into a mural passage, perhaps originally ascending to the chamber over the chapel. However, at a later date, this passage may have been disturbed by the creation of fireplace FP2, and a second access had to be created by cutting a doorway in from the lesser newel stair at the castle's north-east corner. The fireplace has a back of thinly coursed reddened stone, quite different to that used in any of the castle's original fireplaces.

5.99 There is also other evidence for further alterations to the north end of the hall. The entrance (D8, elevation 21) to the chapel lies at the north end of the upper hall's east wall and is clearly an original feature of this area of the hall. It is nearly 2.5m wide and has a broad segmental arch over, with three stone shields, that of Balliol to the keystone and Aldeburgh to each of the springers. The sides of the entrance D8 are now badly weathered, but it may once have been fitted with a screen. The north wall (elevation 19) of the upper hall is almost completely blank, with a doorway positioned to either end. The west doorway (D18) appears to lead into a mural passage giving access to one of the upper chambers and presents a slightly "squeezed" appearance in relation to the west wall (see plate 26). There may be a staggered joint in the adjacent wall face set c.1.2m to its east, and also a small surviving patch of render/lime wash. There is a similar staggered joint to the west of the east doorway (D26), which leads into the uppermost chamber of the service

block. There is also a blocked vertical slot or recess to the immediate west of the east doorway's lintel in the north wall of the hall, while to the east, the north-east corner of the hall is angled and corbelled outward to accommodate the lesser newel stair.

5.100 Some of the features described above may be explained by a remodeling of the north end of the upper hall, perhaps in several different phases. It is noticeable that apart from the relatively small fireplace (FP3) in the south wall (elevation 20), there is a lack of identifiable original fireplaces, both the fireplace in window W32 and fireplace FP2 apparently being later insertions. Perhaps there was once a large fireplace in the centre of the north wall of the hall, akin to FP1 at the south end of the lower hall, but it was subsequently removed. Its removal entailed the rebuilding of the central section of the north wall (elevation 19), creating the staggered joints adjacent to doorways D18 and D19. The resulting area of rebuilding is completely blank, apart from three rows of recesses, set at 2.20m, 3.70m and 5.60m above the internal floor level; there are two further recesses placed immediately above the uppermost row (see plate 26). At first glance, these are suggestive of putlog holes, although such features are relatively rare in the castle, and the recesses appear rather shallow. It is unlikely that such as large expanse of wall in the upper hall would have been left completely blank, and it is possible that the recesses might mark the position of a frame or other structure used to support a heavy decorative item such as a large tapestry, or perhaps even the large multi-quartered heraldic device mentioned by King (1782, 335) as being “enamelled on metal and put in the Great Chamber” (see Appendix 5). However, if there had been a large fireplace in the north wall, then an explanation would be required as to why it was necessary to create fireplaces in the east and west walls; the most logical reason for these would be that the upper hall was later divided into an inner and outer chamber. Might this have been done after a larger fireplace in the north wall had already been removed for some time, requiring the creation of new heating arrangements?

5.101 The roof space of the upper hall was once crossed by a pair of trusses, supported on sharply curved corbels. The trusses were spaced symmetrically between the edge of the gallery/balcony at the south end and the north wall. It is almost certain that the hall was not ceiled and so the trusses are likely to have been of a reasonably decorative or elaborate form. The profile of the steeply pitched roof of the upper hall is preserved at either end, where an inset to the wall face marks its former line; the roof covering was presumably tucked under this inset. On the south wall (elevation 20), scars/sockets indicate that the principal rafters of the roof truss at this end of the hall supported three pairs of purlins (see plate 27). At the apex of the roof, there is a socket, apparently for a ridge piece, as it is set too high for the collar purlin of a crown post roof. Directly beneath, there is a long narrow slot for a ridge brace. The surviving arrangement at the north end (elevation 19) is slightly different, with only a single purlin to each principal, although sockets for a ridge piece and ridge brace are visible as at the opposite end. The east slope also preserves a line of mortar immediately beneath the inset and running parallel to it; the use of mortar might suggest that the roof was tiled rather than leaded.

5.102 The hall block had parapets above both east and west sides of the roof, protecting high level walkways or ledges. The western walkway has a doorway into an upper chamber of the south-west tower, and this appears to be the only means by which this chamber could be reached. A second doorway (D9, elevation 20) in the south-west tower, directly above the former, leads out from the tower to the remains of steps corbelled out over the hall roof (see plate 27). The precise

means of access to the east walkway from the south-east newel stair is unclear due to the extensive collapse of this part of the castle. At the north end of the east walkway, a blocked doorway can be discerned in the north wall, visible also from within the north-east newel stair.

5.103 It is noticeable that the top of the north-east newel stair simply ends in a tread, which hangs awkwardly in mid-air and there are no traces of a vault or corbelled roof over the stair which might be expected. The west wall of the top of the stair is built over three treads, suggesting that it is later, and a tread appears to have been re-used as part of the roof over the stair; there are also a series of straight or staggered joints to the upper parts of the stair's walls. The structural evidence is highly suggestive of the stair being truncated, and it is likely that it once rose higher, so that as well as the doorway leading to the parapet around the service block (see below), there may have been a further doorway leading to a wall-walk between the north block and upper hall. This would go some way to explaining how the west wall-walk was reached, and would also imply that accessing the upper chambers of the south-west tower was more complicated and time-consuming than going to those in the south-east tower.

South-east tower

5.104 As noted above, the south-east newel stair in this tower gave access to some of the adjacent chambers in the south-east tower, as well as to the upper hall (see figure 8). The stair also contains doorway D1 (elevation 21), the secondary inserted doorway at approximately first floor level, in the east side of the tower. No steps survive within the stair above the doorway to the ground floor chamber (D20), although their former positions can be identified in places.

5.105 The south-east tower contains a total of five small chambers, measuring c.3.3m by 3.0m (see plate 31). The ground floor chamber, the base of which is set some 2.0m higher than that in the lower hall due to the slope on which the castle sits, is entered through a plain and eroded doorway (D20). This room was unheated, and it may have had a service function as a sink is located within the base of the splay to the window in the east wall (W5); the level of the outflow from this sink is below the external ground level, demonstrating that this has risen significantly since the castle was in occupation. There is also a recess in the west side of the chamber, and beam and joist sockets in the south, west and east walls, as well as an off-set in the north wall, indicate the former position of the first floor.

5.106 The first floor chamber was not accessible from the newel stairs, but was reached from the south end of the upper hall via doorway D21 (elevation 20). The room was heated by a small fireplace in the south wall, lit by window W4 in the east wall, and has two cupboards, in the south-east and north-east angles. It was also served by a garderobe off the connecting passage, lit by window W81.

5.107 The position of the second floor is evident as off-sets in the south, east and north walls, and joist sockets remain in the west wall. A doorway in the north wall gave access to the chamber from the newel stairs, and there is an adjacent recess, within which is a second, smaller recess; a drain in the eastern elevation (S1) presumably drains a sink in this recess, but this cannot be established from ground level. A doorway in the west wall probably gives access to a garderobe here, presumably that lit by W78. There is a fireplace in the south wall, and windows in the south and east walls, W85 and W2 respectively; the former has a wall cupboard within its eastern reveal.

5.108 The location of the south-east tower's third floor is clear from off-sets in the south and east sides. The means of access to this room is not now clear, as the north side of the room is totally collapsed, but it was probably from the newel stairs, as shown by Emery (1996, 341; see figure 8). There is a doorway in the west wall, but this probably leads only to a garderobe, which would be lit by window W75. The fireplace is in the south wall, and there are windows in the east and south walls (W1 and W84), as well as a cupboard in the east wall and another in the north-east corner.

5.109 The position of the fourth floor can also be seen from off-sets in the south and east walls, although nothing remains of the north side; it would have been accessible only from the rooftop walkway. The fireplace (FP4) is in the east wall, apparently leading to an octagonal flue visible higher up (elevation 21). There are windows in the south wall (W83) and west wall (W82), with a doorway adjacent to the latter, presumably leading to a garderobe lit by window W74. There is also a wall cupboard in the south-east angle. Above this room, which is smaller than the others below, two corbels in the east side of the tower indicate the former position of a wall-plate carrying the roof. The turret at the east side of the tower occupies only the thickness of the east wall, although it is corbelled out slightly; its interior cannot be inspected from ground level.

South-west tower

5.110 The internal arrangements of this tower are very similar to those of the south-east tower, i.e. a single, small chamber, some 3.3m by 2.7m in area, occupying each of the five floors, with the lowest floor set some 1.5m above the floor level in the lower hall due to the sloping site. The access to the ground floor room is through doorway D13, located in the embrasure of the now altered southern window opening (W60) in the lower hall's west side; this doorway has a plain chamfer and square head. The ground floor chamber is heated by a fireplace in the north-west angle (FP5), and there is a narrow splayed window lighting the room in the north side (W65). There are two deep wall recesses in the east side and one in the west side.

5.111 As in the south-east tower, the level of the south-west tower's first floor is clear from surviving beam and joist sockets. The first floor chamber was entered from a doorway in the north wall, accessible only from the reveal of window W56 in the west wall of the upper hall; a doorway in the east wall presumably leads to a garderobe, lit by window W80. The chamber itself has a fireplace in the west wall, and windows in the west wall (W68) and north wall (W64), while there is also a cupboard in the south-east corner.

5.112 The second floor is defined by off-sets in the west, south and east walls. A doorway in the east wall appears to lead to the reveal of window W76 at the balcony level of the upper hall, and probably to a garderobe lit by window W79; a doorway in the north side of the chamber appears to run to a garderobe, lit by window W55, in the hall's west wall. The chamber was heated by a fireplace in the west wall, and there are windows in the north (W63) and south (W71) walls.

5.113 The third floor is defined by an off-set in the west side of the tower, and this chamber has doorways in the north wall and east wall, the former probably running to the wall-top walk-way, and the latter probably leading to a garderobe lit by window W72. The fireplace is in the west wall, and there are three windows, in the

north (W62), west (W67) and south (W70) walls, that in the west wall having a recess within its reveal.

5.114 Off-sets in the west and south walls mark the former position of the fourth floor chamber. There is a doorway (D9, elevation 20) in the north wall at this level, leading onto the western wall-top walkway, and one in the east wall, the latter probably leading to a garderobe lit by window W73. A fireplace is located in the west side and, as on the third floor, there are windows in the north (W61), west (W66) and south (W69) walls. Two corbels in the south wall and one in the north wall indicate the level of the wall-plates for the roof, and the west wall continues upwards, forming the turret, whose interior cannot be inspected.

North-west tower

5.115 This tower, which is called a "lodging tower" by Emery, has similar internal dimensions to the southern towers (3.1m by 2.2m at ground level), but has only four storeys, the levels of which do not correspond with those of the adjoining north wing. Only the uppermost, third floor, is provided with any heating, and the remaining rooms seemed to have served as annexes to the north wing, rather than being separate rooms in their own right.

5.116 The ground floor room forms the kitchen lobby, an irregular space lit by a high level window in the west wall (W46), and containing a large cupboard recess in the south wall. The north side of the lobby has now collapsed, but the position of a doorway to the kitchen, in the north wing proper, can be identified from a shallow recess in the west wall, which appears to have accommodated an opened door; opposite this is a splayed reveal, which both Black (1968, 340) and Emery (1996, 340) describe as a "serving hatch", but whose exact form is no longer clear. A chamfered, shouldered doorway (D22) in the west side of the lobby leads to the stairs to the west basement room, the top of which are lit by a small window opening (W47).

5.117 Joist sockets in the east and west walls, and board grooves in the north and south walls, mark the position of the first floor. There are windows in the west (W43) and south (W52) walls, and the latter appears to have a garderobe reached through its western reveal. Another doorway within the reveal of the west window leads through the north wall, into the first floor of the north wing (via doorway D23 in elevation 30).

5.118 Similar joist sockets and grooves indicate the position of the second floor. At this level, the south side of the tower is much eroded, with the original form of the window here (W51) no longer clear. There is also a window in the west wall (W41), and a doorway in the north wall, probably leading to the second floor of the north wing via doorway D24. An enlarged opening in the east side probably connects with the upper hall, via doorway D18.

5.119 At third floor level, joist sockets in the north side correspond with an off-set in the south side. The east side has no openings (see elevation 22), but there is a fireplace in the south-east corner, as well as an adjacent window (W50), while the west side has two windows (W39 and W86), as well as a doorway (D32 on elevation 30), which probably led to the parapet walkway around the roof of the north wing. There is also a cupboard in the north side. A corbel at the west end of the south wall indicates the level of the roof over the tower.

North wing (elevations 27 to 30, figures 22 and 23)

5.120 The north wing is of four storeys, the lowest two formerly divided into west and east rooms by a now collapsed wall. The basement and ground floor rooms are each provided with their own separate access from the lower end of the hall, although the doorway to the second floor is a later insertion, and not original as described by Emery (1996, 342). This stair is considerably narrower than the main stairs, but it survives to its full height, thereby allowing the inspection of some of the higher parts of the castle; a 20th century grille door has been placed across the base of the stairs to deter access. The newel stairs are lit by four windows in the east wall (W22, W25, W26 and W28 on elevation 2) and doors also lead to the portcullis chamber and the possible room above in the entrance tower. As has already been noted, the stairs appear once to have continued beyond their present extent, although this might possibly be a result of the way they were constructed.

5.121 Within the basement of the north wing (see figure 12), the east room is reached from a now collapsed staircase running from the foot of the newel stairs; it is possibly a guardroom because of its proximity to the entrance tower. The true floor level is not now clear, but there appears to be c.1.0m of debris over most of the floor. The room was heated by a small fireplace in the east wall (FP9, elevation 27), adjacent to the splay of the adjacent window (W29), and had its own garderobe within the thickness of the north wall, reached through two chamfered, shouldered doorways D30 and D31. The window lighting the lobby to the garderobe passage (W37, elevation 1) is robbed out and its original form is unclear, but within the garderobe itself, the seat, together with a small cupboard and a window lighting it (W38) survive largely intact, although the masonry around the chute has collapsed. A second vertical chute can be seen just to the west within the area of collapse, and this is presumably associated with a garderobe at second floor level.

5.122 Within the guard room itself, a small recess with rebated surround (probably a cupboard) in the south wall at floor level is now partly buried. Sockets higher up in the north and south walls, together with a slight off-set (elevation 30), indicate the former level of the ground floor room, which was also divided from the western half of the wing by the now collapsed wall.

5.123 Above the guard room is an unheated room, which presumably had a service function, and was probably the buttery (Black 1968, 339). It was accessed directly from the screens passage via doorway D11, but it may also have connected with the western room, the kitchen, via a doorway in the now collapsed dividing wall.

5.124 The eastern first floor room is lit by two windows. The one in the east wall (W27, elevation 27) has a typical splay with shouldered rear arch, but that in the north wall (W35, elevation 28) has a more unusual form, with an elliptical rear arch, flat cill and straight reveals, the lower parts of which have a moulded surround which projects into the room (see plate 33). This surround has vertical grooves down its inner faces, as though it was intended to hold a board across the opening, but the precise purpose and function of this feature is not yet fully understood. Below the window, on the west side, is a small sink incorporated into the off-set at floor level. In the south wall (elevation 30), two recesses are located adjacent to the rear arch of doorway D11, separated by a chamfer-edged shelf.

5.125 A more unusual survival in this room is a pair of mortar "blobs" on the east wall, to either side of window W27 (elevation 27), which may well mark the positions of sconces (angled torch or candle holders). Overhead, the former position of a spine beam carrying the first floor can be inferred from a large socket in the centre of the east wall, and rows of joist sockets are clear in the north and south walls.

5.126 Within the western part of the north wing, the basement is reached via a straight flight of stone steps leading from the lobby beyond doorway D10 (see below). Two windows light these stairs (W45 and W49), and the basement is entered through the remains of a chamfered doorway (D25, elevation 29). The floor level in this room is also unclear, but there again appears to be c.1.0m of overburden. The room was vaulted, with five thick transverse ribs supporting the floor above; the vaulting has now mostly collapsed and several sockets for the centring are evident within the masonry (see plate 32). It is not clear why only this half of the basement was vaulted; presumably it was for structural reasons as the nature of the window (W48, elevation 29) lighting the room suggests that security was not an issue. This window has a shallow segmental rear arch and stepped base, which due to partial collapse, can now be used to gain access into this part of the castle; Latham and Associates (1989) suggested that it was originally a door, although this is considered unlikely.

5.127 The base of a well is located within an angled recess in the north-west corner of the room (see figure 12). Jones (1859, 162) notes that it was cleared out in 1772 to a depth of 18 feet but it is now filled in. The recess has a relatively low height (although due to the accumulated debris its true height is not known), which may have made access to it difficult from the basement; the main access appears to have been from the kitchen on the floor above.

5.128 The ground floor kitchen was provided with two large fireplaces (FP6 and FP10), now partly collapsed, in the west and north walls respectively, and also with a stone-lined oven, in the thickened south-east corner (see plate 32). The latter (elevation 28) survives surprisingly well, although the opening and some other parts are eroded. Latham and Associates (1989, 21) suggest that there is a small oven in the west side of fireplace FP10, but this could not be positively identified at the time of the current survey due to lack of access, although Whitaker shows such a feature here in 1816 (see figure 4). In the north-west corner is an angled recess within the wall thickness, which gives access to the rectangular well below. All three of the windows lighting the kitchen (W36, W44 and W45) are set at a high level, due to the width of the fireplaces in the outer walls.

5.129 The former position of a beam supporting the first floor can be seen in the south wall (elevation 29), together with a row of sockets in the west wall over fireplace FP6; much of the north wall face has collapsed at this level however. It is notable that the two halves of the first floor appear to have the floor timbers running at right angles to each other, despite the fact that a single chamber seems to have occupied the wing at this level, as the dividing wall clearly did not extend to first floor level.

5.130 The first floor room within the north wing is described as the "Steward's Chamber" by Emery (1996, 342), and it was entered through a square-headed, chamfered doorway in the east wall (D27, elevation 27) from the adjacent newel stairs, where it gives easy access to the portcullis chamber (D6). In the north-east corner of the room, doorway D29 (of the same form as doorway D27) leads to a garderobe passage in the wall lit by windows W32 and W33, while in the south-west corner, another doorway (D23), with rebated surround, and whose cill is 0.3m above the

assumed floor level, leads to the first floor chamber within the north-west tower. The “Steward’s Chamber” has a shouldered fireplace in the south wall (FP7), and is lit by a window in the east wall (W24), one in the north wall (W34), and one in the west wall (W42). Those in the east and west walls were formerly mullioned and transomed, but that in the north wall is of a single light.

5.131 The evidence for the form of the second floor of the north wing is best seen in the south wall (elevation 30), where three large sockets (one below the fireplace) would have held beams; these are matched on the north side, although they are now partly hidden by vegetation. There is also some evidence for joist sockets in the east and west walls.

5.132 This upper room also appears to have been undivided and it has a similar layout to that on the first floor but with perhaps a greater emphasis on symmetry than occurs elsewhere in the castle. As has been noted above, the doorway (D28) from the newel stair is a later insertion, hacked through the wall thickness here; upon close examination, the single piece of surviving chamfered jamb to the south side is clearly re-used. It therefore appears that the principal access to the chamber was via the eastern doorway (D26) in the south wall from the upper hall (via doorway D19); a second doorway at the west end of the south wall of the chamber (D24) leads to the second floor of the north-west tower. Although no garderobe for the second floor chamber can be identified from ground level, drain S8 in the north elevation suggests there is one within the north-east corner. Heating was provided by the plain fireplace FP8 (which has a rather elaborate relieving arch containing a joggle joint over it), in the centre of the south wall (elevation 30), while four formerly mullioned and transomed windows (W23, W30, W31 and W40) light the room, some of them with stone benches within the embrasures. There also appears to be an opening in the west side, south of window W40, but this is almost entirely obscured by ivy; Emery shows a small recess here (see figure 7).

5.133 Above second floor level, there is some evidence for the form of the roof, perhaps best seen from the top of the newel stairs. In the south side, a deep off-set marks the level of the wall-plate, one end of which would have been held in a socket in the east wall, clearly visible from the stairs. Adjacent to the socket is an indication of the roof pitch, extending only for c.0.5m (elevation 27), but no masonry survives to this level in either east or west wall to give an indication of the height of the roof ridge. In the south wall above the off-set, a central scar marks a former flue, and to the east of this another scar, with a pair of corbels at its base, appears to mark the position of a second, parallel flue (see elevation 30). To the west, a doorway at wall-top level (D32, elevation 30) leads from the north-west tower onto the top of the west wall, while another doorway leads out from the newel stairs onto the east wall, both giving access to the wall-top walk (see plate 34). From ground level, there is no evidence of the surrounding parapet.

6 ECOLOGICAL AND RELATED SURVEYS

Introduction

6.1 As noted above, three ecological surveys were undertaken on the site, a survey of the flora and fauna, a lichen survey, and a bat survey. In all cases, the works were undertaken by specialist sub-consultants and the following text is a summary of their respective reports (Holloway 2000; Gouldsborough 2000b). The methodologies employed are discussed under Chapter 1 above, and it should be noted that each survey was confined to the site and those parts of the ruined structure which could be accessed and were visible from ground level.

6.2 The full, unedited, survey reports can be found in Appendices 2 and 3, while the following provides a summary of the results.

Flora Survey

Habitat survey results

Woodland

6.3 Distinct stands of broadleaved, coniferous and mixed broadleaved/coniferous woodland surround the castle with a small area of open acid grassland lying to the north-west of the ha-ha. The steep slopes adjacent to the north-eastern edge of the castle (south of the ha-ha), are co-dominated by semi-mature sycamore *Acer pseudoplatanus* and ash *Fraxinus excelsior*. These trees, together with occasional semi-mature sweet chestnut *Castanea sativa*, beech *Fagus sylvatica*, pedunculate oak *Quercus robur*, and silver birch *Betula pendula* extend southwards along the varied topography of the alternately steep and gentle slopes adjacent to the walled boundary of the site which follows the A61 Harrogate Road. A small finger of this woodland is also discernible along the north-western edge of the flat area behind the castle known as the “Bowling Green”, and extends beyond the bowling green in a west-south-west direction. It is only on the steep slopes north-east of the castle, however, where several huge and ancient sweet chestnut trees (with very occasional very large-girthed pedunculate oak), can be found.

6.4 Semi-mature sweet chestnut trees tend to dominate the canopy within the depressions and hollows left from the former quarried area to the east and north-east of the castle. This grades to a mixed canopy of larch and sweet chestnut on the flat bowling green, and stumps of very large old sweet chestnut trees are evident along the boundaries of the bowling green. However, most of the gentle north-facing slopes to the south and west of the castle are dominated by an even-aged larch *Larix sp.* plantation.

6.5 In contrast, a dense block of yew occupies the steep slopes opposite the south-western edge of the castle. This is replaced by a belt of mixed beech and Scot’s pine *Pinus sylvestris* plantation adjacent to the northern edge of the ha-ha. Shallow water emerges from a culvert located c.20m east of the gateway in the roadside wall. Mostly this is fringed by nettles *Urtica dioica,* but occasional hydrophillic plants include sweet-grass *Glyceria sp.,* bittersweet *Solanum dulcamara* and common duckweed *Lemna minor*. Acid grassland fringes the mixed plantation and this open habitat extends in a north-westerly direction towards the track which lies parallel to the ha-ha further north.

6.6 The field layer is generally species-poor and most of the ground is covered by leaf litter and/or brash from previous timber operations. However patchy carpets of dog's mercury *Mercurialis perennis* and bluebell *Hyacinthoides non-scripta* together with more occasional spikes of Lord's-and-Ladies *Arum maculatum* occur where the canopy is co-dominated by ash and sycamore. Indeed very small areas of bluebell can be seen throughout the field layer, as can the occasional frond of broad buckler fern. Grasses tend to be absent except under the mixed beech and Scot's pine plantation where Yorkshire fog *Holcus lanatus* together with broad buckler fern *Dryopteris dilatata* and bramble *Rubus fruticosus* are relatively frequent.

The castle and environs

6.7 A total of seven semi-mature ash, three semi-mature sycamore and several hawthorn *Crataegus monogyna* and elder *Sambucus nigra* bushes were felled within a 10m radius of the castle walls to facilitate the photogrammetric survey. The majority of trunks and branches were left on-site to provide wildlife habitats and from tree ring counts their ages ranged between 30 to 45 years old. The field and ground layers beneath the felled canopy and understorey remained largely unaffected and on the steep slopes to the north-west these consisted of a mix of exposed soil and carpets of mosses. The latter included *Dicranella heteromalla, Mnium hornum, Eurhynchium parelongum, Pseudotaxiphyllum elegans* and *Atrichum unulatum*. A similar array of mosses adorn the ground between the south-eastern edge of the castle walls and the adjacent bowling green. Additional mosses identified on the steps leading towards the bowling green were *Rhizomnium punctatum* and *Hypnum cupressiforme*.

6.8 In contrast, occasional woodland herbs and ferns are located towards the base (north-west), top (south-east) and north-east of the castle walls. These include bluebell, dog's mercury, lords-and-ladies and broad buckler fern. However, at the base of the castle these woodland species are almost completely replaced by a dense stand of nettles *Urtica dioica*, and nettles are also a frequent component, together with dog's mercury and the liverwort *Lophocolea heteromalla*, on the steep slopes north-east of the walls.

6.9 An interesting flora has colonised the castle itself. For example extensive carpets of moss, including *Eurhynchium praelongum* and *Brachythecium rutabulum,* cover most of the fallen masonry. In addition, the thin soil between the fallen stones are dominated by the liverwort *Marchantia polymorpha ssp. ruderalis*. Ferns are also frequent and three ferns, ladies fern *Athyrium filix-femina*, male fern *Dryopteris filix-mas* and broad buckler fern, were identified on the kitchen floor (see plate 32).

6.10 Of especial interest, however, is the widespread occurrence of Pellitory-of-the-wall *Parietaria judaica* on both the external and internal surfaces of the castle walls, particularly around the edges of the old windows, doors, fireplaces, towers and other openings all the way up the elevations of the castle remains (see plate 26). They are softly hairy perennials, between 30cm and 60cm tall, with cylindrical, much-branched, reddish stems which are usually procumbent to ascending. The stalked and alternate, oval-lanceolate, untoothed leaves can be up to 7cm long. The small flowers (c.3mm across), occur in clusters around the stem and leaf axils. Each flower has a greenish-red-tinged, four-toothed calyx (Rose 1981; Stace 1991).

Grassland

6.11 A short sward of acid grassland has developed over the clear-felled area sandwiched between the access track and the mixed plantation to the north of the ha-ha (see plate 19). Tree stumps are scattered throughout and the area is now co-dominated by common bent *Agrostis capillaris,* Yorkshire fog *Holcus lanatus*, sheep's sorrel *Rumex acetosella* and heath bedstraw *Galium saxatile*. In wetter hollows taller, hydrophillic vegetation has developed including species such as tufted hair-grass *Deschampsia cespitosa* and soft rush *Juncus effusus.*

Habitat analysis and evaluation

Woodland

6.12 It is very difficult to classify the woodland communities found in the vicinity of Harewood Castle according to NVC standards. This is because their canopies and understoreys have been highly modified by previous silvicultural treatment and, in most cases, the field layer has also become impoverished. Nevertheless scattered plants of Lords-and-Ladies *Arum maculatum*, together with more extensive patches of dog's mercury *Mercurialis perennis* and bluebell *Hyacinthoides non-scripta* in the area currently co-dominated by ash *Fraxinus excelsior* and sycamore *Acer pseudoplatanus* (described above), indicate that it is a much modified example of W8 *Fraxinus excelsior - Acer campestre - Mercurialis perennis* woodland. Such modifications include the fact that maple *Acer campestre* and hazel *Corylus avellana,* understorey species normally associated with this woodland type, are both absent, and it can only be surmised that these may have been removed during previous silvicultural treatments.

6.13 An impoverished and almost bare field and ground layer beneath the ancient sweet chestnut *Castanea sativa* and pedunculate oak *Quercus robur* trees give few clues to their history and hence classification. There is little doubt, however, that they were deliberately planted in distinct periods during the 19th century since they are fairly regularly disposed along the slopes and are morphologically similar. These characteristics give the canopy great structural uniformity and the dense shade has impoverished the field layer. The location and estimated age of these trees are given in figure 4 of Appendix 2; five trees appear to be between 95-105 years old, nine trees between 120-150 years old, and a further four trees between 160-190 years old.

6.14 Moving towards the former quarried area, the bowling green and the even-aged larch plantation, the generally much lower incidence of dog's mercury, absence of Lords-and-Ladies, and presence of bramble *Rubus fruticosus* indicate a shift towards a modified W10 *Quercus robur - Pteridium aquilinum - Rubus fruticosus* woodland category (see plate 36). Of particular significance is the prominence of sweet chestnut, which is much more strictly confined to the *Quercus-Pteridium-Rubus* woodland (Rodwell 1991). This tree, which has a Sub-Mediterranean distribution in Europe is almost certainly an introduction into Britain (Godwin 1975; Rackham 1980), but it is eminently successful on the moister soils over which this community occurs (see plate 37). In the past this tree has been strongly selected as a coppice crop to supply poles and stakes, although there is no evidence to suppose that this was the case within the grounds of Harewood Castle.

6.15 There are, however, several elements in the vegetation which are anomalous for a W10 woodland type. The severely impoverished field layer (1-10% cover) is much lower than that published for this type of woodland (69-88%); hazel *Corylus*

avellana, recorded as the commonest shrub of W10 woodland types, is absent; and bracken *Pteridium aquilinum* is also absent from the field layer. Nonetheless further evidence to support the W10 categorisation is that it is a well-known practice for interplanting to have occurred within these stands, or for the complete replacement of the canopy with softwoods such as larch (Rodwell 1991). Indeed Rodwell (1991) recommends that stands of species such as larch are best incorporated, on general ecological grounds, within this community.

6.16 Further difficulty is encountered on attempting to categorise the belt of mixed beech *Fagus sylvatica* and Scot's pine *Pinus sylvatica* plantation described above. However, the higher plants and bryophytes within the field and ground layers respectively indicate that it has similar characteristics to a W14 *Fagus sylvatica-Rubus fruticosus* woodland. For example, within the field layer there are tussocks of common bent *Agrostis capillaris* and Yorkshire fog *Holcus lanatus* as well as scattered fronds of broad buckler fern *Dryopteris dilatata*. In addition the ground layer mosses include species such as *Mnium hornum, Pseudotaxiphyllum elegans, Polytrichum formosum* and *Dicranella heteromalla*. It should be noted that although this plantation is relatively young (probably at most 50 years old), with traditional management this type of woodland community has provided some of the best examples of wood pasture elsewhere in Britain, and can be evocative reminders of an earlier landscape.

6.17 Finally the dense yew *Taxas baccata* plantation located on the steep slopes west of the castle shares many of the characteristics typical of natural W13 *Taxas baccata* woodlands. These include very gloomy and bare field and ground layers. However, natural stands of this community are typically associated with moderate to very steep limestone slopes carrying shallow, dry rendzinas and are mostly confined to the Chalk of south-east England and the Durham Magnesium Limestone.

6.18 None of the woodland within a 100m radius of the castle is listed on the 1989 West Yorkshire Inventory of Ancient and Semi-Natural Woodlands, although Carr Wood, High Wood, Piper Wood and West End Wood in Harewood Park are. Such woodlands are considered to be ancient if they have had a continuous cover of trees since at least 1600. While some of the individual sweet chestnut and pedunculate oak trees in the immediate vicinity of the castle are estimated to be between 150-190 years old, the existing woodlands are not considered to be ancient, and so they do not merit SSSI (Site of Special Scientific Interest), SEGI (Site of Ecological or Geological Importance) or LNA (Leeds Nature Areas) status. The highly modified canopy and understorey, as well as the very species-poor field layer, of the existing woodlands suggest that they are secondary plantations of recent origin i.e. are less than 50 years old. Indeed, it is likely that many of the trees within a 100m radius of the castle have either been planted, or have self-seeded, since the severe gales of 1962, recorded to have uprooted 20,000 trees within the Harewood Estate (Henderson & Seaward 1976). The location and extent of each woodland community identified is summarised in figure 26. Nevertheless, the combination of very old sweet chestnut and pedunculate oak adjacent to the castle walls, the potential affinities of plantations to W8, W10, W13 and W14 woodland types, and the open sward of small tussocky grasses representative of U1 acid grassland, provide a mosaic of habitat types. These are together considered to be of parish ecological value.

The castle and environs

6.19 The widespread identification of Pellitory-of-the-wall *Parietaria judaica* on both the external and internal surfaces of the castle walls is of particular note. This native plant is a very rare occurrence on old walls and rocks in West Yorkshire, recorded only once or twice in recent years. One such record is on the old walls of Hill Top Road, Ledwick in Wadefield, West Yorkshire (Lavin & Wilmore 1994). The record of this rare plant is therefore of district ecological importance.

Grassland

6.20 The open sward of small tussocky grasses and short herbs sandwiched between the mixed plantation north of the ha-ha and the access track further north can be categorised as U1 *Festuca ovina-Agrostis capillaris-Rumex acetosella* grassland (see figure 26). Although sheep's fescue F*estuca ovina* was not identified in the quadrats, many of the other common elements of this community were present. This includes abundant common bent *Agrostis capillaris*, heath bedstraw *Galium saxatile* and sheep's sorrel *Rumex acetosella*, as well as frequent early hair-grass *Aira praecox* and more occasional mosses such as *Polytrichum juniperinum* and *Pohlia nutans*.

6.21 This type of grassland is characteristic of base-poor, oligotrophic and summer-parched soil, with grazing and disturbance often very important contributory factors in maintaining the typical aspect of the vegetation. Indeed it is likely that disturbance evident from previous clear felling activities initially created the open ground available for development of the community. In addition abundant rabbit droppings provide evidence of current grazing activities, and deer have also been noted in the vicinity.

6.22 Taller, hydrophillic plants such as tufted hair-grass *Deschampsia cespitosa* and soft rush *Juncus effusus* occupy the former ponds located nearer the access track and towards the adjacent mixed plantation. Other wetland plants within the adjacent W14 woodland include those fringing the shallow water that emerges from a culvert located c.20m east of the gateway in the roadside wall. These include sweet-grass *Glyceria sp.,* bittersweet *Solanum dulcamara* and common duckweed *Lemna minor*.

Bat Survey

Inspection of Harewood Castle

6.23 The position and number of bat droppings found at Harewood Castle are shown in figure 27. One bat (probably a Pipistrelle *Pipistrelle spp.*) was seen in the crack between the roof of the buffet on 25th May 2000 and about 20 fresh droppings were recorded in the buffet space below. However, the bat was not present on another inspection undertaken on 7th June and no new bat droppings were recorded. The results indicate that the buffet area of the castle is used as a temporary summer roost.

6.24 Only a few bat droppings were recorded, mostly on the window ledges of the basement and ground floor levels of the castle. One dropping was also found on the window ledge of the first floor (above the buffet area) but no droppings were found within the fireplaces, ovens and windows at the first floor level above the kitchen. The results indicate that bats do not use the castle as either a winter or summer roost, other than the use of the buffet area as a temporary summer roost.

However, this conclusion must be treated with caution, since many areas within the first, second and third level floors of the castle are currently inaccessible for survey and therefore may be used by bats. For example, Common Pipistrelles *Pipistrellus pipistrellus* were regularly seen and heard foraging high up around the inner surfaces of the castle walls. This is, perhaps, an indication of a bat roost high up in a presently inaccessible location.

Feeding survey

6.25 Information from the ten sample sites recorded within the vicinity of Harewood Castle during the months of May and June is summarised in Table 1 of Appendix 2, and their locations are shown on figure 1 of Appendix 2. A total of 213 echolocation calls were recorded from the ten sampling points during the months of May and June (total recording time of three hours). Table 2 of Appendix 2 summarises the proportion of each species identified within the total sample.

Time expansion bat records for Harewood Castle

6.26 Common and Soprano Pipistrelles (*Pipistrellus pipistrellus* and *P. pygmaeus* respectively), and Noctules (*Nyctalus noctula)* were clearly distinguished from one another on analyses of the sonograms for these species. These were identified from the minimum (or end) frequencies given for each echolocation (or pulse), which were reliable diagnostic measurements (see figures 2, 3 and 6 of Appendix 2).

6.27 Less easy to distinguish were the calls from Leisler's *Nyctalus lesleri* and Noctules *N. noctula.* This is because of the considerable overlap in the end frequencies, duration and interpulse measurements between these species. Nevertheless an example of calls which were thought to be from Leisler's rather than Noctules is shown in figure 7 of Appendix 2. By far the hardest bats to distinguish are the FM calls made by *Myotis spp.* which are very similar in structure. However no *Myotis spp.* were recorded in either sample.

Heterodyne bat records for Harewood Castle

6.28 The results using the heterodyne bat detector are summarised in Table 1 of Appendix 2. These results supplement those recorded with the time expansion bat detector and the table shows that the wide angle beam of the heterodyne detector picked up bats that the narrow angle beam of the time expansion bat detector missed. However, the table also indicates that several bats were missed when bats called outside the tuned frequency range of the heterodyne bat detector and that identification of species was not as reliable. For example, it was often not possible to distinguish between Pipistrelle 45 and 55 bats, or to distinguish between Leisler's and Noctules. Similar to the time expansion bat detector the hardest bats to distinguish are the FM calls made by *Myotis spp.* and these were therefore grouped together.

Other records

6.29 Only two bat records within a 1km radius of the castle are held by Leeds City Council. These are a Pipistrelle *Pipistrellus sp.* at Grid Reference SE320452 (30th June 1992), and a Brown Long-eared bat record *Plecotus auritus* at Grid Reference SE308453 (9th August 1988).

Evaluation

6.30 All bats and their roosts are fully protected by the Wildlife and Countryside Act 1981. The temporary summer bat roost identified in the castle buffet should therefore not be disturbed during the months of May to September inclusive i.e. at any time during the period that bats may use it as a summer roost in any year. Although a few droppings were recorded elsewhere within the castle (e.g. scattered along the window ledges), there was no evidence of any additional bat roosts. However, it should be noted that the higher levels of the castle were inaccessible for survey and these areas have a high potential for bat roosts.

6.31 The criteria for the evaluation of habitats for foraging bats were based on the results of a national survey of bats and their habitats in Britain carried out over three consecutive summers from 1990 to 1992 (Walsh & Harris 1996). Despite the wide variation in distribution and habitat composition between different parts of Britain (e.g. upland and lowland geographical regions), the results of the survey showed a high degree of uniformity in preferred foraging habitats. Their results indicate that bats exhibit a far stronger preference for woodland edge and all water bodies than for any other habitat type. On the other hand, bats tend to avoid the more exposed and more intensively managed habitats such as arable land and poor, semi-improved pastures.

6.32 One of the main objectives of the work at Harewood was to assess the importance of localised habitats (such as the clumps of ancient sweet chestnut and pedunculate oak trees, the even-aged larch plantation and the acid grassland), for foraging bats within the immediate vicinity of the castle. Bats were recorded in a diverse range of habitats but, as shown on Table 1 of Appendix 2, the results indicate that they preferred to forage in the vicinity of the castle itself, around the ancient sweet chestnut trees, and all the woodland edge habitats (Samples 1 to 3 and 5 to 8). On the other hand, the bats tended to avoid feeding in the open acid grassland (Sample 9), and in the middle of both the mixed and coniferous woodland areas (Samples 4 and 10).

6.33 In conclusion, the results tend to support the findings of published data on the foraging habitat preferences of vespertilionid bats in Britain (e.g. Walsh & Harris 1996). Common Pipistrelles *Pipistrellus pipistrellus* constituted a large proportion of the identified sample (86.3%). This was followed by the Soprano Pipistrelle *Pipistrellus pygmaeus* (5.2%) and together the two species accounted for 91.5% of the identified sample (see Table 2 of Appendix 2). The implication is that the habitat preferences described above are particularly pertinent to *P. pygmaeus* and *P. pipistrellus*. A limitation of the survey is therefore that the detailed habitat requirements for some of the rarer species in the vicinity of Harewood Castle may be masked by this analysis. For example species from the larger genus *Nyctalus* may more commonly be seen flying above parkland and open fields (Russ 1999).

6.34 A second limitation is that the survey was restricted to the months of May and June and feeding records for the months of July and August (the other months of peak activity) were missed. This could be remedied by undertaking a further survey for foraging bats during all four months of peak activity in another year. Finally, no attempt was made to identify actual bat roosts in trees because their location requires sustained survey work between May and August. Nevertheless cracks and hollows within the ancient sweet chestnut and pedunculate oak trees on the steep slopes east of the castle clearly provide important potential areas for maternity and hibernation bat roosts. This is particularly important for the more

scarce and larger *Nyctalus spp.* bat species, several of which were recorded feeding in the vicinity.

Other Fauna Survey

6.35 Several rabbit burrows were noted throughout the area, and droppings were particularly prevalent amidst the acid grassland. A deer (species unidentified) was also recorded in the woodland to the north of the access track, several bank voles *Clethrionomys glareolus* were recorded in the dense brash under the semi-mature sweet chestnut trees east of the Bowling Green, and grey squirrels were noted in the larch plantation.

6.36 The following birds were also seen and/or heard during May and June 2000:

Blackbird
Blackcap
Bluetit
Chiffchaff
Chaffinch
Coal tit
Dunnock
Goldcrest
Greater Spotted Woodpecker
Greenfinch
Jackdaw
Kestrel
Song Thrush

6.37 Seven species of invertebrates are recorded on the Invertebrate Site Register for Harewood Park (correspondence from Leeds City Council, Nature Conservation Section 6th July 2000). These are Ap*hthona nigriceps, Anthribus nebulosus, Gaeruca tanaceti, Longitarsus ochroleucus, Derephysia foliacea, Carpophilus sexpustulatus* and *Cerylon histeroides.* However due to the age of the survey (undertaken in 1986), Leeds City Council advise that some - or all - of these species may no longer be present. It is also unclear whether any of them are present in the immediate vicinity of Harewood Castle.

6.38 There is no evidence of any other protected species in the wood (e.g. badgers, otters, water voles, great crested newts). This was confirmed by records held at Leeds City Council of badgers elsewhere on the Estate and water vole records on the nearby River Wharf.

Lichen Survey

Results

6.39 The castle contains a modest lichen flora, and a consolidated list of the recorded species is set out below.

Ref	*Species*	*Location*	*Frequency*	*Characteristic appearance*
1	*Baeomyces rufus*	W elevation	Occasional	Greenish-grey, granular
2	*Caloplaca citrina*	N, S & E elevation	Frequent	Yellow, powdery
3	*Dirina massiliensis f. sorediata*	N & E elevation	Occasional	White to brownish-grey, with light brown rim
4	*Lecania erysibe*	N elevation	Rare	Yellowish-grey to brown, granular or cracked surface
5	*Lecanora albescens*	N, W & S elevation	Occasional	Closely packed fawn fruits with white rim, white thallus
6	*Lepraria incana*	N, W & E elevation	Abundant	Grey/green, fluffy granules with no distinct margin
7	*Leproloma vouauxii*	N & S elevation	Frequent	Green-white, puffed-up crust, with distinct margin
8	*Opegrapha calcarea*	N, W & S elevation	Abundant	White, with elongated black fruits, often in heaps

9	*Phlyctis argena*	W elevation	Occasional	Thin, creamy-grey
10	*Verrucaria macrostoma*	E elevation	Rare	Chestnut-brown, larger fruits
11	*Verrucaria nigrescens*	N, W & S elevation	Frequent	Black, fissured crust
12	*Xanthoria calcicola*	N elevation	Rare	Deep orange, contorted lobes

6.40 The general locations of the lichen species are shown on figure 28, while plate 38 provides illustrations of some of the examples recorded. It is worth noting that wall tops of ruins often provide habitat for lichen species which may not thrive on wall-faces; such habitats can have a higher moisture content, and higher nutrient level than the remainder of the wall. Further and full details of all the information recorded by the lichen survey is contained in the specialist report, which appears as Appendix 3.

Analysis

6.41 The significance of the recorded lichens at Harewood Castle was assessed in the regional context in a number of ways: by relating the recorded species to the known species distribution in Yorkshire; by identifying any recorded species which are known to be in decline or at risk of becoming extinct; by relating the recorded species to known zones of atmospheric pollution; and by investigating the correlation between the frequency of the recorded species and their pollution tolerance.

Distribution

6.42 The best correlation between the frequency of the Harewood species and their wider distribution in Yorkshire is for Species 1 (*Baeomyces rufus*), 6 (*Lepraria incana*) and 9 (*Phlyctis argena*). Species 7 (*Leproloma vouauxii*) and 8 (*Opegrapha saxitalis*) are far more frequent at Harewood Castle than would be expected, while Species 2 (*Caloplace citrina*), 4 (*Lecania erysibe*), 5 (*albescens*) and 12 (*Xanthoria calcicola*) are significantly under-represented. Species 10 (*Verrucaria macrostoma*), rare in Yorkshire, has a greater frequency than would be expected.

6.43 Of all the species recorded, two are known to be scarce in Yorkshire, namely Species 3 (*Dirina massiliensis*) and 8 (*Opegrapha calcarea*). What is significant for this study is that *Opegrapha calcarea* is one of the two dominant species at Harewood Castle. *Verrucaria macrostoma* (Species 10), on the other hand, is both scarce regionally, and could be considered to be in decline.

Habitat and substratum

6.44 The Millstone Grit sandstone from which the castle is built tends to have a lower surface pH than, for example, limestones, and lichens are known to be sensitive to substratum pH levels. Some prefer alkali surfaces, while others prefer, or tolerate, a more acidic environment. Lichens will grow on a variety of substrata, including trees, shrubs, mosses, soil, rocks and stone. Of the species which normally colonise stone, some will thrive on sandstone, and others on limestone, assuming critical factors such as air quality and illumination levels are optimised.

6.45 It is worth noting, therefore, that of the 12 species recorded at Harewood, over half of them are normally associated with calcareous substratum; they normally occur on limestone. Only Species 1 (*Baeomyces rufus*) and 6 (*Lepraria incana*) are

normally associated with acidic substrata, while a further two, Species 5 (*Lecanora albescens*) and 7 (*Leproloma vouauxii*) will live on acid, or alkali substrata. In the absence of pH levels measured for the stone of Harewood Castle, one possible explanation is that the natural acidity of the stone has been neutralised by run-off from the lime mortar used to bed and joint the stone. Lime mortar "cures" to calcium carbonate which binds the aggregate, usually sand. Calcium carbonate is relatively soluble in water (Drever 1994), and, in solution, can be absorbed into the pore-spaces of the sandstone (see below). The result is that Harewood Castle provides a habitat for species of lichens which would not be expected to occur on naturally occurring rock and stone in this region.

Atmospheric pollution and weathering

6.46 The species of lichen which thrive in any particular location is influenced by pollution, specifically levels of atmospheric sulphur dioxide and other pollutants such as particulates, ozone and nitrogen compounds, fluorides and aromatic hydrocarbons (Richardson 1992). Some species of lichens are tolerant of such pollutants, and others are not. Hawkesworth and Rose (1976), based upon earlier work by Gilbert (1968) have established the link between lichens and atmospheric sulphur dioxide pollution, and has identified the degree of tolerance of "indicator" species. Ten zones of atmospheric sulphur dioxide pollution have been defined; zone 1 is the highest level representing mean winter SO_2 levels of greater than 170 $\mu g/m^3$ (micrograms per cubic metre), while zone 10 indicates clean air. The frequent/dominant species recorded at Harewood Castle are associated with pollution zones 2 and 3, while the occasional/rare species are associated with zone 5. In other words, the most frequently occurring species are those most tolerant of higher levels of atmospheric sulphur dioxide, and the rarest ones are the least tolerant.

6.47 The Millstone Grit of the castle is particularly susceptible to attack by soluble salts. These salts can originate from the ground, from the stone itself, or, most commonly, indirectly from the atmosphere from chemical reactions involving sulphur dioxide.

6.48 Sulphur dioxide, either wind-blown or in the form of acid rain, can react with the calcium carbonate in the mortar joints to form gypsum. Calcium sulphate is more soluble in water than calcium carbonate, and it can migrate into the pore structure of sandstone where the expansive forces exerted as it crystallises can exceed the tensile strength of the stone (Price 1994). Examples of such damage to sandstone can often be seen where rainwater run-off from limestone onto sandstone below occurs. Paradoxically, this is also the process, which can alter the pH of the stone and provide a less acidic substrata, which has, in this case, enabled *Opegrapha saxitalis*, one of the two dominant species at this site, to flourish.

6.49 In any event, lichen species which are tolerant to sulphur dioxide pollution may, in fact, be giving a measure of protection to the monument by helping to maintain a relatively constant moisture content in the stone, preventing soluble salts from crystallizing. However, it has yet to be proved whether lichens have a significant influence on the moisture content and moisture movement in, and out of, stones on which they grow (Gouldsborough 2000a).

Comparison with previous survey

6.50 A lichen survey of the Harewood Estate was carried out in 1976 (Henderson & Seaward 1976) in which lichens on and around the castle were mentioned. This was not, however, a lichen survey of the castle, but more an extension of previous investigations (Seaward 1975) into the lichen flora of the West Yorkshire conurbation related to increasing urbanisation and changes in air quality.

6.51 The previous survey noted 16 species on stones and rubble in a ditch to the north of the castle, and on stones nearby, but only four species were noted as growing on the castle itself (Henderson & Seaward 1976, 63). Of these, and taking into account changes in taxonomy, only three were recorded by the present survey, namely *Baeomyces rufus*, *Caloplaca citrina* and *Verrucaria nigrescens*. In addition, it can be calculated that 33% of the species recorded on the castle on 19th April 2000 were not recorded anywhere on the estate in 1976. Furthermore, Henderson and Seaward note that *Opegrapha* species had not, up until 1976, been recorded in this area this century (Seaward 1975, 195); *Opegrapha calcarea*, normally associated with basic substrates is, on this acid sandstone monument, one of the two dominant species recorded in April 2000.

6.52 There are clearly changes in the composition of the lichen communities at Harewood, but with so few species noted on the castle walls in 1976, and incomplete data with which to work, a direct comparison with the 2000 survey would be speculative rather than analytical. The species recorded on the stones and rubble in the ha-ha, although only 100m or so from the castle, form a completely different habitat from the castle walls, and cannot be considered to be part of the lichen flora of the castle. What is significant, however, is the number of species recorded in the April 2000 survey, but not recorded anywhere on the estate 24 years before.

6.53 It is interesting that the previous study noted that the Estate has long been influenced by air pollution originating from the industry of Leeds to the south. Winter Mean daily sulphur dioxide levels had fallen from 450 to 200 $\mu g/m^3$ during the period from 1962 to 1972 (Henderson & Seaward 1976, 65-66). This, on the Hawksworth and Rose scale, still indicates pollution levels in zone 1 (>170 $\mu g/m^3$). They conclude, from their survey data, that the dominant lichens which were found on trees and timber structure were representative of pollution zones 2 and 3, while those on rocks, stones and walls suggest a significantly lower level of pollution (Henderson & Seaward 1976, 67). They further suggest that lichen species on trees are indicators of past levels of air pollution, but lichen species which have a preference for rocks, stones and walls, with their superior powers of recolonisation, are indicative of more recent levels. Of the species noted in April 2000, the frequent/dominant species are associated with pollution zones 2 and 3, and the occasional/rare species associated with zones 4 and 5 (see above). This does not suggest the reduction in air pollution which might have been expected over the past 24 years. But, the loss of some species, and the appearance of new, suggests dynamic environmental factors which have affected the species composition. These factors may be climatic, or micro-climatic influenced by tree cover, or vehicle emissions. The changes may also be due to a natural succession of species, but these are considerations beyond the scope of this report.

Conclusions

6.54 The lichen survey has shown that, although Harewood Castle supports only a modest lichen flora, it provides an important habitat for species which are relatively scarce in Yorkshire, as well as species which may not occur on natural stone outcrops of the same type of stone in the surrounding countryside. Some of the recorded species are in decline or at risk and, as lichens cannot at present be permanently cultured, or artificially grown, stored or maintained (Gilbert 1977), their survival is determined by natural conditions in the field. Despite the modest number of species recorded, it may well be that with the future clearance of the trees in the vicinity of the castle and the consequent increase of illumination levels, more species may flourish.

6.55 Although some lichen species such as *Candelariella aurella* and *Lecanora dispersa* have been identified as being responsible for the discolouration of light-coloured buildings in urban areas (Brightman & Seaward 1977), it can also be argued that lichen cover, along with other forms of plant life on Ancient Monuments, particularly ruins, enhances the structure and gives an added sense of age, and of time passing (Piper 1947). Under these circumstances, it can be argued that the value of lichens exceeds any intrinsic value from a botanical, ecological or nature conservation point of view, and "adds" value to the historic monument, and their presence should be positively encouraged.

7 DISCUSSION AND CONCLUSIONS

Introduction

7.1 The work undertaken for the Condition Survey has allowed a number of new interpretations of the castle to be made, and has also challenged some pre-existing theories. However, it is most probable that any conclusions will be amended and greatly enhanced during the forthcoming conservation and repair works, and so the following should therefore be read only as an interim statement.

The Pre-castle Landscape

7.2 The castle quite clearly did not exist in isolation, nor was it set down on a virgin landscape. It is quite likely that the earthworks recorded in 1989 and as part of the current survey do include features that pre-date the existing building. The 12th and 13th century pottery recovered from the trial trenches dug across some of the earthworks indicate activity, and perhaps settlement, in the area at this date. Whether these are associated with Isabell de Fortebus' late 13th century manorial complex is presently unclear, but it is also likely that the castle was surrounded by contemporary buildings, within some kind of precinct or enclosure (see below). Evidence for these structures, in the form of earthworks and ruins, were noted by 18th and 19th century antiquaries, and they appear to have been removed when the castle was incorporated into the Castle Pleasure Grounds in the early 19th century. The excavations at Ayton Castle in North Yorkshire, undertaken by Scarborough and District Archaeological Society between 1958 and 1961, demonstrated that the existing c.1400 tower house here overlay a complex sequence of structures relating to the earlier manorial complex which dated back to the mid 13th century (Rimington & Rutter 1967). Many of these were not apparent as earthworks, and it may be that a similar situation exists at Harewood.

7.3 The landscape survey and documentary research undertaken in the late 1980s established the presence and probable location of settlements, communication routes and other features within the vicinity of the castle, some of which may be contemporary but others are probably earlier (e.g. Moorhouse 1985). A review of this material, accompanied by further research on aspects such as the plan and boundaries of the park known to have existed here before the castle, is necessary to begin to understand how pre-existing factors may have influenced its siting. Much of this work was outside the scope of the present Condition Survey.

The Construction of the Castle: an Earlier Building or a Change of Design?

7.4 When considering Bolton Castle in Wensleydale, North Yorkshire, Hislop has already noted that, although the general impression given by the building is one of orderliness and coherence of design, the evidence suggests that the finished structure was not conceived as such from the outset, but was rather the result of an evolving approach to a specific site in which many decisions regarding planning and design made after building had commenced (Hislop 1996, 11). Such an argument is very relevant to Harewood Castle. As has been discussed in Chapter 3 above, earlier authors such as Jones (1859, 136) suggested that the castle was 12th century in origin, and that Aldeburgh was responsible for a substantial remodelling or rebuilding of an existing structure. However, the two early doorways illustrated by King (1782, 326) are not associated with Harewood. More recent authors have stated or implied that the castle was built by Sir William Aldeburgh after 1366, when a licence to crenellate was granted (Black 1968; Emery 1996, 339; Moorhouse 1989).

7.5 There are indeed a number of inconsistencies and odd structural features within the castle. Many of these are concentrated around the junction of the north wing, the north-east tower and the north-east newel stair. Externally, the chamfered plinth which runs around the north wing and the north-west tower is clearly overlain by the west wall of the hall block (see figure 13), and the latter also appears poorly tied into the north-west tower, implying that the hall block's west wall is later in date. Internally, the inner entrance doorway (D5) in the north-east entrance tower has a complex moulding with stops and a hood mould with head stops. Such decoration is more usually found on an external elevation, perhaps suggesting that this was originally intended to be the main entrance into the structure. In addition, the north and south sides of the north-east tower do not appear to be bonded in to the adjacent wall faces, and windows both to the south (W11 and W14, elevation 6) and north (W28, elevation 2) of the tower may be truncated by it (see plate 21). The string courses and offsets in the elevations to either side of the north-east tower are not continued around the tower itself, although the chamfered plinth is. Both the arched north and south windows (W15 and W18) of the chapel on the second floor of the north-east tower also have part-complete arches set above them. These do not appear to be infilled larger windows, nor do they seem to perform a relieving function, and, given the care taken with the castle's external appearance, it is puzzling that they should have remained visible.

7.6 Furthermore, the means by which the upper levels of the north-east newel stair are accommodated in the north-east corner of the upper hall appear rather crude, and the scar of the roofline seems to have been cut through part of this angled stonework (elevation 19) (see plate 26). The presence of the newel stairs also makes the external angle between the north wing and the north-east tower very thin indeed, only one course thick in places. Towards the upper part of the staircase, a drain running along the south side of the north wing roof vents into a spout (S6) in the wing's east wall (elevation 2). However, to do so, it has virtually to cross the stair, being positioned (and perhaps cut through) the stair's north wall. This again suggests a lack of synthesis between the positioning of the stair and the north wing.

7.7 Other apparent internal inconsistencies are present in the east and west walls of the hall block. Internally, the thickness of the west wall of the upper hall appears to be truncating the west jamb of a doorway (D18, elevation 19) at the west end of its north wall (see plate 26). Below, on the ground floor, the arched doorway (D10) leading from the former west end of the lower hall's screens passage into the north-west tower has what appear to be the voussoirs of a higher arch above it (elevation 22), but again these may be truncated by the north wall of the hall. On the opposite side of the lower hall, the internal sides of the entrance doorway (D5) are misaligned. The north side is of approximately the same width as the north block's east wall, while the south side is somewhat narrower; the projected thickness of the north block's east wall lines up with the hall's stone bench here (see figure 13).

7.8 Taken together, these inconsistencies could be interpreted as supporting Jones' statement that the castle was a remodelling or rebuilding of an earlier structure. However, there are a number of problems with such an interpretation. Firstly, there are no obvious architectural features which pre-date the later 14th century and, as has been already noted, earlier references to such features appear in part to have arisen from a misinterpretation of King's account. Secondly, as far as can currently be seen from the accessible parts of the structure, constructional techniques, architectural detailing and building stone are very similar throughout

the castle. It is therefore considered more likely that the inconsistencies represent one or more substantial modifications of design during an extended construction period, perhaps as a result of Aldeburgh changing his requirements for his residence; this is similar to what Hislop proposes at Warkworth Castle in Northumberland, where structural inconsistencies are "*a matter of structural sequence within the late fourteenth century scheme rather than an indication of the incorporation of an earlier building*" (Hislop 2007, 45).

7.9 On current evidence, it is suggested that Harewood Castle may originally have been intended to take the form of a large tower house, comprising what is now formed by the north wing and the north-west tower. It would have been c.15m square (externally), somewhat larger than the late 14th/early 15th century tower house at Ayton in North Yorkshire (Dennison & Richardson 2008, 25), perhaps of three storeys and partly terraced into the base of a slope; the cellar or basement beneath the north end of the lower hall seems to project some 1.20m beyond the plinth running around the north block and north-west tower. Might this cellar represent parts of a planned tower house's south side, already cut into slope? Rather than infilling the space, the excavated area was instead converted into the cellar of an enlarged building.

7.10 This interpretation also begs the question of how far construction had progressed when the design was changed. For example, it would be possible to interpret some of the structural inconsistencies associated with the north-east newel stair and also the apparent circulation pattern at wall-walk level with the need to accommodate a building that was almost complete and three storeys in height into a much enlarged castle. However, such a sequence of events would then imply that a major dismantling of the tower house's south wall would have needed to take place. The detailed recording and distribution analysis of other architectural features such as the numerous masons' marks which survive around the castle during the forthcoming conservation and repair works may provide a clearer answer to this and related questions.

7.11 Exactly when and why such a change of design may have taken place would be difficult to establish given the present state of historical research but, as has been outlined in Chapter 2 above, the closeness of Balliol's death (1364) and Aldeburgh's licence to crenulate (1366) may be significant. It is not yet known at what stage the licence was granted in relation to the construction of the castle (i.e. before, during or after), but it must have been fairly early on as Aldeburgh only obtained the manor in 1364. It may be, therefore, that Aldeburgh benefited materially from Balliol's estate at or around 1364, thus providing him with the funds from which to construct the castle. Alternatively, perhaps these funds did not become available until after construction had progressed to some extent, meaning that Aldeburgh was only able to revise his scale of planning upward at a later date. It is also noticeable that all of the surviving shields commemorating Balliol and Aldeburgh lie beyond those parts of the existing castle proposed above to form the more modest tower house. Again, further research into the precise relationship between Balliol and Aldeburgh may help to clarify these issues.

The Form and Structure of the Castle

7.12 Harewood Castle is a well-preserved example of an elaborately designed, partially fortified, medieval house, which can only be termed a castle in the very broadest sense, a point made by Kitson as early as 1912. Indeed, categorisation of the structure is difficult, for as Johnson has noted (Matthew Johnson, *pers. comm.*), Emery refers to Harewood as "a many-windowed fortified house", "an elongated

tower-house" and "not a tower-house but a fortified house built in vertical form" (Emery 1996, 339-334). Nevertheless, Harewood's plan, which is essentially four corner towers arranged around a hall, can be compared to a number of other residences both regionally and nationally. Emery makes comparison with the houses at Acton Burnell (c.1280s), Langley and Nunney (both late 14th century), but Harewood differs in the addition of the lower north wing. Harewood can also be compared to its Yorkshire contemporaries at Castle Bolton (Trueman & Neil 1992) and Sheriff Hutton (Dennison 1998; Wright & Richardson 2005), both of which comprise an inner rectangular court with corner towers and, although Harewood is clearly on a much smaller scale, there is enough in common to indicate shared intentions. Hislop cites Harewood as perhaps having had an influence on the internal planning of Bolton Castle in Wensleydale and, although he admits this is open to question, he quite rightly states that its form is "symptomatic of the general thrust of domestic planning in the late fourteenth century", i.e. towards a compact and integrated internal design (Hislop 2007, 23).

7.13 However, it should also be noted that Harewood was not entirely a self-contained structure, and stables, outbuildings and workshops would have been located in a precinct, outer court or other yard (see below). In this respect, comparisons might be made with other structures such as the late 14th/early 15th century tower house at Ayton, or the early to mid 15th century castle at Harlsey, both in North Yorkshire (Rimington & Rutter 1967; Matthews & Richardson 2007). The documentary record also suggests that the castle may have replaced an earlier complex within Harewood township, and although it is not presently thought that any earlier structure was incorporated into the castle, it is not yet clear whether the complex was on the same site, perhaps partly influencing its layout.

7.14 Despite the complete absence of upper floors, the circulation within the building can be largely established from the surviving fabric, and Emery's diagrammatic representation (see figure 8) shows how the various parts of the castle differed in their privacy and function. It should be noted that this diagram was produced from ground level. During the course of the Condition Survey, at least one major amendment has been noted (the lack of an original doorway from the north-east stair to the uppermost chamber of the north wing), and it is likely that further amendments and enhancements will be made when a detailed examination of the upper parts of the building are possible as part of the proposed conservation and repair works. The lower hall, separated from the entrance by a screens passage, was the main reception room, and it was elaborately decorated to reflect the owner's status. The upper hall and associated chambers demonstrate an increasing emphasis on segregation and privacy; several of the rooms in the two southern towers are only accessible from the upper hall while the highest parts of these same towers were apparently only accessible from the wall-top walkways. It can thus be seen that the original circulation plan was tightly controlled, allowing for the separation of different elements of the household and the graduation of access to the lord and his family (Dixon 1996, 47-57).

7.15 Apart from in the chapel, all the windows in the castle are square-headed and the upper lights appear to have been glazed. It is also noticeable that the large mullioned and transomed windows are confined to the private chambers over the lower north wing and the hall area, and very impressive views of the Wharfe valley would have been obtained from the upper hall, inner chamber and roof-top walks. The entrance doorways and those from the hall are arched (either pointed and round) with moulded decoration but elsewhere they are generally square-headed and plain.

7.16 As noted in the architectural description (Chapter 5 above), numerous aspects of Harewood's design indicate a passing concern for defence, for example, the portcullis, the narrow loop windows around the single entrance, and the machicolations over the south wall. However, other details favour aesthetics or convenience, such as the mullioned and transomed windows which were at the forefront of late 14th century contemporary design (Emery 1996, 340). Although a purely military interpretation of buildings such as Harewood Castle would now be considered to be incorrect, the degree to which such residences, particularly those erected during the later 14th century, were designed to provide security against for example local or regional insurrection is still hotly debated (for example, see Coulson 2007; Platt 2007). The more detailed architectural study of Harewood resulting from the proposed conservation works might contribute to this debate; for example, does the fact that a great many of the windows, even those placed over 20m above ground level, appear to have been fitted with external iron grilles socketed into the frame demonstrate a concern for security indicative of the attitudes of Aldeburgh to wider late 14th century society?

The Castle Precinct and Designed Landscape

7.17 Harewood's sophisticated design owes something to its deliberate siting on the steeply sloping valley side (see plate 2). The site would have given the building a great deal of prominence for a long stretch of the Wharfe valley and the surrounding countryside; it would, in the phrase Thompson uses in relation to medieval German castles, have "nailed the valley" (Thompson 1991, 23) (see plate 40). This would particularly have been the case if the exterior was rendered, as the 1698-99 marginal illustration might suggest (see plate 4), and perhaps even whitewashed. The slope siting also provided the inhabitants with the possibility of far-reaching views, particularly from the private chambers over the north wing and from the wall and roof-top walkways. Thirdly, the slope allows, or necessitates, changes between floor levels from one part of the building to another (see figure 14), which Emery (1996, 342) notes was a favoured feature of the late medieval period .

7.18 Without further detailed examination of the areas beyond the present survey, it is impossible to establish the boundaries of the castle precinct. However, it does appear that it may not have continued to the north of the modern estate track running west from the A61, although the eastern boundary is likely to lie to the east of the present A61. There was also likely to be some sub-division within the precinct, perhaps inner and outer courts or yards, and some of the earthworks (e.g. platforms "D" and "E" on figure 10) might represent the remains of contemporary precinct buildings such as stables, barns and the like. However, given that the main vista from the castle was to the north, it is also possible that most, if not all, of the recorded earthworks represent garden features, such as ponds, platforms and terraces, forming part of a wider designed landscape that also incorporated long distant views to natural features such as Almscliff Crag (see plate 39). If this is the case, the absence of any associated service buildings close to the castle needs to be explained. Of course, it could be that the earthworks are a combination of both (i.e. service buildings replaced by garden features, or vice versa), reflecting the changing fashions in landscape design that occurred in the 14th and 15th centuries.

7.19 As a result of work undertaken over the last 20 years, many late medieval residences have been recognised to be surrounded by a designed landscape incorporating water features, elaborate drives and planting schemes, all designed to impress. This has lead some to suggest that they are in fact simply grand

status symbols for the rich and powerful lords who built them. The most famous example is that of Bodiam in West Sussex, where a convoluted entrance drive through formal ponds and water gardens was created at the same time as the castle in the 14th century (Everson 1996), but over 50 similar, less sophisticated but still technically complex, examples have now been identified, all dating to between the 12th and 15th centuries (e.g. Taylor 1989; Everson 1997; Taylor 1998). As noted in Chapters 3 and 4 above, the surrounding contemporary landscape of the castle has been altered by later developments, although enough remains to give some idea as to how the immediate surrounding area may have been organised.

7.20 Given the importance apparently attached to the landscape setting of the castle, it is highly likely that it would have had an original approach which was both formalised and perhaps deliberately contrived to display the building in its wider setting. At present, this approach cannot be identified. Whilst it is clear that the only original entrance to the castle was through the north-east tower, the earlier suggestion of a terraced way ("K" on figure 10) leading from a forebuilding ("J") located further to the east cannot be confirmed on the basis of the currently available evidence. It is of course possible that the entrance way was adapted and changed during the period the castle was occupied. However, by comparing Harewood to other late medieval residences, one might expect a more convoluted approach than directly along a single terrace, and it is possible that the access was through the precinct to the north, perhaps originating near the north-east corner of the precinct. The direction of access might also say something about the precinct itself. For example, at Sheriff Hutton, the main residential building was approached through a middle court area housing stables and other ancillary buildings (Wright & Richardson 2005). If, as suggested by Moorhouse in 1989, a junction with Fitts Lane then surviving as an earthwork ("m" on Moorhouse 1989) (see figure 9) marks the point at which the approach to the precinct began, then one might expect at least part of the precinct to lay to the south-east of the castle, rather than to the north.

7.21 The terraces to the east and west of the castle, although now slumped and denuded, are also likely to form the remains of a designed landscape, although of what date is not certain. These, together with the large earthwork ("U" on figure 10) to the south of the castle, form a T-shaped arrangement with the castle at the centre. The large earthwork to the south is known to pre-date the late 18th century, and Gough's 1789 description suggests some kind of moated enclosure. It is also interesting to note that the earthwork is open on the north and east sides, as recommended from at least the late 13th century onwards for the design of pleasure gardens. However, these earthworks are perhaps more reminiscent of a late 16th or early 17th century arrangement than a late 14th century one, and so are perhaps associated with the later part of the Ryther and Redmayne occupancy of the castle rather than that of Aldeburgh. It is also possible that they may have been enhanced in some way as part of the creation of the Castle Pleasure Grounds in the early 19th century.

Later History

7.22 While considerable attention has been given to the medieval castle, in particular the Aldeburgh occupancy, the effects of the far longer joint occupancy by the Ryther and Redmayne families remain under-researched and almost certainly underestimated. It is likely that both the interior of the castle and its immediate landscape were substantially altered during the 15th, 16th and early 17th centuries, and that evidence for these alterations still survives.

7.23 Some of these alterations clearly took place when the castle was still occupied. For example, the changes to the heating arrangements of the upper hall suggest that it might have been sub-divided to form two separate chambers, perhaps forming a suite of rooms together with the upper floor of the service block. There are other alterations, such as the insertion of additional internal and external doorways, which compromised the tightly controlled late medieval circulation plan, indicating that the need for such proscribed access had been overridden by the requirements of ease of access. Many of the shields of arms in the chapel are also associated with the Ryther and Redmayne families. Finally, at least two, and perhaps more, structures were erected against the exterior of the castle, one of which had been demolished again by the late 17th century.

7.24 Other later interventions are less easy to date or indeed to ascribe a purpose to. For example, the two large windows (W76 and W77, elevations 11 and 20) in the south elevation of the upper hall appear to have been created out of smaller openings. These openings would give an excellent outlook over the early 19th century gardens to the south of the castle, but the various paintings and documentary sources show that these openings were created before this, although by how much is unclear. It is also unclear if the line of sockets cut across these windows to the interior of the upper hall is contemporary, earlier or later.

7.25 Another possibility for some of the later interventions is that they are the result of the dismantling of the interior after the mid 17th century. Although various sources make suggestions that the castle was slighted during the English Civil War (e.g. Jones 1859, 149), there seems to be no firm evidence to support this, and the surviving structural evidence points to a careful dismantling rather than a demolition. Rakoczy (2007) has noted that the corbels formerly supporting the floor beams of the upper hall are missing alternately and at one end of each beam only, a pattern she suggests results from the desire to slide the timbers out and remove them whole, rather than sawing them up *in situ* and perhaps reducing their resale value. This could then lead on to other propositions. Given the proximity of the enlarged opening (W60, elevation 16) in the west wall of the lower hall to the terraced walkway ("W" on figure 10) created in the early 19th century, it is tempting to ascribe the opening to the same period. However, it was present in 1782 when described by King and so pre-dates the creation of the Castle Pleasure Grounds. Might not such an opening have been created to remove large timbers and other items from the interior of the castle?

7.26 Finally, the research undertaken by Lynch (2004) and Goodchild (1994 & 2000) has furthered knowledge of attitudes towards the castle in the late 18th and early 19th centuries. Although it seems that the ground levels around the outside of the castle have been altered once it was no longer occupied (as evidenced by the fact that the exits to the southern garderobe chutes and one of the sinks in the ground floor of the south-east tower, and the chamfered offset around the north-west tower, are now hidden), the extent of any landscaping works around the castle during this period, and in particular any alterations or repairs to the structure, remains uncertain.

7.27 It is certain that additional inspection and detailed survey during the proposed consolidation and repair works will allow some of these questions, and other related matters, to be more clearly understood. For example, the detailed recording of the numerous masons' marks which survive around the castle may shed light both on the possible speed and form of the sequence of construction. The information gained from the proposed works will also allow a more detailed

consideration of the castle's local, regional and national context. It is clear that Harewood Castle has much more to contribute not only in terms of the understanding of late medieval residences, but also the developing study of their designed landscapes, wider late medieval concepts of landscape, and the incorporation of historic ruins into post-medieval estate landscapes. The consideration of these and other aspects will provide a valuable input into the interpretation of the castle as part of its re-integration into the wider Harewood visitor experience.

8 CONDITION SURVEY AND RECOMMENDATIONS FOR CONSOLIDATION

Introduction

8.1 It is clear from the architectural survey above that some parts of the ruined castle are suffering from decay and neglect, mostly as a result of natural erosion, with some additional damage caused by vegetation growth, structural instability and water egress. Vandalism appears to be a relatively minor issue, although some damage has occurred to the buffet in elevation 22 in the recent past (compare plates 13 and 30).

8.2 Given the national importance of the site, a series of general recommendations can be put forward for the consolidation, repair and future management of the castle and its environs. It should be noted, however, that these recommendations are only a guide, and that any proposed works should be considered and assessed by appropriately qualified professionals, including architects and structural engineers, and will need to be subject to a detailed specification. This applies to all areas of the castle, but particularly to those areas which were inaccessible at the time of the architectural survey.

8.3 In line with current practice, the following recommendations aim only to consolidate the monument with a view to reducing current erosion and fabric deterioration, i.e. “consolidate as found”. Any further rebuilding, re-use or conversion of the site or parts of it have not been considered; this would require an alternative set of guidelines and a detailed structural analysis, both of which are beyond the scope of this report.

8.4 Where possible, all previous interventions to the fabric are considered to constitute part of the historic structure, and so are subject to the same archaeological considerations and recommendations as other parts of the monument. However, exceptions could be made where such interventions can be shown to be detrimental to the fabric, for example where the removal of load-bearing elements has weakened parts of the structure, or where the application of cement-rich mortar has been used in re-pointing.

8.5 As noted in Chapter 3 above, an assessment of the castle’s fabric was undertaken in March 1988 by Derek Latham and Associates. This work included a discussion of the condition of the stonework and a recommended schedule of repair; the latter was divided into urgent and essential repairs, and provisional cost estimates were prepared. Two reports were actually produced, one in May 1988 which dealt with emergency repairs (Goom & Cunnington 1988) and another in March 1989 which provided a wider view and discussion together with some recommendations for presentation and future management (Latham and Associates 1989). An inspection of the site was also carried out in April 1994 by English Heritage’s Chief Civil Engineer and a short report was produced (Hume 1994). All these reports, and the accompanying photographs and drawings, have been consulted during the production of this condition survey.

8.6 Given that the castle and its surroundings are protected as a Scheduled Monument under the Ancient Monuments and Archaeological Areas Act 1979, Scheduled Monument Consent (SMC) will need to be obtained from the Secretary of State for Culture, Media and Sport before any consolidation and/or repair work is commenced; an exception to this would be if English Heritage were to grant-aid the consolidation or repair works themselves. The castle is also a Grade I Listed Building, but any listed building legislation is overridden by the SMC requirement.

8.7 Any detailed proposals for repair or consolidation should also be discussed with English Nature, as bats were observed in a number of parts of the castle, and some works may have implications for vegetation or lichens (see below).

Present Condition of the Castle

General comments

8.8 Following the completion of the architectural survey, the castle was inspected with a view to assessing its current condition, and the site drawings were annotated with notes as appropriate. It should be noted that this work was carried out in May 2000 with subsequent visits in November 2000.

8.9 The majority of the standing remains are in a relatively good condition, with most openings retaining their original forms, and there is relatively little exposed corework. The locally-quarried Millstone Grit sandstone is generally of a good quality, and the methods of construction are, by and large, commensurate with a building of this size and status. However, there are a few areas which appear unstable and which require intervention, particularly failed arches and the upper level turrets above the south-east and south-west towers. Although a close inspection was not possible, the majority of the wall tops are likely to be loose and many of the window openings have lost their cills, with the effect that water is able to enter the walls below.

8.10 Although originally constructed in an exposed position, the 19th century and later tree planting, together with the climbing ivy, has protected a number of the elevations from the worst of the weather. Nevertheless, some areas of stonework are suffering from wind erosion, for example in the kitchen lobby, and other areas are spalling. Water has also washed out a large number of the joints, particularly at the lower levels which are also exposed to splash-back, and the majority of the wall faces require some general repointing to prevent or discourage further water ingress.

8.11 At first glance, plant growth and vegetation appears to present a serious problem to the monument, although closer inspection will probably suggest that this is not as great as might be imagined. The most dominant and rampant vegetation is ivy, deliberately planted from c.1782 to emphasise the romantic ruin. However, photographs taken in 1918 show that the castle is largely devoid of ivy, and so that which currently remains is of more recent origin.

8.12 The ivy is presently adhering to much of the north wing, both inside and out (elevations 1, 2, 18, 28, 29 and 30) and a comparison of the earlier surveys shows that coverage has extended by some 30% since 1988. There are also small established trees on parts of the upper elevations and the wall-walks, and grass and scrub has taken a hold on many horizontal surfaces, particularly on the tops of vaults and walls, where roots are no doubt contributing to the structural decay of the underlying structure. Although plant growth is often considered to be detrimental to ruined structures, there are situations where vegetation proves beneficial, and smaller plants and grasses can be encouraged (Thompson 1995).

8.13 With this in mind, soft-capping of wall tops may be an appropriate technique to adopt in some parts of the castle. This involves establishing grass and other low-growing plants along the tops of the walls and other horizontal surfaces to provide a durable insulating layer, to modify temperature extremes and the effects of frost,

and to help shed water from the wall faces. Several methods are used to establish soft wall capping but the simplest is to hollow out a section of corework and add topsoil and turf to form a protective layer. Such measures have been used to good effect on other stone-built monuments such as Jervaulx Abbey (North Yorkshire), Bolingbroke Castle (Lincolnshire) and Tintagel (Cornwall) (Wimble & Thompson 1993).

8.14 There appears to have been some attempt to repair or consolidate small parts of the monument in the past, probably in the early 20th century. These works include placing angle irons or strapping around the south-west turret, and applying cement-rich mortar to the area around the machicolations on the south elevation and around the main hall fireplace (FP1). It is likely that the south-east turret was similarly bound with iron straps, but this did not prevent collapse in c.1962 and some banding now lies within the main hall. However, comparison of the present structure with the 19th century photographs and earlier depictions shows that relatively little decay has taken place since the 17th century partial dismantling, apart from the collapse of part of the south-east turret and some of the window furniture. A detailed comparison between the present survey and the records produced by the 1989 Latham assessment suggests that virtually no collapse or deterioration has occurred in the last ten or so years although, as already noted, a close inspection of the upper levels was not possible.

8.15 Figures 29 to 38 provide some information on the present condition of the castle, and show the main recommendations for repair and consolidation. The latter are discussed and prioritised in detail below.

External Elevations

East side (elevations 2 to 8; figures 29 and 30)

8.16 The east side of the castle appears to be generally sound, although a few specific and localised problems were identified. One cause for concern is the collapse of the wall face around basement window W21 (elevations 2 and 3), and around the front of the entrance porch (D2 on elevation 4); although apparently stable, these areas may require temporary support prior to consolidation. The area of the now collapsed turret in the upper levels of elevation 8 appears to be leaning slightly, and the exposed north-facing corework, resulting from the collapse of the internal stairwell, may require some rebuilding to eliminate overhangs. There is also a large open joint in elevation 3, running down from the relieving arch to the head of the second floor arched window (W18).

8.17 Some of the windows on this side of the castle have lost some or parts of their cills (e.g. W24 in elevation 2 and W17 in elevation 4), and the dressed stonework of windows W27 and W29 (elevation 2) is severely eroded; this erosion is due to the splitting of the stonework around the iron bars which were placed across the window. The lintels to windows W12 and W13 (elevation 6) are also cracked. The lowest part of window W6 on elevation 8 is now partly buried by landslip, and the adjacent window (W5) could suffer a similar fate in the future.

8.18 A large stand of ivy on the north side of the entrance tower (elevation 3) was cut during the vegetation clearance at the start of the project, and so this is likely to die off, exposing window W19 and the stonework around it. An area of ivy recorded in 1988 in the centre of elevation 8 has since been totally removed, to reveal window W5. Other thick stems of ivy run in and out of the wall face on the lower part of elevation 2.

North side (elevation 1; figure 31)

8.19 Hume (1994, 5) estimated that 30% of this elevation was covered with ivy in 1994, and the extent of growth since 1988 is shown on figure 31; further encroachment is likely and imminent without appropriate intervention. There is also some elderberry growing out of the collapsed base of window W37.

8.20 The ivy prevents an overall assessment of this wall face to be made, but the now obscured window at first floor level (W33) may need some stabilisation; Latham's report (1989, 10) noted that the lintel had dropped, causing cracking and subsidence to the stonework above and below. In addition, the chamfered string course above window W37 has fallen, causing stress to the stonework above and the dislodgement of adjacent blocks, while the lower part of the opening is also deteriorating. There are also some areas of potential collapse around the opening to the adjacent garderobe (above S12).

West side (elevations 14 to 18; figures 32 and 31)

8.21 The iron banding placed around the turret above the south-west tower (elevation 14) appears from ground level to be holding the structure together, although closer inspection will obviously be needed to establish the full extent of any problems here. However, the stonework between the bands and the string course on elevation 14 seems slightly unstable with areas of corework exposed. Generally, the rest of this elevation appears sound, although there is some erosion of the stonework below window W68. Window W66 also has some minor erosion to its dressings.

8.22 The surviving facework of the hall's west side (elevation 16) is itself in good repair, but a number of the openings are in poor condition. Window W53 is the most serious; not only has the lintel completely fallen, leaving the facework above unsupported, but the collapse of masonry at the base of the opening is putting stress on the window (W57) below, whose lintel is now also cracked. The enlarged window (W60) on the south side is also deteriorating, as it has lost its lintel, and there is the potential for the unsupported cill of the window (W56) above to collapse. Windows W57 and W58 have also lost parts of their cills, and there is a structural crack running vertically down the face from the base of drain S17. Finally, there is an area of eroded stonework on the north side of window W57. In the west return (elevation 17), window W51 has lost its lintel, leaving one stone unsupported, and parts of the west jamb have fallen.

8.23 The majority (c.70%) of the west side of the north wing and north-west tower (elevation 18) is hidden by ivy, and it can be seen that three windows (W39, W86 and W41) have been covered since 1988. This area cannot therefore be properly assessed at this stage. Within the rest of the elevation, the only potential problem is around window W48, where some of the facework has fallen, but the damage seems to be historic and no further collapse appears imminent. Part of an adjacent narrow window (W49) and the stepped chamfered offset is hidden by landslip, and window W46 has some eroded dressings.

South side (elevations 9 to 13; figures 30 and 33)

8.24 The main area of concern on the south side of the castle is the turret over the south-east corner (elevation 9), which is leaning considerably and appears to be an urgent priority for stabilisation. There is also a crack (or possibly a series of large joints) running from the middle of the upper string course to the head of

window W84. It is possible that the east side of the turret above the south-west tower (elevation 13) was originally braced with iron banding, as on the other sides, but if so this has since fallen. Although a close inspection of this turret masonry could not be carried out at ground level, some elements appear to be unstable.

8.25 The sloping roof of the garderobe chamber in the north return of the south-west tower (elevation 7) is badly decayed, and partially covered with vegetation.

8.26 The south side of the hall (elevation 11) is generally stable. The large central windows (W76 and W77) have had parts of their lintels and jambs removed, but despite this they appear stable, as do the surviving tops of the walls. The condition of the machicolations could not be accurately assessed from the ground but they seem to be in reasonable condition, although with large open joints, and there is no stonework above them to provide restraint; part of this area contains evidence of recent mortar-rich repair. One of the sockets in this elevation contains the end of a timber beam.

8.27 Within the north return of the south-east tower (elevation 10), window W81 is partly collapsed, as is the outer wall of an intra-mural passage above; in both cases, structural instability may result although no immediate danger seems likely.

Internal elevations

Entrance tower (elevations 23 to 26; figure 34)

8.28 The interior of the entrance tower is largely stable, with the main potential problem area being the arch over doorway D5 and the adjacent exposed corework on either side below. A number of shrubs have also become established on the wall tops, and there is some ivy around the first floor window (W19) on elevation 24.

Hall block (elevations 19 to 22; figures 35 and 36)

8.29 The south side of the hall (elevation 20) is generally sound with little exposed corework, apart from at floor levels. However, the top of the main fireplace (FP1) needs additional support, and the remains of the upper level stairs over the roof are in parts unstable. The keystone over FP3 may also need re-setting. The lintels to the two large windows (W76 and W77) have sheared and the cills have fallen.

8.30 Most of the window openings in the west side (elevation 22) have lost some or all of their cills. That associated with window W53 is more serious, and could result in damage to the window (W57) below. The top of this large window is also unsupported, as noted above, and some of the voussoirs may have dropped; it looks even more precarious internally as there appears to be only vegetation above the voussoirs, and it is possible that some earlier attempts at repair have been made. There is also some unsupported masonry around doorway D17, and there is advanced erosion to some of the masonry within the window embrasures and the kitchen lobby.

8.31 The hall's north side (elevation 19) is, like the south side, generally stable, although there is some exposed corework and areas of potential collapse at the east end, between here and the entrance tower. Vegetation is also becoming established on the first floor off-set. There is some, possibly original, plaster adhering to the wall face above and to the right of doorway D18.

8.32 The window cill problem is significant on the east side of the hall (elevation 21), with substantial areas of corework exposed below windows W10, W13 and W12. The area over doorway D5 is unstable, as is the masonry around fireplace FP2. The most severely affected area however is towards the south end, where parts of the newel stair have collapsed. There is a large vertical crack within the stairwell, and there are significant areas of overhanging masonry around doorway D16, at second floor level, and above doorway D14. Considerable areas of vegetation can also be seen at higher levels, associated with the area of the former wall-walk and ledge.

South-east tower

8.33 A full assessment of the inside of this tower was not possible, due to constraints on access at the time of the survey. However, the collapse of the newel stairs has left several areas of exposed corework which will require attention, and there are some areas of apparently unsupported masonry. Within the main part of the tower, the wall faces appear generally well preserved, except above roof level, where the east side in particular looks unstable. The remains of a former chimney or flue above fireplace FP4 (see elevation 21) look very precarious, and there is some vegetation around the fourth floor fireplace (FP4).

South-west tower

8.34 Here also, the lower levels appear generally sound, with the top parts of the turret being the most unstable. However, the extent of any necessary works will only be apparent after a detailed inspection has been carried out.

North-west tower

8.35 At ground floor level, the collapse of the area over the presumed serving hatch has left a large area of unsupported corework which would appear to be in danger of collapse. There is also significant instability at second floor level, particularly in the south and east sides of the tower.

North wing (elevations 27 to 30; figures 37 and 38)

8.36 The lower half of the west side of the north wing (elevation 29) is clear of vegetation, and extensive exposed corework is evident, particularly above window W48 and around the west kitchen fireplace FP6. The lower section does not appear to be a major problem, but the upper part would appear to be more significant, as it leaves the top of the recess unsupported. The upper two floors of this elevation are now obscured by ivy, and detailed inspection is therefore not possible, but there seems to be no evidence for significant problems.

8.37 The south side of the north wing (elevation 30) has also suffered a loss of masonry to the basement and ground floor levels, with the upper floors remaining in good repair. Of the lower parts, the collapsed vaulting appears generally stable, although some limited consolidation would be desirable. The most seriously affected areas are over the stairs below doorway D11, and the adjoining remains of the dividing wall.

8.38 The west face (elevation 27) is generally in good condition. The main concern is at basement level, where there is some apparently unsupported face work in the area over window W29 and fireplace FP9. There are also a number of open joints between windows W27 and W24, and the south side of doorway D28 seems to

have lost its jambs, potentially resulting in the collapse of the lintel. The keystone of the relieving arch over window W24 may also need resetting.

8.39 The final elevation (north side, elevation 28) is c.40% covered in ivy, and this clearly obscures some unstable areas. The eastern half of the wall face appears to be sound, with the areas requiring intervention being around the kitchen fireplace FP10 and the adjacent well, where extensive collapse threatens the facework above, particularly around window W34.

Principles of Repair and Management

8.40 When considering the conservation and management of the castle and its immediate surroundings, a number of general principles need to be considered and applied.

Archaeological and architectural recording

8.41 In all cases, and irrespective of the amount of work being carried out, a programme of archaeological recording needs to be undertaken before, during, and occasionally after any conservation or management work. The justification for this recording is two-fold. Firstly, a pre-intervention survey is often the only detailed record of the existing structure, feature or complex to be conserved or managed; the identification of small details such as variations in original build, the blocking of openings, or the recognition of the presence of original internal features such as stairs or floors, will help in the detailed understanding of the history, development and workings of the monument. Secondly, a pre-intervention survey will provide a valuable base line of information from which all subsequent conservation and management works can be measured and identified.

8.42 The archaeological and architectural surveys described above will constitute the majority of the pre-intervention recording work, but additional work will be required in the castle, particularly in the four corner towers and at the higher levels of all elevations which are inaccessible without scaffolding. Those elevations which were covered by vegetation may also require additional survey, once decisions have been made as to how much ivy and other material should be removed. The extent of this additional recording will vary according to the scale and nature of the proposed works, but it would involve additional photogrammetric and/or hand survey, as well as amending the existing survey data. Any new or amended data should be added to the existing survey drawings and computer files so that a complete digital picture of the castle can be obtained for subsequent interpretation and management purposes.

8.43 In addition to the above, more traditional archaeological excavation might be required in some localised areas, to provide a flat surface for scaffolding or to provide access for consolidation or repair to wall faces currently hidden by landslip or erosion.

Trees and vegetation

8.44 Trees and vegetation are also a common management issue and their presence on or around an archaeological site can cause damage to the structure and integrity of the monument. Trees roots are particularly damaging to stonework, especially when the roots extend into or over a structure of loose or drystone construction and stratified archaeological deposits.

8.45 The removal of trees or scrub needs to be done with care to prevent damage, both during the felling and removal stages; usually the trunk or stem is cut near to ground level, treated, and allowed to decay. Ivy and other creepers may have to be removed from walls, and this is achieved by selective cutting and allowing the growth to die; it is important not to pull the ivy away from what is often an unconsolidated surface. However, it is also important to note that standing ruins will often have a significant nature conservation interest (Thompson 1995) and a balance needs to be achieved.

Stabilisation of structures, use of materials, and finishes

8.46 These matters have been the subject of considerable debate over recent years, but several general guidelines have now been established for use in historic structures. These are summarised below but fuller explanations can be found in the appropriate literature (e.g. Ashurst & Ashurst 1988; Bereton 1991).

8.47 In all cases, and irrespective of the amount of remedial or conservation work that is to be undertaken, the standard and accepted principle of "consolidate as found" should be followed, the aim being to undertake the minimum amount of work necessary to produce a stabilised ruin. However, it is accepted that in some cases, limited rebuilding, restoration, or even demolition may be necessary to either ensure the long-term stability of the structure, to meet other specific (e.g. interpretative) objectives, or to satisfy Health and Safety requirements; in some cases a structural survey or analysis of the building may be required. It is often only necessary to take down and reset the upper courses of a wall, both to conserve the wall tops and to prevent water ingress, but it may occasionally be necessary to buttress, truss, underpin or reinforce structures; in all cases, such interventions should be kept to a minimum to maintain the integrity of the structure. Rough racking, that is the stabilisation of exposed core material to a jagged or stepped profile, is also likely to be required.

8.48 For all archaeological conservation work, sympathetic materials and mortars to match the existing should be used. Materials should, wherever possible, be recovered from the site, particularly stonework. For buildings with semi-permeable, flexible, wall core materials, the mortar mix needs to be water resistant but should still allow bedding materials to breath; it should adhere to stone faces, should not exhibit excessive drying shrinkage, and should be flexible to allow for thermal and other stresses. From a conservation point of view, it should have a texture and appearance which closely matches the original, i.e. contain the types and quantities of aggregate or inclusions used in the original mix, whilst its colour and finish should be appropriate to the age, condition and quality of the structure; it will often be necessary to undertake a detailed analysis of the original mortar to ensure compatibility. Mortar mixes incorporating appropriate proportions of cement, lime and sand should be used, with each individual site, or parts of a site, having its own particular requirements. It should be noted that the chemical composition of the existing mortar may be important for plant (e.g. lichen) growth on and adjacent to the structures.

8.49 Attention also needs to be paid to the final appearance of the mortar. New mortar should be tamped in and finished with a stipple brush or fine spray technique to highlight the aggregate in the mortar mix; no trowel marks, brush marks or cementaceous staining should show. Mortar on originally pointed walls should be flush or preferably slightly set in, and not left upstanding from the wall face. If mortar is to be used to stabilise walls of drystone construction, it should be kept well back from any faces and hidden as much as possible. In some cases, it will

be necessary to leave some joints open to act as weep holes, particularly on those walls which act as retaining revetments. Experience has shown that it is rarely necessary to repoint the whole of a structure or wall face, and the use of unmortared sections within otherwise pointed walls can be visually attractive and can be used to emphasise blocked features or other structural differences.

8.50 Any exposed timberwork should be treated with an appropriate preservative while ironwork, providing it is not causing damage to the surrounding fabric, should be rust-proofed and painted. If the latter is occurring, it might be necessary to carefully extract the offending ironwork from the stonework, and make appropriate repairs. It might also be appropriate to undertake a dendrochronological analysis of any exposed timber, although this will depend on whether it can be shown to be part of the historic fabric.

Site conditions

8.51 In addition to ensuring that all repairs and other work are done in keeping and "as found", the varied soil chemistry and physical make-up of the site should also not be altered, to ensure that conditions favour and enhance further development of new plants. Ideally, no new materials should be brought onto the site from outside, such as gravels, soils or fertilisers, and the movement of material within the site should be minimised. The long-term storage and dumping of imported materials should also be avoided. Any lateral movement of existing substrates should be avoided wherever possible, e.g. for path creation or repair, and water should only be diverted or channelled along routes which were historically designed for that purpose.

Protection of site and structures

8.52 It is obviously important not to damage the monument which is being conserved, both in terms of the wall faces and the existing ground levels. It may, for example, be necessary to use bearing boards for scaffolding, the ends of which should be capped to prevent unnecessary damage to the existing fabric. It will also be necessary to protect some areas of stonework and the ground surface when work is in progress, and all existing architectural detail, such as masons' marks, sockets etc should be noted and retained.

Management plans and specifications

8.53 The numerous environmental interests which exist on and within an archaeological site will be varied and interconnected, and sometimes competing in terms of management issues. Many of these have been alluded to above, and it is important that all interests are considered when making and carrying out recommendations for conservation and management. This is often achieved through an integrated Conservation Management Plan, which can give equal weight to the various interests, set clear objectives which can be achieved through the implementation of prescriptions, and provide a framework for monitoring and review.

8.54 All conservation and management work should ideally be preceded by a specification of works. The size and content of specifications will vary according to the site and the type of work being undertaken, but their use will ensure adherence to the general principles, objectives and guidelines established for the site, and may allow the use of non-specialised labour under appropriate supervision.

Specifications should also enable costs and progress to be measured against quantifiable scales.

Recommendations for Repair and Consolidation

8.55 Using the survey data gathered by the Condition Survey, a series of detailed and specific recommendations for individual features and items within each elevation of the castle can be made. These recommendations are highlighted on figures 29 to 38.

Resetting upper courses

8.56 The uppermost courses of all wall tops and other horizontal exposed surfaces should be reset to stabilise the structure and to prevent water ingress. In most cases it should be sufficient to confine this work to the upper three or four courses, but a greater depth might be required in places. All reset masonry should match the bond, colour, size, bedding, finish and joint width of the surrounding fabric, and core work should be well mortared in and pointed so as to shed rainwater but leaving the stone exposed wherever possible. In areas where it is decided to leave existing vegetation, it should be possible to peel it back, keep it wet or in good condition, and replace it after repairs have been completed.

Rough racking and stone replacement

8.57 Exposed core work should be patch repaired or consolidated as appropriate, using "rough racking" techniques, i.e. allowing for an unfinished, stepped profile. Some larger joints or cavities may require "galletting" (inserting small stone slips to reduce the area of mortar). In some cases, it will be necessary to corbel out new corework to support overhanging or otherwise unsupported stone.

8.58 In places, it will be necessary to replace fallen stone, to maintain the stability of the structure, to prevent water ingress, and to retain the appearance of the wall face. A certain amount of new stone may be required, although this is likely to be minimal, and most material can be salvaged from the fallen stone at the base of the appropriate elevation. It is important to ensure that the correct type of stone is replaced, and the process of archaeologically recording all fallen stone prior to any work should ensure that the correct pieces are identified.

Repointing

8.59 Repointing is generally considered to be required where the mortar has receded a minimum of 50mm from the wall face, and a considerable amount of repointing is likely to be needed on both the internal and external faces at Harewood Castle. Both Hume (1994, 9) and Latham and Associates (1989) estimated that about 50-60% of the elevations would require re-pointing, and attention needs to be paid to those areas identified as being of ecological or botanical significance. A more recent assessment, carried out as part of this condition survey, suggests that percentages vary between 50% and 90%; the appropriate percentages are shown on figures 29 to 38. A combination of deep pointing (up to 100mm or 4"), normal pointing, and grouting will be required.

8.60 All the loose, defective and decayed mortar, including any more modern pointing, should be raked out and the stonework cleaned using water only; hard, well packed and preserved mortar of any age should be retained wherever possible. Repointing should take place with the appropriate mortar mix, and it should be

flush or slightly set back from existing arrises. Proper attention also needs to be paid to the correct finish of the mortar and the surrounding stonework (see General Principles above). As noted above, some gaps or open joints should be left, both to act as weep holes and to provide potential bat roosts.

Repairs to openings

8.61 A number of the window openings are deteriorating due to the presence of iron bars and other ferramenta which expand and contract at different rates, causing the surrounding stone dressings to split. This is most noticeable on the north side of the castle and its associated returns (e.g. windows W46 on elevation 18, window W35 on elevation 1, and windows W29 and W27 on elevation 2), although there are other, less pronounced, examples on most of the remaining faces (e.g. window W82 in elevation 10, window W9 on elevation 6E and window W50 on elevation 17). Other examples may lie behind the ivy on elevations 1 and 18. In all cases, checks should be made for any remaining iron work, and this should be removed if possible; from ground level, only window W2 in elevation 8 appeared to retain any ironwork. Generally, it is not considered necessary to replace the eroded dressings with newly-cut stone although the surviving stonework should be consolidated.

8.62 The various stresses and strains inherent within the monument have caused some of the lintels across windows and fireplace openings to crack, split or shear (e.g. windows W76 and 77 in elevation 20, window W57 in elevation 16, and fireplace FP8 in elevation 30). In many cases, it would be possible to repair these by inserting and securing stainless steel rods or pins into recesses cut in the underside and/or internal faces, where they would be largely hidden.

8.63 A large number of the internal windows have lost their cills, for example window W24 in elevation 27, and windows W10, W12 and W13 in elevation 21. The rebuilding of the cills is not generally recommended, unless this is required for structural integrity. However, the corework at the base of the cills should be re-packed and consolidated, to prevent water ingress.

8.64 Finally, a number of openings, windows and fireplaces have apparently unsupported elements, such as lintels, cills or jambs. In many cases, these are relatively minor (e.g. window W48 in elevation 18, window W37 in elevation 1, and fireplace FP8 in elevation 30) and repair can be achieved by simply corbelling out corework or replacing the fallen stonework.

8.65 However, more serious cases can be seen in windows W53 and W60 on the west side (elevations 16 and 22), window W51 in elevation 17, fireplace FP1 at the south end of the hall (elevation 20), and the kitchen fireplace FP6 in elevation 29. A further apparently unstable area, not shown on the drawings, lies in the arch between the Kitchen and the lobby on the ground floor. In many cases, Hume (1994) favoured the insertion of stainless steel anchors and/or concrete beams to maintain the structural stability of these features, whereas Latham (1989) thought that most problems could be resolved by corbelling out the adjacent corework with new stone to provide support. It is likely that a combination of both techniques may be required, and a detailed, close inspection will need to be carried out from scaffolding before any final solution can be determined. Initial ground-level assessment suggests that a new, concealed concrete lintel may be needed over window W53, and that stainless steel pins will be needed to secure the stonework near doorway D17 and fireplaces FP1 and FP6, and the area adjacent to doorway

D1 in the main newel stairs. A pole support may also be necessary in window W51.

8.66 As noted above, there appears to have been no deterioration in these openings since 1989, but it would be advisable to support some of these potentially dangerous areas until an appropriate course of action is decided upon. Some unsupported masonry around the main entrance (doorway D2 on elevation 4) may also need to be propped or secured until repairs are carried out.

Wood and iron work

8.67 The initial ground-level inspection shows that there is very little exposed timberwork or ironwork at Harewood Castle. The only wood seems to be an exposed beam end in a socket on the south external face of the castle (elevation 11), and there is some iron ferramenta in a window on the east side (elevation 8, window W2). There is also a 20th century iron door at the base of the north-east newel stairs.

8.68 The wood should be treated with an appropriate preservative while the ironwork, providing it is not causing damage to the surrounding fabric, should be rust-proofed and painted. It might also be appropriate to undertake a dendrochronological analysis of the timber, although this will depend on whether it can be shown to be part of the historic fabric.

Vegetation

8.69 The use of soft wall capping would be appropriate at Harewood Castle, provided the underlying surfaces are mortared or reset to prevent water ingress. It is therefore recommended that as much vegetation as possible is left on the monument. This would retain and enhance the ecological elements of the structure, in particular retaining and encouraging the growth of the lichens and the rare Pellitory-of-the-wall *Parietaria judaica*, a plant considered to be of district ecological value and which is present on both external and internal wall faces, particularly on the horizontal surfaces around the edges of windows, doors, fireplaces, towers and other openings (see Chapter 6 above). However, some of the larger invasive scrubs and trees on the tops of elevations 2, 6, 21 and 22 should be cut down according to the general guidelines noted above, if it is shown that they are causing damage to the fabric.

8.70 The ecological assessment (see Chapter 6 above) also established that there are extensive carpets of moss, including *Eurhynchium praelongum* and *Brachythecium rutabulum*, over most of the fallen masonry inside the castle, and the thin soils between these stones are dominated by the liverwort *Marchantia polymorpha ssp. ruderalis*. Ferns (e.g. Ladies fern *Athyrium filix-femina*, male fern *Dryopteris filix-mas* and broad buckler fern) were also identified on the kitchen floor. Wherever possible, these plants should be retained and left undisturbed, although the practicalities of working should take precedence.

8.71 A comparison of the earlier surveys suggests that the extent of ivy coverage has increased by some 30% since 1988. It is also possible that the ivy presently adhering to elevations 1, 2, 18, 28, 29 and 30 is not causing as much damage to the fabric as is commonly thought; one stand, against the central part of elevation 8, has been cut down and removed since 1988, and there does not appear to have been any serious deterioration to the underlying stonework. Recent work has also established that ivy often has a beneficial effect on masonry, as it modifies

extremes of temperature and the effects of frost, and helps to shed water from the wall face (Peter Gouldsborough, *pers. comm.*).

8.72 Ideally, the larger areas of ivy around the north wing should be retained to maintain the impression of a romantic ruin. However, it would probably be necessary to trim it back and then remove large areas, especially around the otherwise hidden openings, to facilitate repair and consolidation. It is therefore recommended that the larger stands of ivy are cut back or removed, but that the roots are retained to enable the ivy to grow back again over the consolidated faces. One stand on elevation 3 was also cut down recently, and it is presumed that this will eventually die, and so it would be appropriate to carefully remove this if possible. The other smaller areas of ivy and vegetation should also be removed from elevations 20, 21, 24 and 28.

8.73 The lichen survey identified a number of important areas of growth on the lower parts of the north, west and east external elevations (see Chapter 6 above), and these areas are depicted on figures 29 to 38; additional areas may be noted when further, high-level survey work is carried out. Care should be taken during the consolidation and repair work to preserve the existing lichen flora and their habitats. In many cases, this can be achieved by following the standard guidelines outlined above, for example by using lime mortar which will preserve the pH values of the lichen substratum. Changes in the patterns of existing rainwater run-off should also be minimised, so that the current pattern of moisture content and moisture movement within the walls is maintained. It will also be necessary to protect the lichens during the repair and consolidation work, by covering the flora with sheeting for periods not exceeding six months.

8.74 Finally, bats were recorded in the stonework above the buffet in the main hall (elevation 22). It is important that they are not disturbed during any building or repair works, and it would be appropriate to leave numerous 20mm wide unconsolidated holes in the masonry for nesting boxes; this has been successfully done at other sites, for example at Carew Castle and Fountains Abbey (Hutson 1995). Some birds are also clearly using the castle, and the timing of any repairs should also consider their nesting habits. It may, for example, be necessary to stagger the use of scaffold netting to allow relatively free movement of birds.

Stone cleaning

8.75 Latham and Associates (1989) suggested that a certain amount of stone cleaning should take place, for example, within the basement of the north wing and in some of the window reveals and arch soffits. However, unless the deposits can be shown to be detrimental to the fabric, stone cleaning should not be carried out as it will detract from the ecological and botanical interest of the monument. Nevertheless, modern (as opposed to historic) graffiti should be removed, using a combination of hand and mechanised washing, although it is accepted that this might be difficult when the graffiti has been carved (see plate 35).

Protection of site and structures

8.76 The peculiarities of the site (located on a steep slope with a ha-ha and watercourse to the north) will need to be taken into account when considering and planning the repairs. Access for contractors, the locations of storage compounds etc will all need to be carefully considered to prevent damage to the surrounding earthworks or the archaeological deposits within the castle itself. It might, for example, be possible to bridge the ha-ha and lay protective geotextile matting over

the existing ground surface. Site conditions at Harewood Castle generally preclude against the use of a “cherry picker” or equivalent.

8.77 In addition, bearing boards and capped scaffolding should be used to prevent unnecessary damage to the existing fabric and ground levels. It will also be necessary to protect some areas of stonework and the ground surface when work is in progress, and all existing architectural detail, such as masons’ marks, sockets etc should be noted and retained.

Archaeological excavation

8.78 Some minor archaeological excavation may be required within and immediately around the castle to prepare a solid and level ground surface for scaffolding. Additional excavation should also be carried out against parts of elevations 8 and 18 where windows and other architectural details have been buried by landslip; the ground could be levelled off and a wooden revetment inserted to prevent further slippage, rather than undertaking significant landscaping works. The proposed areas of excavation are shown on figures 30 and 31.

Programme of Works

Site operations

8.79 Within each of the phased priorities for consolidation (see below), a sequence of site operations should be carried out to prepare the monument for the necessary repair and consolidation work.

8.80 Any programme of consolidation and repair should include an archaeological watching brief which can record items of interest that might be uncovered while the works are in progress. It should be noted that particularly complex or significant discoveries may lead to the modification of the proposed consolidation programme, in terms of actual work specified and/or timescales. Additional survey work (architectural, ecological and botanical) will also be required in areas of the monument not yet examined, for example the internal elevations of the southern and north-west towers and the upper levels of all elevations; this work would be done once scaffolding is in place.

8.81 Within each priority area (see below), the proposed consolidation and repair works should be divided into three main stages.

Stage 1 works

8.82 This stage would involve the initial cleaning and site preparation work with a view to assessing in detail those works that are required for the main phase of consolidation. Subject to the recommendations made by the ecological assessment (see Chapter 3 above), non-sensitive vegetation both on and in the vicinity of the monument at ground level should be cleared as necessary, and loose debris, including fallen stonework, should be checked, archaeologically recorded, and cleared and set on one side, to be used for consolidation where appropriate.

Stage 2 works

8.83 Scaffolding should then be erected to provide working access to all parts of the priority area. This will need to be done with care, both to provide a level working

platform and to prevent unnecessary damage to the ground surface; some limited archaeological excavation may be required to provide a firm footing and other parts of the site will need protecting. Access should be given to the survey team, the architect, and other parties in advance of works, to carry out further survey work and to agree on the precise sequence and nature of clearance and consolidation.

Stage 3 works

8.84 Beginning at the topmost parts of the structure, the pre-determined clearance of vegetation and debris should be carried out. Trees and ivy should be cut down and treated to prevent further re-growth. Roots should not be dug or pulled out as this will undoubtedly damage the underlying fabric. Where this activity reveals previously unrecorded information, architectural recording should be carried out as appropriate. Remedial works to the fabric should then be undertaken, to include stone renovation, replacement, resetting and repointing as appropriate, as outlined above and in figures 29 to 38, and following the architect's specific and detailed specifications.

Priorities for Repair

8.85 The most significant threats to the castle have been identified as being a lack of structural integrity, and weathering and natural erosion. While measures can be taken to reduce these effects, they can be only partially mitigated against. Some degree of compromise will have to be made, regarding not only financial constraints but also the problems of intervention into the historic fabric. Generally, substantial quantities of new or additional masonry are not needed, but some alternative materials (such as stainless steel rods or pins) may have to be used to supporting overhangs or recesses. However, any programme of repairs must address all three aspects; there would be little point in undertaking extensive repointing without taking action to reduce the possibility of major collapses of masonry.

8.86 Whilst almost all elevations contain some elements that would each appear to benefit from priority treatment, it is believed that a state of equilibrium has now largely been achieved; as noted above, a detailed comparison between the current survey and the records produced by Latham and Associates in 1989 suggests that no further collapse has taken place and subsequent deterioration has been minimal. Therefore, it is suggested that a prioritised approach to the overall works should be adopted. This would treat each of the areas of the castle in turn as a separate entity, will have the considerable advantage of spreading the repair and maintenance costs over a longer period, and will also allow consolidation techniques to be assessed and modified as the works progress, if necessary. Within each of the priority areas, it would be appropriate to undertake the on-site works in a staged programme, as outlined above.

8.87 Liaison with the project architect and other relevant bodies suggests that the proposed consolidation and repair works could be divided into three phases (see figure 39). It is assumed that each phase would take one year to complete, and so an overall three year programme is proposed.

Priority 1: Emergency and immediate works (year 1)

8.88 The most immediate Phase 1 works should take place around the southern and western sides of the castle, from the south-east tower to the end of the west wall

of the hall, namely external elevations 8 to 16 on figures 30, 32 and 33 and the majority of internal elevations 20 and 22 on figure 36. This work would therefore encompass the severely eroded windows W53 and W56 in the west side of the hall, the unsupported main fireplace (FP1) in the south side of the hall, the only remaining turret above the south-west tower, and the unstable masonry in the south-east tower. Additional emergency work should also be undertaken around the kitchen fireplace (FP6 in elevation 29), which contains substantial areas of unsupported masonry, and window W33 in elevation 1 which Latham suggested was deteriorating. Other unsupported areas, for example the arch between the kitchen and the lobby, and the stonework around the front of the entrance tower and doorway D17, may also need to be propped pending work in a later phase.

Priority 2: Year 2

8.89 The Phase 2 works should concentrate on the east side of the castle, namely the east side of the hall, the entrance tower and the north-east newel stairs (external elevations 3 to 8 on figures 29 and 30, and internal elevations 21 and 23 to 26 on figures 34 and 35).

Priority 3: Year 3

8.90 The final phase of work should concentrate on the north wing at the north end of the castle and the north-west tower, namely external elevations 1, 2, 17 and 18 on figures 29, 31 and 32, and internal elevations 27 to 30 on figures 35 and 37.

Other site management works

8.91 In addition to the above, there are a number of other minor management issues which should be considered. It should be noted that these relate solely to the castle; the issues concerning the preservation, management and enhancement of the wider 2.5 hectare study area will be covered by a separate Conservation Management Plan.

8.92 Unlike many monuments in rural locations, the castle is not currently suffering from erosion or damage due to stock. There are no agricultural stock in the vicinity of the castle and, although deer and rabbits are known to be present in the adjacent areas, they do not appear to be a management issue on the site.

8.93 There is a significant amount of fallen stonework in and around the castle, particularly inside the kitchen and buttery area, and the main stairs in the south-east tower. This rubble should be carefully inspected, plotted and catalogued to see if significant architectural elements are present. Any such significant items should be removed to a safe location (preferably still within the castle, perhaps in the base of the one of the two southern towers), after first plotting its location which might provide an indication from where it fell. Other pieces of squared stonework should ideally be left in position, as the moss and other plants on their surfaces contribute to the ecological value of the complex. However, it may be necessary to move some of this stone around to facilitate scaffolding for the consolidation works, and some of the stone may be required for minor areas of repair or rebuilding.

8.94 Irrespective of what decisions are made regarding public access to the monument, it would be appropriate to place grills, doors or shutters across some of the openings on the ground floor of the castle to prevent unauthorised access. These openings might include W48 in elevation 18, the inserted doorway (W60) in

elevation 16, and possibly the large opening in elevation 1 above the spout S12. It might also be appropriate to renew or replace the existing internal gate across the base of the spiral stairs in the north-east corner of the hall. It is important that these gates and grills are made of the appropriate material so that they are in keeping with the monument.

8.95 Finally, it might also be appropriate to undertake selected vegetation clearance around the edges of the castle to both enhance its visual appearance and also, more importantly, to prevent trees falling on it. Although many of those trees closest to the castle were cleared to facilitate the photogrammetric survey (see Chapter 1 above), the situation should be reviewed to see if any other trees are likely to be a potential hazard; as also noted above, any cut trunks and branches should be left on site so they can provide wildlife habitats. The self-seeded ash and sycamore vegetation in the interior of the castle should also be periodically cut and cleared, to prevent larger trees from becoming established.

Post-consolidation Maintenance and Monitoring

8.96 Following the completion of site works to consolidate the structure, an on-going inspection and maintenance programme should be initiated to monitor and remedy subsequent problems.

8.97 The site needs to be periodically monitored over time to ensure that the existing, conserved and/or managed archaeological resource is maintained, and that the condition of the site and/or features within it do not deteriorate. Checks should be made for both structural damage or weaknesses, and to ensure that any completed remedial and conservation works remain in good condition; it is common for some areas of repointing or consolidation to fail after a period of time. It is also likely that some day-to-day maintenance of the site or its components will be required as a result of problems identified by the monitoring programme.

8.98 The encroachment of vegetation needs to be checked, to ensure that new growth does not cause damage to both the monument and surrounding landscape. Areas of previously cut and cleared vegetation need to be monitored for re-growth. The success and/or condition of any erosion repairs should be checked for progress, and areas of new erosion need to be identified and any damage reported.

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