Archaeological investigation within the Elizabethan garden area Kenilworth Castle, Warwickshire 2004-2008

Report No. 15/53

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English Heritage Project No. 3866

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OASIS REPORT FORM

PROJECT DETAILS	*OASIS* molanort1-207544
Project title	Archaeological investigation within the Elizabethan garden area, Kenilworth Castle, Warwickshire, 2004-2008
Short description	English Heritage created an ambitious reconstruction of the former Elizabethan garden on the north side of the castle keep. In order to achieve a reliable representation of the original garden, archaeological evaluation was carried out by Northamptonshire Archaeology in autumn 2004, followed by two seasons of open-area excavation, further trenches and watching brief during construction. The work uncovered for the first time the foundation of an octagonal fountain basin described by Robert Langham in a contemporary letter relating to Queen Elizabeth I's visit in 1575. The results of the excavation also clarified to some extent the original dimensions of the garden, the foundation level upon which the fine surfacing detail would have been applied, and contributed to understanding its geometry, including the identification of a series of rubble-filled pits which may relate to possible locations of structural elements.
Project type	Archaeological evaluation, excavation, watching brief
Previous work	Archaeological evaluation
Future work	None
Monument type/period	Elizabethan Garden within the grounds of 12th century castle
PROJECT LOCATION	
County	Warwickshire
Site address	Kenilworth Castle
NGR	SP 278 723
Area	*c*0.6 hectares
PROJECT CREATORS	
Organisation	MOLA Northampton
Project brief originator	English Heritage
Project Design originator	Northamptonshire Archaeology
Director/Supervisor	Joe Prentice
Project Manager	Brian Dix, Stephen Parry
Sponsor or funding body	English Heritage
PROJECT DATE	
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End date	2008
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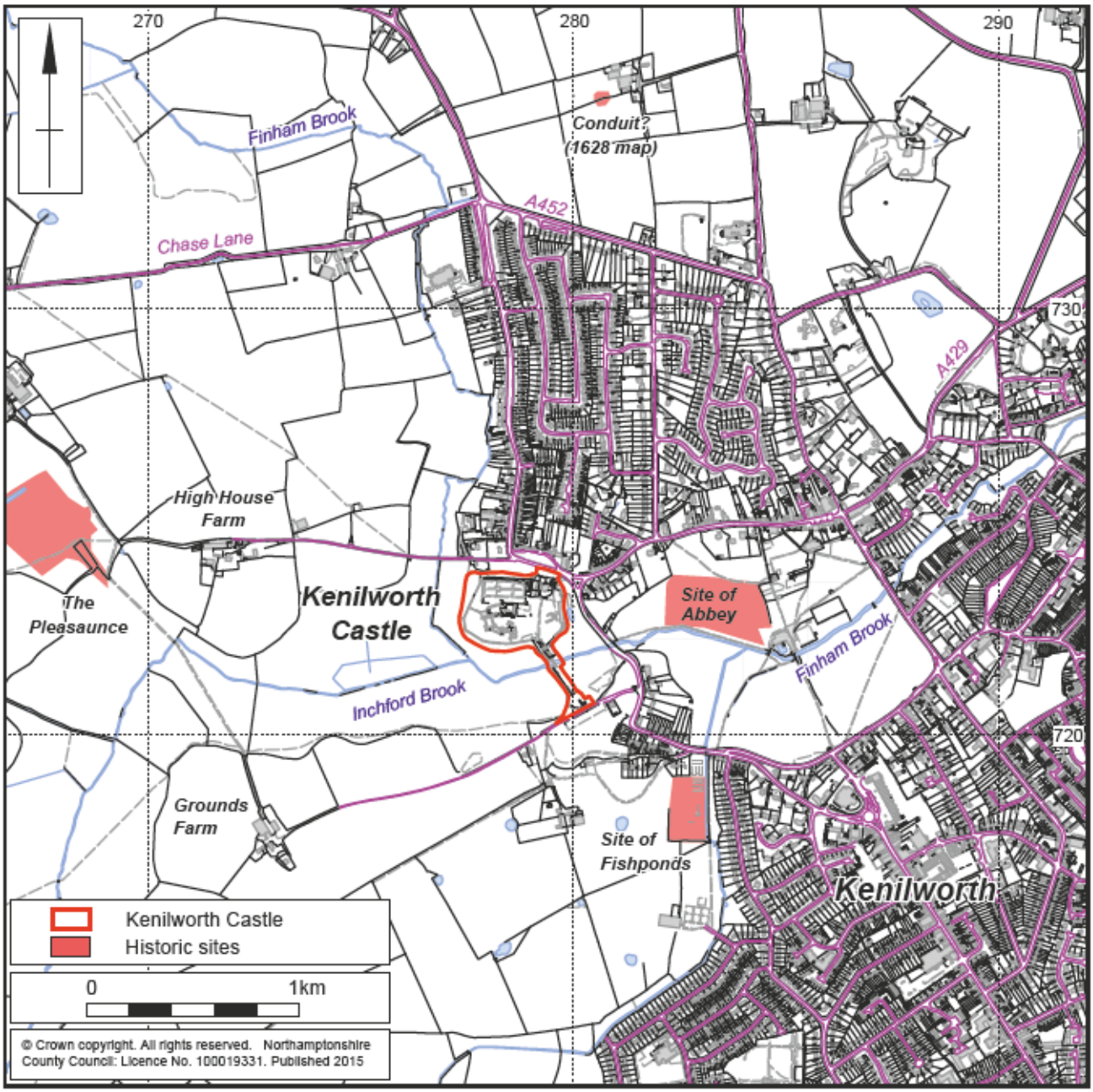
1 INTRODUCTION

As part of the Property Development Programme for Kenilworth Castle, Warwickshire, English Heritage created an ambitious reconstruction of the former Elizabethan garden on the north side of the castle keep (Keay 2013a). In order to achieve a reliable representation of the original garden, a team with a broad range of specialist knowledge was brought together to advise first upon the practicality of undertaking the project and then to assist in the delivery of the design. Related detailed studies have been assembled in an English Heritage monograph, *The Elizabethan Garden at Kenilworth Castle*, edited by Anna Keay and John Watkins (2013). An overview of archaeological component of the project is contained within the monograph, but a full account of the archaeological investigations in the garden area could not be included due to limited space (Dix *et al* 2013). The present report is therefore intended to provide the necessary detail relating to the Elizabethan garden, as well as medieval remains, later Civil War activity, and more recent land-use. The excavations have English Heritage project number 3866.

A previous garden reconstruction had been attempted in 1975, and was based on a plan of the Kenilworth garden published in William Dugdale's *Antiquities of Warwickshire* in 1656. The decision to undertake a further re-creation of the Elizabethan garden was partly based on evidence from archaeological evaluation carried out by Northamptonshire Archaeology (now MOLA Northampton) in autumn 2004, and from two seasons of more extensive work in 2005 and 2006. This period of works included open-area excavation and individual further trenches intended to elucidate specific aspects of the boundaries to the garden and southern terrace (Figs 1 and 2). Amongst other discoveries, the work uncovered for the first time the foundation of an octagonal fountain basin described by Robert Langham in a contemporary letter relating to Queen Elizabeth I's visit in 1575 (Keay and Watkins 2013 Appendix 1.1; Goldring 2013). Its discovery showed that the 1975-garden reconstruction had little in common with the Elizabethan garden (Keay 2013b, 80-82). The results of the excavation also clarified to some extent the original dimensions of the garden, the foundation level upon which the fine surfacing detail would have been applied, and contributed to understanding its geometry, including the identification of a series of rubble-filled pits which may relate to possible locations of structural elements.



Scale 1:15,000

Site location Fig 1

Scale 1:1250 (A4)

Kenilworth Castle layout, showing area of investigation

Fig 2

As the purpose of the excavation was to investigate the Elizabethan garden, only limited work was carried out on the preceding medieval use of the north court, and any associated remains were largely sealed below make-up layers intended to create a level surface for the garden. Two principal medieval features were examined: the northern north curtain wall and associated flanking towers; and the inner bailey ditch. The excavation also shed some light upon the history of the site during the English Civil War as well as shown how the garden was subsequently cultivated and used up to the late twentieth century.

During the construction phase of the new garden, the present surface was built up from the now protected foundation level identified in the 2005-6 excavation, so that service runs and other interventions were mostly contained within the introduced soils. However, due to new access arrangements being made into the garden from the forebuilding and also to the east, further archaeological recording was undertaken in those areas. A watching brief was also carried out along the line of a new service trench which extended east of the garden, before turning north to connect with mains supplies in Castle Road. As the trench was only 300mm deep, only modern layers were encountered.

2 BACKGROUND

2.1 Location, topography and geology

Kenilworth Castle lies to the north-west of the town, bounded to the north and north-east by modern development and on its other edges by fields and open land. It is a site of national importance, comprising spectacular ruined buildings of various periods and is currently managed by English Heritage as a flagship property which enjoys high visitor numbers. The castle is a Grade I listed building, and a Scheduled Monument (nos. 1035327, 1014041 and 1000496 in the National Heritage List for England), centred on HGR SP 278 723 (Fig 1).

The area of the former Elizabethan garden lies on the north side of the red sandstone twelfth-century keep. It was contained within the line of the former north curtain wall, now marked by a hedge inside a later garden wall that was built further out on a slightly different alignment. The garden occupied the only large, fairly flat, space within the castle on the north side of the keep. A very gentle slope down to the south and west is barely discernible. On the south side of the garden a low earth bank or terrace extends either side of the forebuilding beside the outer wall of the keep. At the west, the garden area is bordered by a stone wall, possibly of sixteenth-century date, with a modern beech hedge planted in front of it. The east and north sides are also bounded by recently planted beech hedges. The entire garden area is a roughly rectangular plot of approximately 0.5ha which, until the 2005-6 works, was occupied by a topiary 'Tudor Garden' laid out in 1975.

The natural geology of the site comprises an outcrop of Bunter Sandstone and Conglomerates overlain by sands and gravels of Pleistocene origin. Study of the levelling layer within the excavation area showed that the natural surface originally sloped gently westwards towards the Great Mere. For this reason, the area had to be levelled to create the Elizabethan garden.

The castle occupies the southern end of a long, low promontory from which the ground falls away on the east, south and west sides. The primary defensive element, the keep, occupies the highest point with its four walls corresponding with the cardinal points. The keep and other buildings around it were enclosed within a north curtain wall studded

with a series of towers, some of which remain. The neck of the promontory was defended by the cutting of a great ditch which protected the northern section of the outer bailey. Marshes on the south and west sides at the junction of the Finham and Inchford brooks were later flooded by the creation of a dam to create the Great Mere, which afforded added protection on the south side of the castle (Fig 2).

2.2 Historical and archaeological background*

** For convenient history see the English Heritage guidebook (Morris 2010), upon which much of the following summary is based.*

Kenilworth Castle was established in the 1120s as an earth-and-timber stronghold by Geoffrey de Clinton, chamberlain to King Henry I (1100-35). Construction of the stone castle keep may have begun as soon as a decade later. On the death of Geoffrey de Clinton II in 1172-1173, King Henry II (1154-89) took the castle into his own hands. Thereafter, the Pipe Rolls indicate that both Henry and his son John (1199-1216) began to expand the stone-built stronghold. It is during this mid twelfth- to early thirteenth-century period that the north curtain walls were constructed, thereby creating three enclosed spaces. One of the spaces was later described as the north court, into which the Elizabethan garden was subsequently built. Further developed by King Henry III (1216-72) and his son Edmund Crouchback, Earl of Lancaster (d. 1296), Kenilworth was established as one of the strongest and most significant castles in the realm by the end of the thirteenth century. In the later fourteenth century, John of Gaunt, Duke of Lancaster (1361-99), transformed the site into a palace fortress, his new great hall and other apartments representing some of the finest domestic architecture of the period. As part of this work John Deyncourt was instructed in 1374 to enclose the garden, though it is uncertain where this was located, and it may not have been in the same area as the later Elizabethan garden (Demidowicz 2013a). The wider landscape was enhanced by the Great Mere in the early thirteenth century; although primarily a defensive feature it was later used in conjunction with entertainments. From 1399 until 1563 the site was once more in the hands of the Crown.

In the second half of the sixteenth century, Kenilworth was granted to John Dudley, Duke of Northumberland, who initiated fresh building programmes. The Chirk survey, almost certainly carried out when his son Robert Dudley, Earl of Leicester, was granted the castle in June 1563, mentions the north court but does not describe any buildings or other features within it (Molyneux 2008; Demidowicz 2013a). Leicester further remodelled the castle with a range, known still as Leicester's Buildings, that was constructed to the south of the keep, as well as a new gatehouse (Fig 3) and the Elizabethan garden. The works were largely in anticipation of visits by the Queen who had been to Kenilworth on three previous occasions in 1566, 1568 and 1572. Her final visit in July 1575 lasted nineteen days.

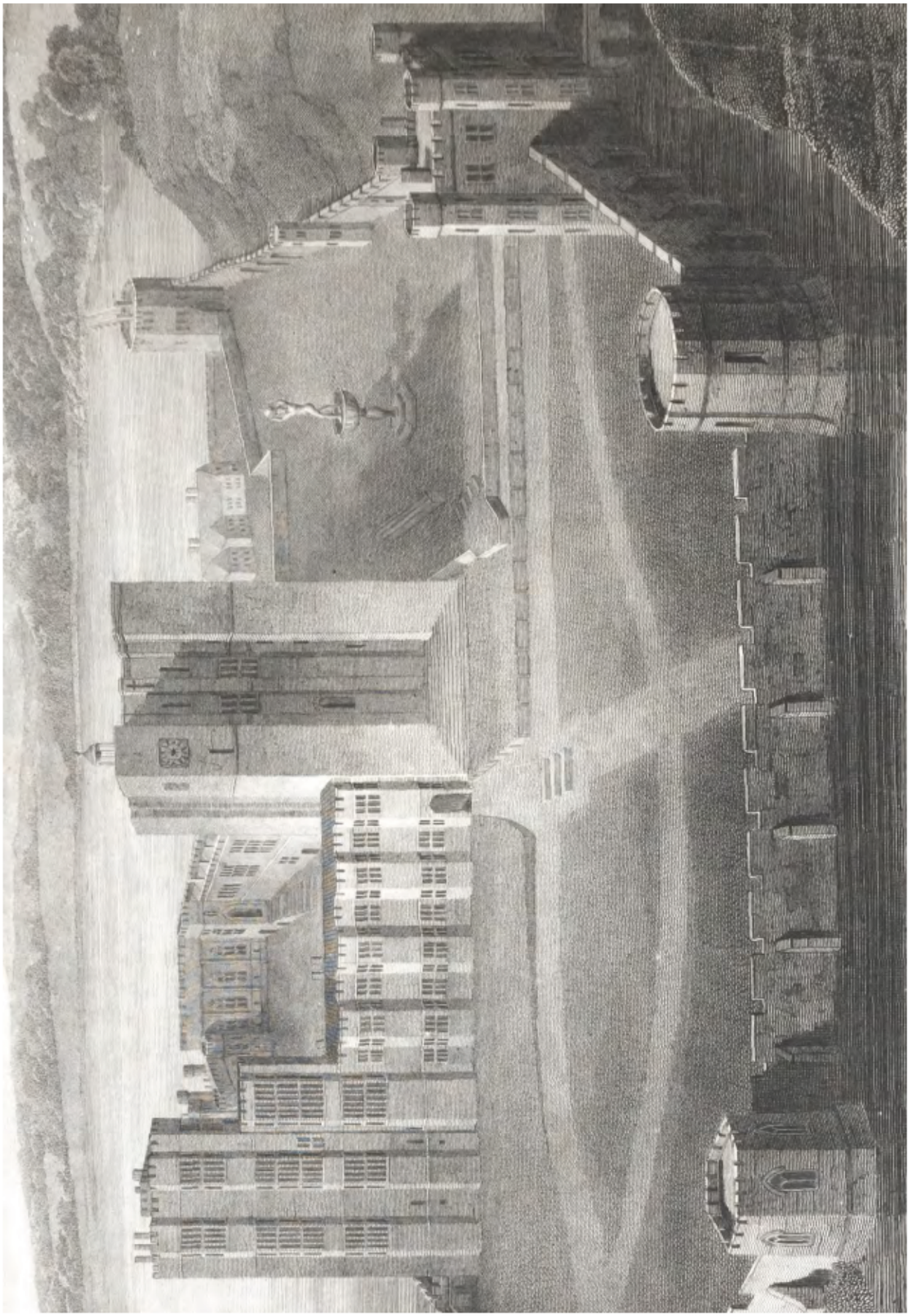
Of Leicester's garden for Queen Elizabeth, there is only one secure descriptive reference (Keay and Watkins 2013, Appendix 1.1). A contemporary letter written by Robert Langham describes the focus of the garden as an octagonal white marble fountain, surrounded by four quarter plots, each with a pierced obelisk apparently carved from a single piece of porphyry at the centre. The quarters were separated by grass paths, probably bordered with sand, and sculptures including the bear and ragged staff (one of Leicester's emblems) and spheres were placed around. Along the southern side of the garden there was an earth terrace with grass top and slope, whilst opposite a large, finely decorated aviary was built against the north curtain wall. It is unclear from the wording of the letter exactly how the east and west sides of the garden terminated, and how the arbours fitted within the garden.

View of Leicester's gatehouse, converted to a residence after the Civil War, looking north-west Fig 3

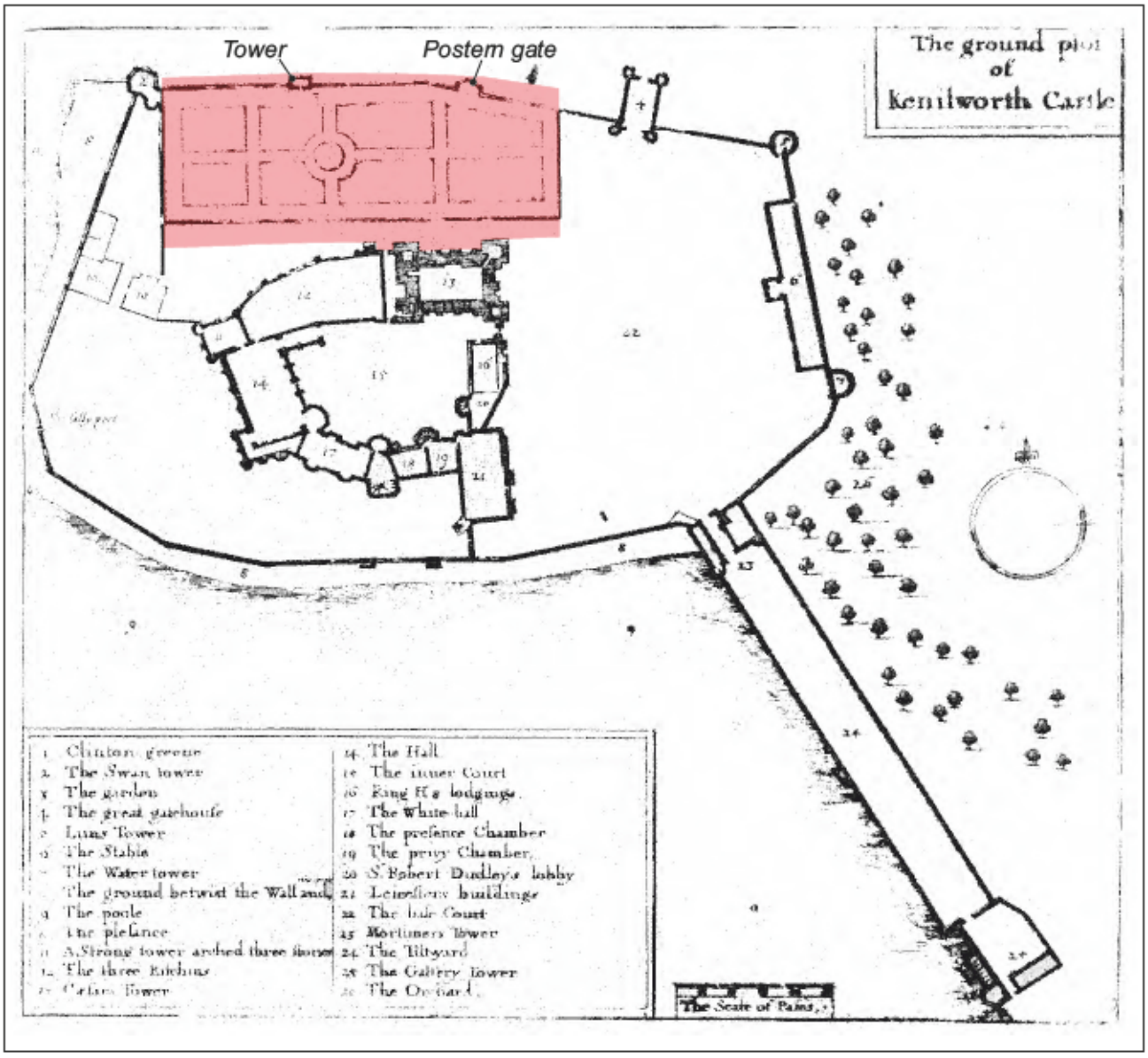
Whilst there may have been some remodelling when Leicester's son, Sir Robert Dudley, took over, the only clear historical evidence for alteration dates to the time when the castle was sold to Henry, Prince of Wales, and comprises an instruction for repairs and replanting in connection with a proposed royal visit in the summer of 1612 (Jacques and Keay 2013, 39). There is no other indication of further building or changes during the Stuart period.

Two later versions survive of a fresco, formerly at the Warwickshire house of Newnham Paddox, which apparently depicted a birds-eye view of the castle as seen from the east *c*1620 (Fig 4) (Keay 2013b, 75-80). Both views show much the same for the garden area: a grass lawn devoid of paths, arbours, aviary, and obelisks but still retaining a fountain, though not with an octagonal lower basin. The reliability of the views remains the subject of debate since some details faithfully represent elements which are known to have existed or are still extant, whilst others are depicted inaccurately or not at all. However, these images, or rather the original source for them, remain chronologically closest to the Elizabethan garden and must be taken into account.

Details of the Civil War period (1642-8) are surprisingly scarce. The castle was held by both sides, first by the King's troops and later garrisoned by Parliament, although it is not clear that any military action took place here. Following the Civil War, Parliament gave an order in 1650 to render the castle untenable for military occupation, and it was subsequently slighted (Jacques and Keay 2013, 40). An engraved plan accompanying Sir William Dugdale's description and views of the castle published in 1656, but drawn before the slighting, has for long been taken to show the Elizabethan garden. However, it is now thought that it might represent a seventeenth-century adaption of the earlier garden, although it may not even have been implemented (Fig 5) (Keay 2013b, 80-2).



Detail of 1817-engraving of the Newnham Paddox fresco of *c*1620 Fig 4



Plan made for Sir William Dugdale, published in 1656 Fig 5

Major Joseph Hawkesworth, a Parliamentarian commander who bought the castle, established a residence in the northern (Leicester's) gatehouse, blocking the central archway and adding further gabled ranges on the east side (Fig 3). Only the stables were retained as serviceable buildings with the remainder of the castle left to ruin. After the Restoration, short leases were granted by the Crown to the Earl of Monmouth and his family, which lasted until the early eighteenth century (Jacques and Keay 2013, 40). In 1665 the freehold had been granted to the Earls of Rochester and Clarendon, and Clarendon's son Laurence Hyde came into full possession after Monmouth's leases ended. The family retained ownership into the twentieth century.

By the middle of the eighteenth century, an increasing interest in historic sites brought Kenilworth to the attention of a growing number of antiquarian visitors, and with the publication of the novel *Kenilworth* by Sir Walter Scott in 1821, the castle became a visitor attraction for a wider public. The site also attracted artists who endeavoured to capture romantic views of the ruins, although none apparently chose to directly illustrate the area of the former Elizabethan garden. Scenes of the northern side of the castle tended to concentrate on the remains of the slighted keep and depict a great mass of rubble from its broken north wall, while the area of the garden is shown heavily wooded (Fig 6). Extensive repairs to the fabric of the castle were made between 1868 and 1872 and it is possible that the mound of rubble within part of the garden was cleared around this time. Early twentieth-century photographs show that the area comprised a flat garden with the terrace against the north side of the keep, and its floor largely planted with fruit trees (Fig 7) (Jacques and Keay 2013, figs 5.4 - 5.5).

Detail of an undated engraving, *c*1820, of the keep with mound of slighting debris spilling into the garden area Fig 6

Undated aerial view of Kenilworth castle from the west, possibly late 1960s Fig 7

In 1937 John Davenport Siddeley, first Baron Kenilworth, bought the castle and by 1939 had placed it in the care of the Office of Works. The fruit trees were removed in the 1960s leaving a bare space until the creation in 1975 of a 'Tudor garden'. Excavation prior to its construction by Dr. M. W. Thompson, former Inspector of Ancient Monuments, largely concentrated on the original defensive north curtain wall and its associated towers (Thompson 1969, 218-20). Further excavations by Beric Morley in 1970 comprised two hand-dug trenches cut diagonally across the area of the garden, with the easternmost trench turning southwards to sample the foot of the terrace (Fig 33) (Ellis 1995). The trenches were located to intersect features shown in the Dugdale plan but instead located a linear slot and a possible path surface which have since been shown to relate to later cultivation. No features were found from the Elizabethan garden. Despite the lack of associated evidence, Dugdale's plan was used as the inspiration for the reconstructed garden, which was completed in 1975 and was maintained for almost 30 years. The Property Development Programme plans for Kenilworth in the mid-2000s provided an opportunity to investigate the garden area further.

3 AIMS, OBJECTIVES AND METHODOLOGY

3.1 Aims, objectives and methodology

Previous reliance upon Dugdale's plan resulted in the misplacing of archaeological trenches intended to capture evidence of the true Elizabethan layout. In consequence, the garden created in 1975, although attractive, had little to do with the 1575 garden. The 2004 evaluation approached the problem of the garden in a different way, using Langham's letter as the principal description and considering the surviving architectural and topographical evidence from the site, including the contemporary point of entry from the main castle buildings through the surviving forebuilding arch.

2005 excavation looking west from the gatehouse roof Fig 8

2006 excavation looking west from the gatehouse roof Fig 9

Having established the survival of the stone and mortar foundations of the fountain in 2004, it was decided to investigate any further details that might survive from the sixteenth-century layout. A total area excavation was considered to be the most promising method of identifying any significant remains of the Elizabethan garden. These would need to be preserved in the new garden design, and would inform a more accurate re-creation. The removal of the trees and hedges of the former garden would also prevent potential damage by root penetration.

Archaeological investigation of the garden was proposed in response to a brief prepared by Focus Consultants on behalf of English Heritage (Focus 2005). Following tendering, Northamptonshire Archaeology was appointed to carry out the required works commencing in July 2005, to be followed by a second season of excavation in 2006. The Elizabethan Garden Project was considered to comprise four main stages:

- The complete and careful removal under archaeological supervision of the existing arrangement of paths and modern planting, including the hedge bordering the wall at the western side;

- Archaeological excavation of the entire garden area to investigate and record the evidence for post-Elizabethan use as well as to record the full extent of the surviving Elizabethan garden and to examine its relationship with earlier land use in so far as practicable;

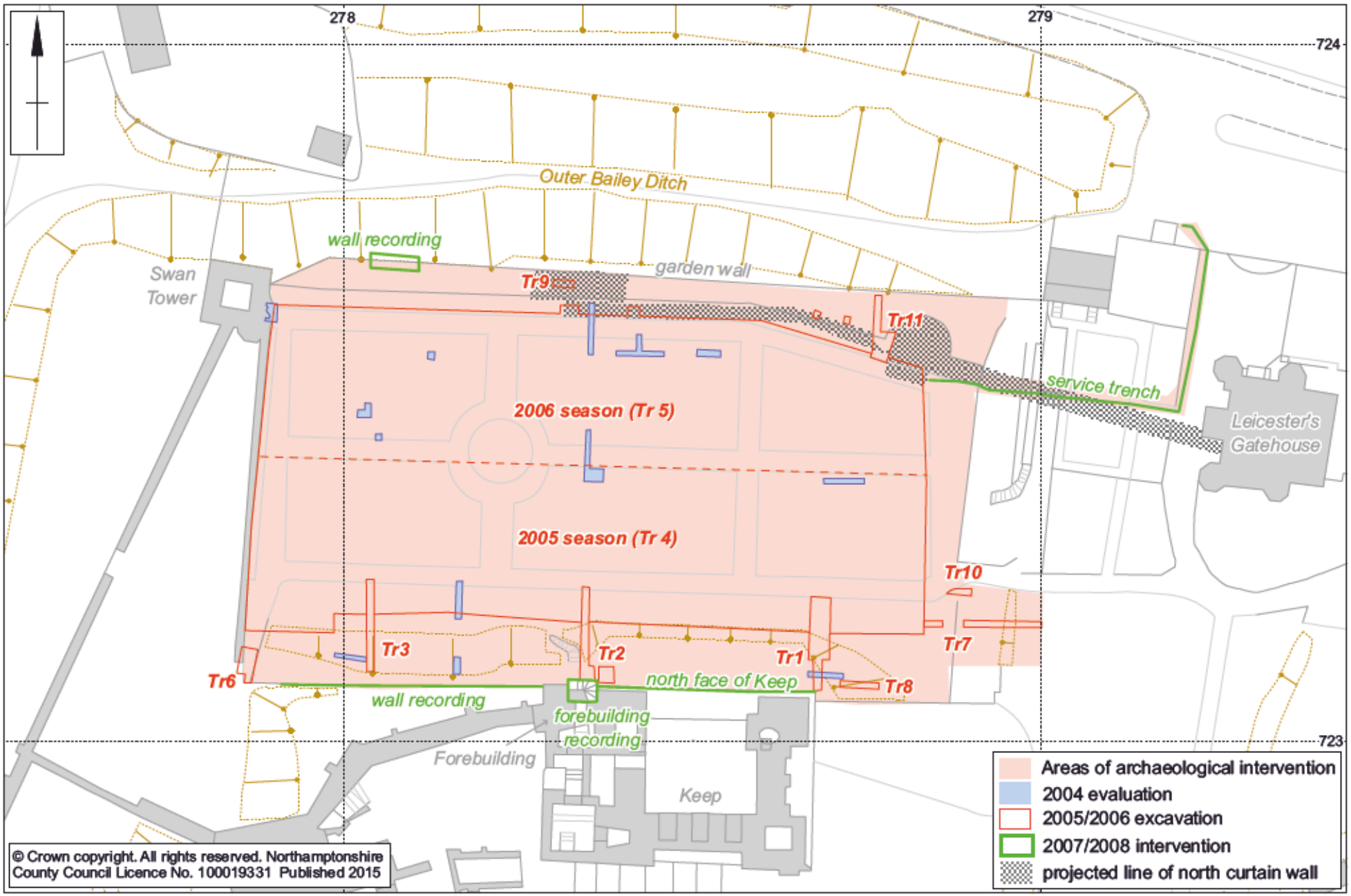
- Protection and preservation of the remains of the Elizabethan garden within the programme of archaeological investigation, to be followed by reconstruction using the archaeological evidence where available;

- Upon the completion of archaeological fieldwork a programme of assessment, analysis and dissemination to be implemented in accordance with English Heritage procedures.

The work was spread over two seasons with the excavation of the southern half of the garden being undertaken first, followed by the area to the north (Figs 8 and 9); these excavations were designated trenches 4 and 5 respectively. This phased programme was due to the decision to retain soil on site for reuse. In each instance, modern topsoil was removed by mechanical excavator under archaeological supervision to reveal earlier layers and features, principally the levelling layers for the Elizabethan garden (Trench 5) and the Civil War ditch (Trench 4), which were then cleaned by hand. A series of smaller trenches were dug around the edges of the main work in order to investigate the boundaries of the garden; trenches 1, 2, 3, 6 and 8 examined the terrace beside the keep, together with the inner bailey and Civil War ditches. Trenches 9 and 11 were positioned to investigate the north curtain wall and towers of the outer bailey, while trenches 7 and 10 were opened to examine the eastern side of the garden (Fig 10). Geophysical surveys were carried out during each season by Dr Neil Linford, Archaeometry Branch, English Heritage, but the results were inconclusive, with few distinct anomalies being detected, and none which could be identified archaeologically.

3.2 New Garden Design

Plans for the creation of a new garden were carried forward by English Heritage in conjunction with Richard Griffiths Architects, and based upon the archaeological evidence and other studies (Keay and Watkins 2013). The new garden was opened to the public on 2 May 2009 (Fig 11).



Archaeological works 2004-2008 Fig 10

The 2009 garden under construction, looking north-east from the terrace Fig 11

3.3 Watching brief

Following the main excavation a series of watching briefs was carried out during setting-out works for the new garden, both within the garden area and to the east where access for services was required from the car park on the north side of the gatehouse.

Specific details of the north face of the keep were also recorded both photographically and through annotating existing drawings held by English Heritage. Such recording was necessary since approximately 1m of the exposed batter of the keep wall would be buried by raising the terrace to the dimensions indicated in the Langham letter. Minor variations were noted between the existing elevations based upon rectified photographs and the current condition of the stonework. However, it is not possible to determine whether this denotes actual deterioration or the difficulty in identifying fine detail from the original photographs. Within the archway of the forebuilding, the plan and elevation of the flight of steps onto the former terrace were also recorded since these were to be hidden by a new arrangement of timber steps providing a safer and more visually appropriate entrance into the new garden (Fig 12). At least part of the existing configuration of steps was identified as a modern construction.

View of the slighted north side of the keep overlooking the 1975-garden, taken in 2005. The forebuilding arch can be seen to the right Fig 12

Other recording was carried out on a stretch of walling along the south-west edge of the terrace which was also due to be buried below the newly raised terrace. The upper surface of the wall was cleaned of moss and weeds following removal of the adjacent beech hedge, which had been planted as part of the late twentieth-century remodelling of the area. The upper surface of the wall was photographed and drawn stone-by-stone at a scale of 1:20 along the length which was to be buried; the remainder, which would be left exposed, was recorded only in outline. It is not thought that any of the exposed upper surface predates the Office of Works period.

Scale 1:300

General plan of excavations Fig 13

THE EXCAVATED EVIDENCE

4 THE MEDIEVAL CASTLE (1120-1563)

Most of the features that might be expected in the outer ward of the medieval castle were either truncated or covered by the levelling layer which appears to have been introduced to create a flat surface for the Elizabethan garden. Their investigation was beyond the scope of the present project. However, some medieval features were incorporated into the Elizabethan garden, principally the north curtain wall and associated towers placed, and were therefore investigated (see Fig 13 for general site plan, and Fig 14 for the medieval features).

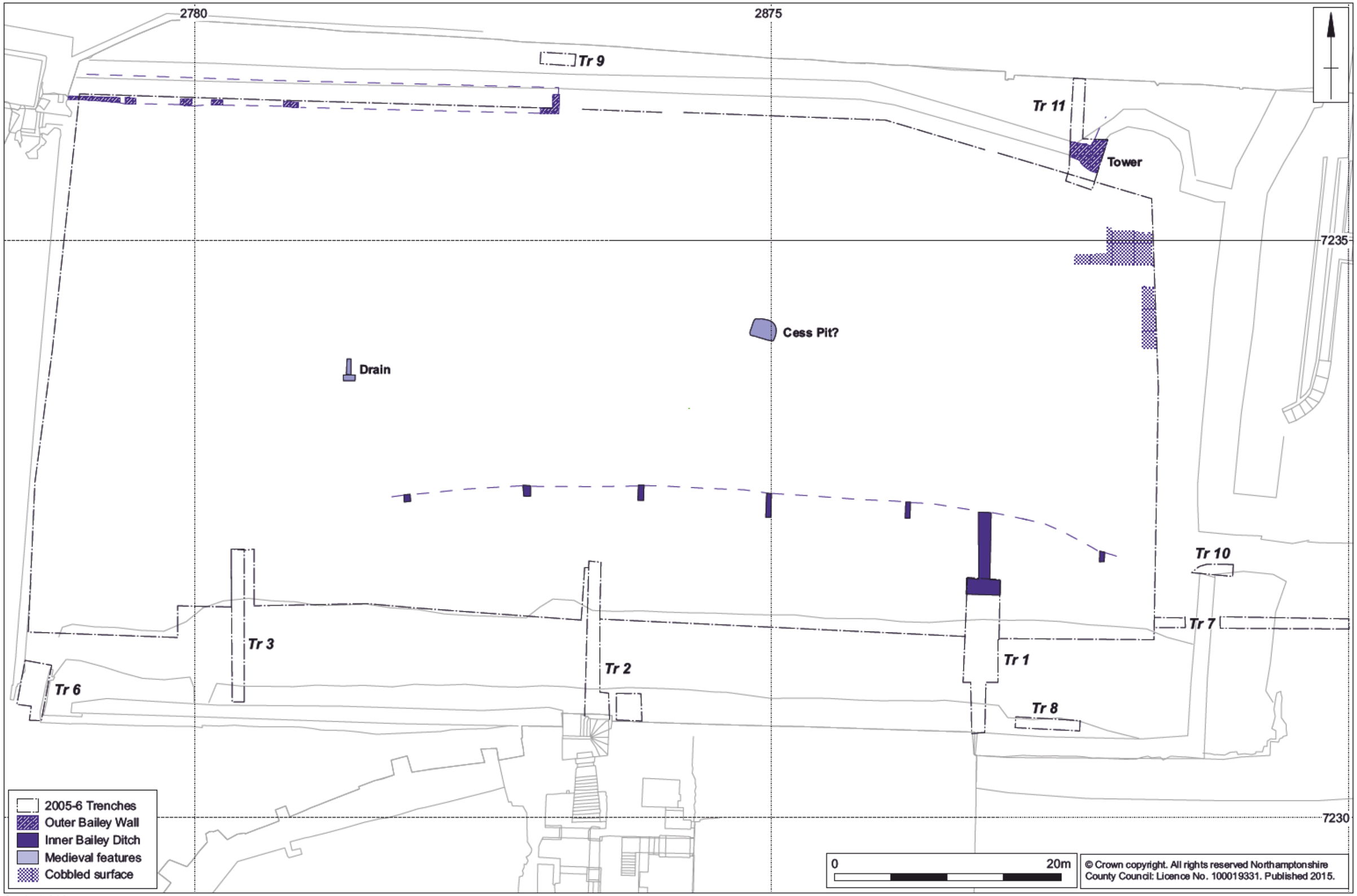
4.1 Outer bailey curtain wall and associated towers

The outer bailey curtain wall, which would have formed the northern side of the garden, survived until the middle of the seventeenth century as demonstrated by the Dugdale plan (Fig 5). Today, only the upstanding ruin of Swan Tower survives at the western end of the garden area, but there were previously two further towers along the wall towards Leicester's gatehouse. The remains of Swan Tower retain scars of the curtain wall on the eastern face. The robber trench [4199] dug to remove the wall closely followed the original wall line and contained some surviving wall foundation. These discoveries indicate that the wall was originally around 1.10m thick. The southern face of the wall was finished with a clean, vertical face of dressed ashlar blocks laid in horizontal courses. The core of the wall comprised undressed pieces of varying size set in large quantities of lime mortar (Fig 15).

The position of the central tower was also investigated. A previous sondage excavated by Dr. Thompson in 1968 was re-opened, but the extent of the local robbing was such that it was not possible to identify either the position or size of the missing tower, although it may be suggested that it had been built with a stepped footing. The underlying soil, soft pinkish sandy clay, was probably degraded natural sandstone. It appears that the tower extended northwards from the line of the curtain wall rather than straddling it, since no remains were found to the south. The surviving foundations between the central tower and Swan Tower showed a slight offset to the south, which may denote the western wall of the tower. The Dugdale plan of 1656 appears to confirm that the tower lay mainly to the north of the curtain, with only a small part projecting to the south; this is contrary to the detail in the engraving from Newnham Paddox which shows a polygonal tower projecting entirely to the south of the curtain wall (Figs 4 and 5). The position of the tower in the Dugdale plan, however, is much further to the west in relation to the keep and forebuilding than was actually the case. Excavations have revealed its location to be almost directly opposite the forebuilding arch, and therefore ideally placed to accommodate the aviary described by Langham.

The eastern end of the wall foundation was ragged and no indication of an original face was found. The original thickness of the wall in this location could not be determined therefore, and it passed beyond the limit of the trench. However, a separate trench was placed on the north side of the hedge to investigate its presumed projection (Trench 9) (Fig 16). The constraints of the adjacent wall and hedge meant its size was limited to 3.0m x 1.0m and the depth of the trench was constrained to 1.56m. A cut towards its western end [903] may represent the outer limit of the robbed-out tower at this point.

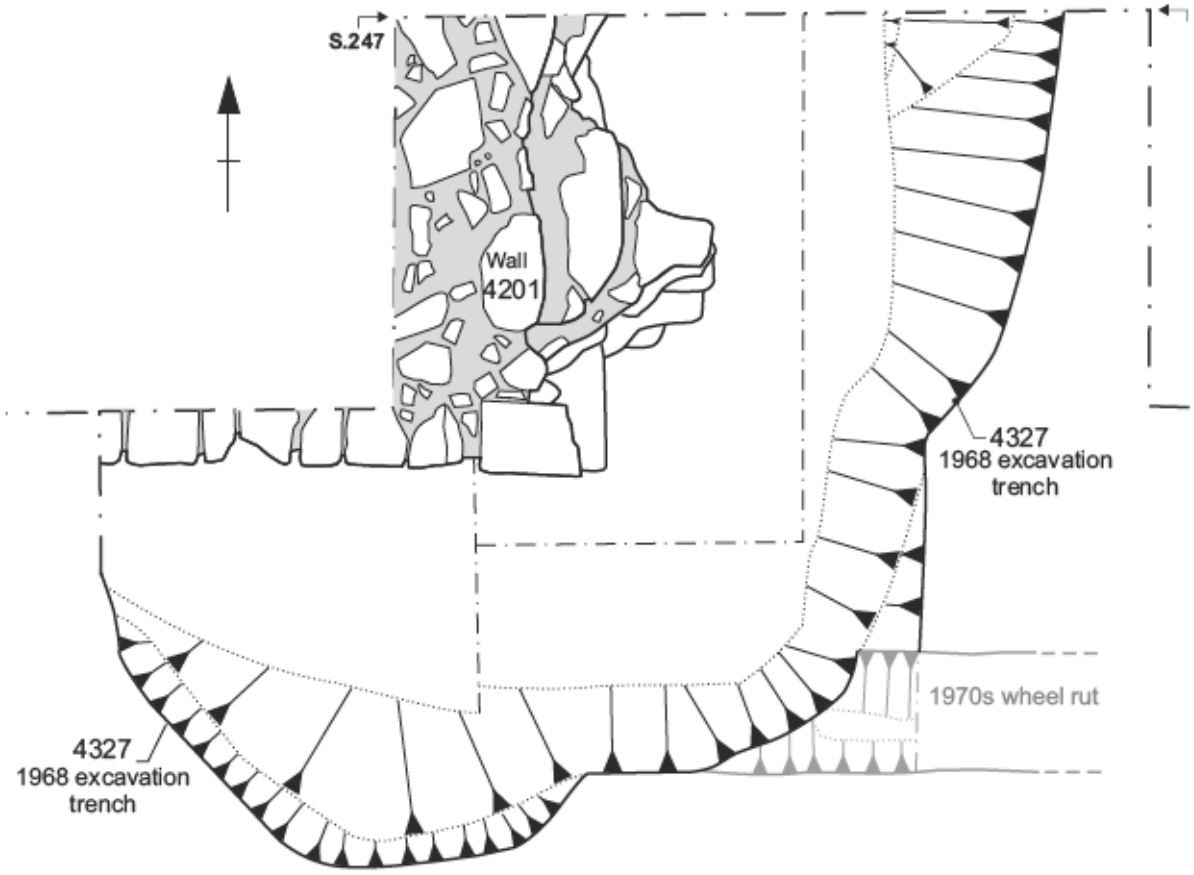
A sondage placed to the east on the south side of the beech hedge in order to investigate the possible survival of the opposite side of the tower revealed the upper edge of the robber trench but no remains of walling.



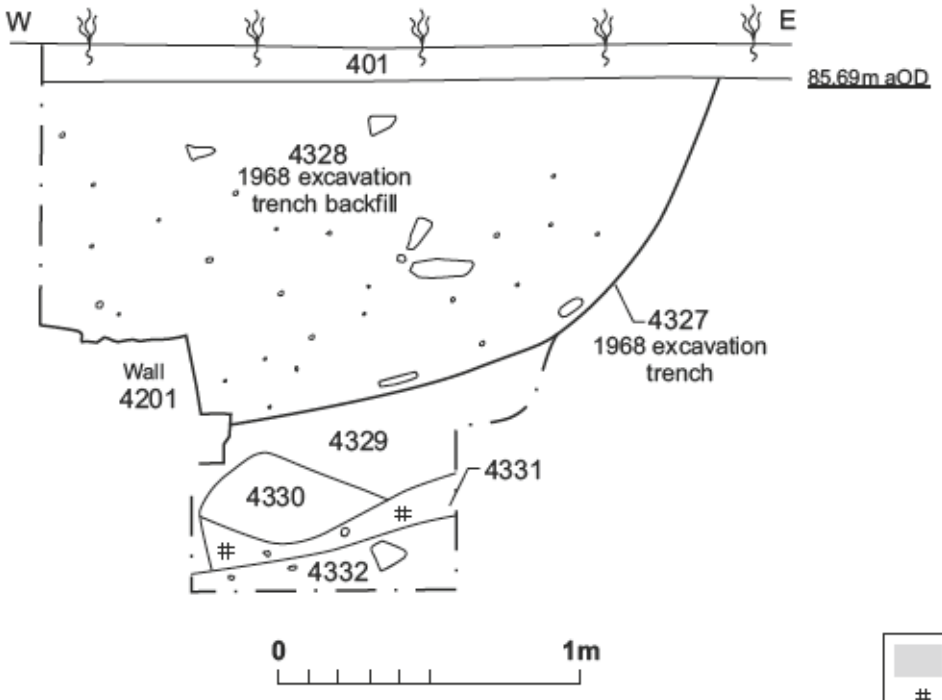
Scale 1:300

Medieval features Fig 14

The north curtain wall



Section 247



Scale 1:25

The north curtain wall and 1968 excavation Fig 15

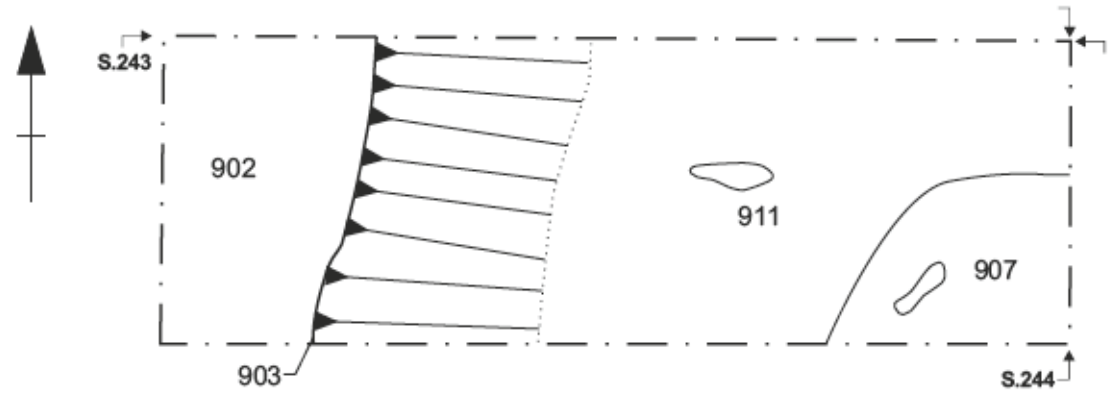
Further east still, close to the position of the next, so-called 'postern' tower, a further sondage was excavated to investigate the line of the wall. No obvious robber trench could be seen and extremely hard, compact gravels lay close to the surface. They appear to be a natural deposit, and their extreme hardness would have supplied an effective foundation for the curtain wall at this point.

An additional trench (Trench 11) was placed outside the beech hedge in order to investigate the stratification immediately north of the wall; and eventually a short section of the hedge was removed to expose the external wall of the semi-circular postern tower and the north face of the curtain wall. This trench also afforded the opportunity to investigate the outer bailey ditch which originally lay immediately north of the curtain wall, before being recut in a different position. The upper fill contained dressed stones, which had been cast down into the ditch during the seventeenth-century slighting. They include two large voussoir stones from arches though whether they were located in the postern tower itself or elsewhere is unknown. However, the fact that they do not match with any extant features of the keep but can be dated to the twelfth century by their narrow aperture and tooling, might suggest that they came from the postern tower, although this in turn would suggest the tower was earlier that other parts of the north curtain wall (see section 13 below, T1011-1013).

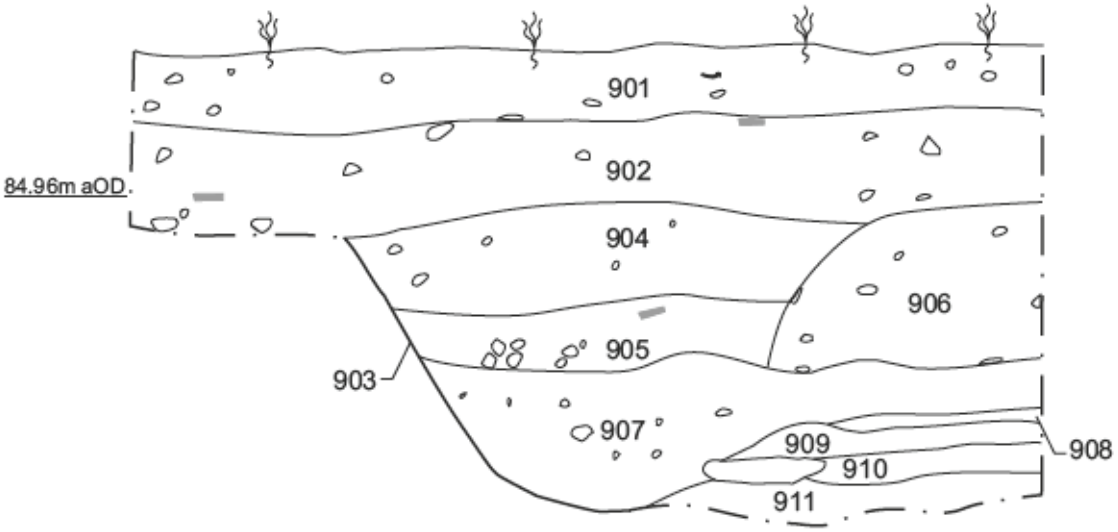
The removal of part of the modern hedge allowed the junction between the north faces of the postern tower and the curtain wall to be exposed (Fig 17). The curtain wall retained finely dressed facing blocks on the outer north face. The corresponding face of the postern tower was shown to be constructed of finely dressed red sandstone blocks with a gentle curve, contradicting the Dugdale plan which seems to indicate a polygonal form (Fig 5). The style of stone-dressing indicates a thirteenth-century date (see below section 13). The interior of the postern tower was previously investigated by Dr. Thompson although the outer face of the tower was not located at the time (Thompson 1969). His excavation revealed a small rectangular room with a doorway in both the north and south sides. The present use of the term 'postern tower' to describe the tower relates to its likely function as a postern gate; however, neither of the two towers on the north curtain wall are named in the Dugdale plan, which is a curious omission since all of the other principal features are. The Dugdale plan also omits a southern wall in its depiction of this tower, although one was located by Dr. Thompson. That trench was not re-opened.

The interior walls of the tower survived to over 1m in height and were constructed of finely dressed ashlar. The narrow pedestrian doorway leading out through the north side was neatly blocked. Dr. Thompson suggested that this may have been carried out when Leicester built the new gatehouse to the east, and thought that it could have potentially led onto a bridge (ibid, plate 34B). On the south side of the tower, a recessed doorway with drawbar rebate and sill indicated that the floor of the room was substantially lower than the ground levels to the south, where a gravelled surface was uncovered. It is not clear how this change in level was addressed and whether there were steps leading down into the tower room. A cobbled surface to the south of the tower appears to be contemporary with it (4287), although regrettably the trench dug in 1968 removed any stratigraphic relationship between the two. The surface comprised a compact gravel layer of mostly rounded and angular flint pebbles. It rose gently to the north close to the postern tower, but was steadily covered by the Elizabethan garden levelling layer to the south and west, suggesting that it dipped there originally. Its full extent is not clear, but it continued beyond the edge of the excavation area to the east. Whilst the change in levels visible today between the garden area and the area around the gatehouse almost certainly reflects the historical situation, it is not clear how the slope was handled originally; the current garden terraces to the east are modern and have been only superficially investigated.

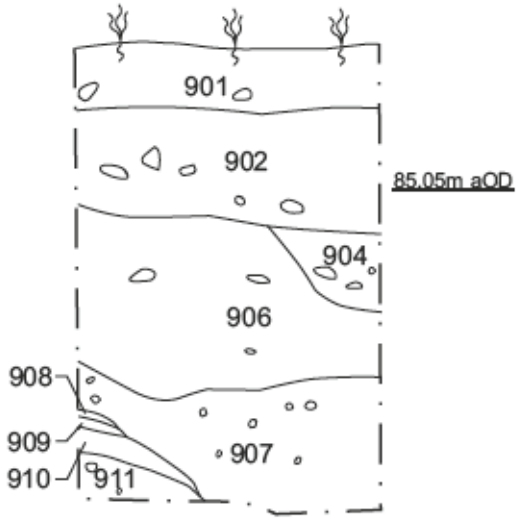
Trench 9

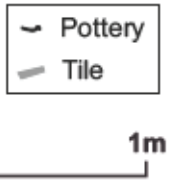


Section 243



Section 244





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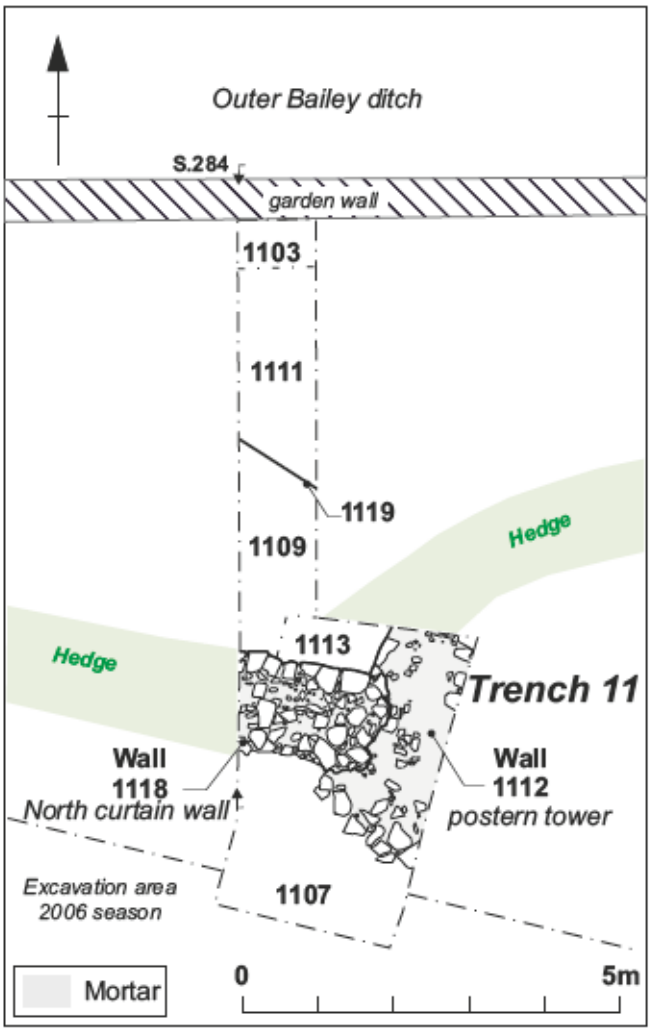
Trench 9, plan and sections Fig 16



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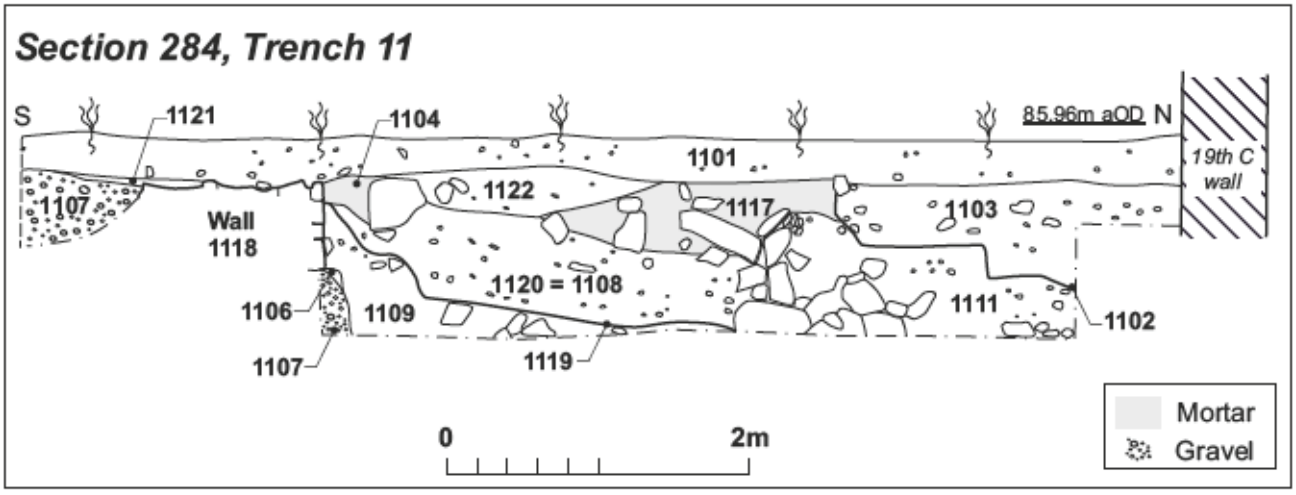

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The north curtain wall and postern tower, Trench 11 Fig 17

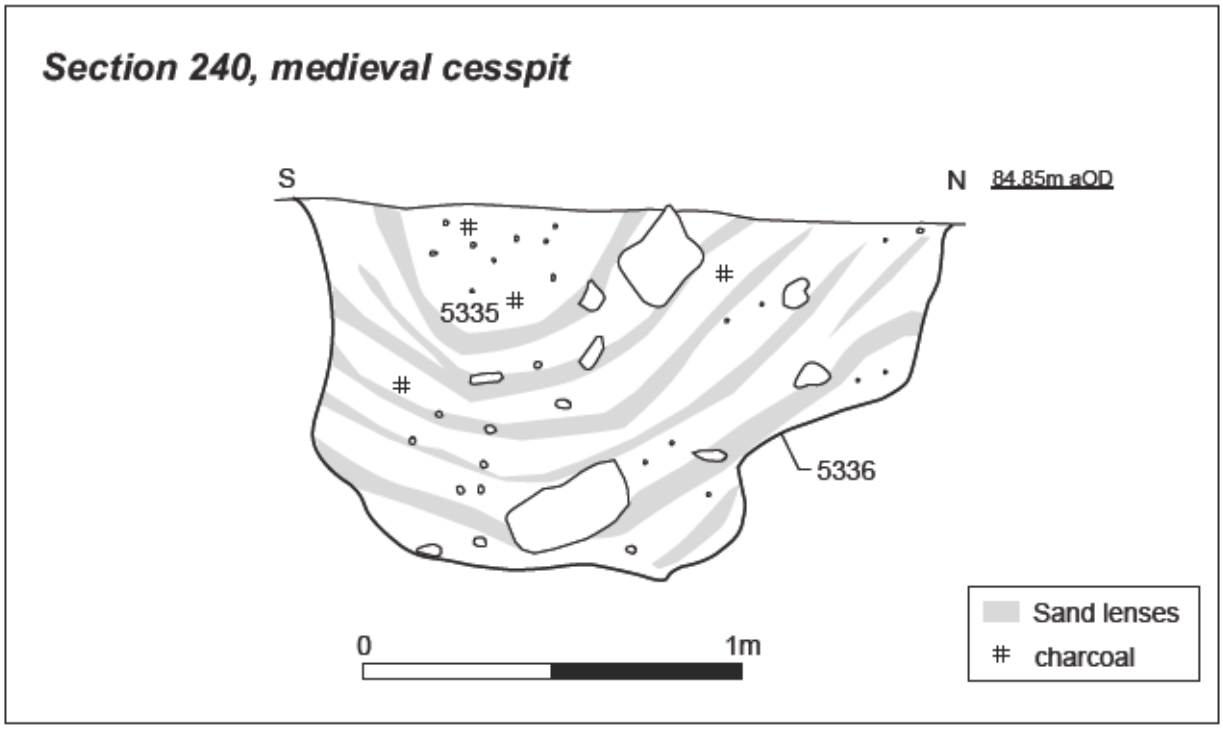
4.2 Inner bailey ditch

Trenches 2 and 3 showed that the creation of a ditch during the Civil War had removed all traces of the Elizabethan garden make-up, and cut into the upper fills of the inner bailey ditch [5127]. Likewise, any evidence of stone or timber steps joining the north side of the keep to the area outside had been destroyed. In addition to its exposure in trenches 2 and 3, the course of the northern edge of the inner bailey ditch was traced in a series of small test pits (Fig 14). Only the upper fills were partially investigated (119-121). In the absence of dating evidence it was not possible to determine the date of backfilling and since the ditch was not fully excavated, its original width could not be estimated. A series of layers (5167, 5170, 5175, 5178 and 5179), falling gently to the south and perhaps indicating the final backfilling dumps, contained no finds. Fill (5155) contained one sherd of twelfth-century pottery. Whether the ditch was fully or partly backfilled immediately prior to levelling the garden area remains unknown and the history of use of the area is equally uncertain. No clear indication was uncovered as to whether the ditch curved towards the south around the keep and associated buildings to the west.

4.3 Other medieval features

Part of a square-sectioned drain built of loose sandstone blocks was located towards the west end of the garden. It was constructed with walls of vertically-placed rough slabs of sandstone with a horizontal slab above to form the capping (Fig 18) (556/553-559). The whole was set within a wide construction trench closely filled with densely packed small sandstone fragments. There was no lining at the base of the drain and it is not clear in which direction it flowed since only a short section was exposed. It cannot be closely dated beyond its stratified position, which shows that it is earlier than the sixteenth century. The fact that it was made of unmortared stone and without a lined base, indicates that it was a drain and not a culvert carrying a water supply.

Medieval drain Fig 18



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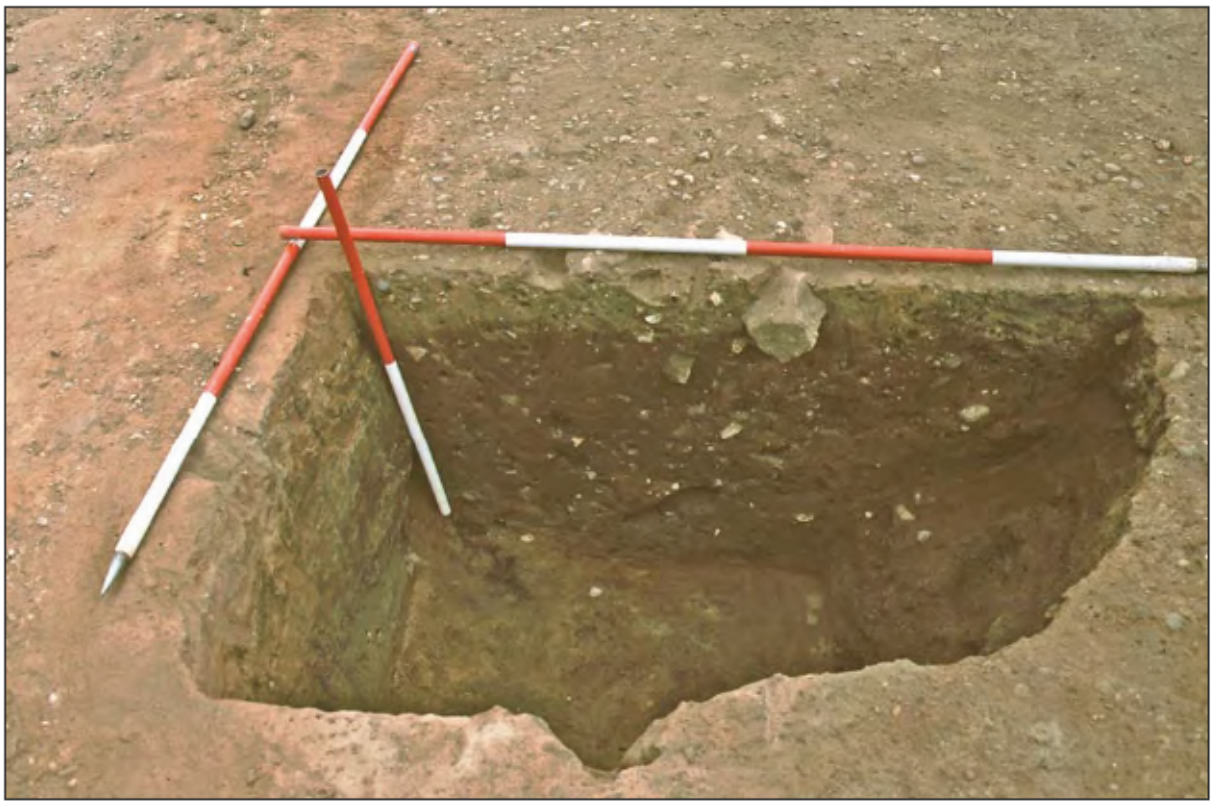


Medieval cesspit section and view, looking west Fig 19

A roughly square pit, probably a cesspit, was identified in the eastern area of the garden. The south side was vertical, the north stepped, and the east and west sides steeply sloping, all to a flat base [5356] (Fig 19). The fill (5357) was a homogeneous deposit of grey-brown sandy loam interspersed with occasional greenish tinges, lenses of sand, and a few large sandstone fragments. The natural here comprised clean reddish sand. The feature contained mid thirteenth-century pottery, and remains the only securely medieval context not contaminated by later artefacts. Environmental sampling proved inconclusive and it seems likely that the sandy, open nature of the fill precluded the preservation of organic remains at this depth. If it were a cesspit, it must have served a building located within the outer bailey.

A length of stone wall (602) in Trench 6 was probably contemporary with the west boundary wall (609) to which it appears to have been connected in a dog-leg fashion (see section 5.4 and Fig 27). A similar roughly-built stone wall retains the south side of the terrace on the east side of the keep.

5 THE ELIZABETHAN GARDEN (1563-1605)

With the recovery of the exact alignment and position of the north curtain wall, the partial dimensions of the Elizabethan garden footprint can be reconstructed as 52m north-south and approximately 66m east-west, thereby enclosing an area slightly smaller than one acre, which Langham estimated (Fig 20). A layer of light red sandy loam (501), with occasional areas containing more clay and stone, occurred consistently across the excavated area beneath the dark brown modern topsoil. It is likely that this soil was introduced specifically for the creation of Leicester's garden for Elizabeth. It sealed medieval features and appears to represent the deliberate levelling of ground which previously followed the natural topography and sloped to the west. The layer also probably smoothed out the last traces of the inner bailey ditch which extended along the southern margin of the area.

The levelling deposit varied in thickness, reflecting the underlying unevenness of the existing ground surface, and was entirely absent in the north-east corner of the excavation where the medieval cobble surface associated with the postern gate (4287) was exposed directly beneath the modern topsoil. One of the largest ceramic assemblages was recovered from the layer. Excluding residual early medieval pottery and contaminants of nineteenth to twentieth-century material, the pottery otherwise dates to the fifteenth and sixteenth centuries.

The original surface of the Elizabethan garden above (501) did not survive due to Civil War interventions, the removal of the north curtain wall, and later cultivation, as well as the creation of the 1975-garden. Evidence for the surfacing and other finishing details of the Elizabethan garden is likely to have been fragile. Langham describes grass paths with sand borders, and apart from the fountain, which was of marble on a sandstone foundation, the other architectural and structural elements of the garden seem to have been made of wood, despite his description of them as stone or porphyry. There is a significant absence of deep foundations of the kind that would be needed to carry the weight of heavy sculpture and other substantial structures, and the individual arbours and aviary could have been of timber, sill-beam construction. This might explain why no evidence was found of them (Dix *et al* 2013, 72-3).

2780

2875

7235

7230

Tr 9

Tr 11

Tr 10

Tr 7

Tr 1

Tr 8

Tr 2

Tr 3

Tr 6

5385

5367

5369

5377

5375

5391

5387

5362

5389

Outline of later pit

Fountain

579

570

5122

572

5114

5104

5108

5120

5110

2005-6 Trenches
Curtain Wall
Stone filled features
Stone & mortar foundations
Tile & stone filled features

0 20m

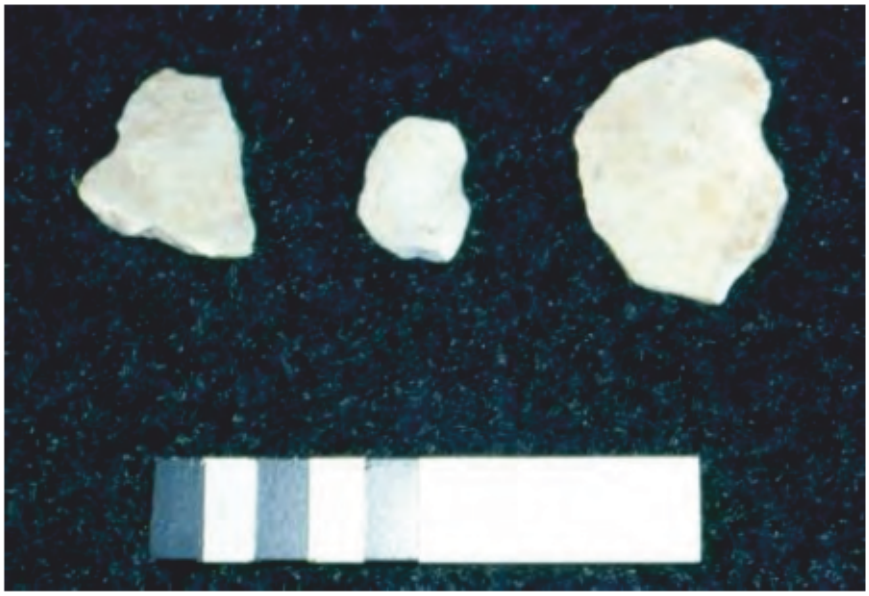
Scale 1:300

Elizabethan and other early garden features Fig 20

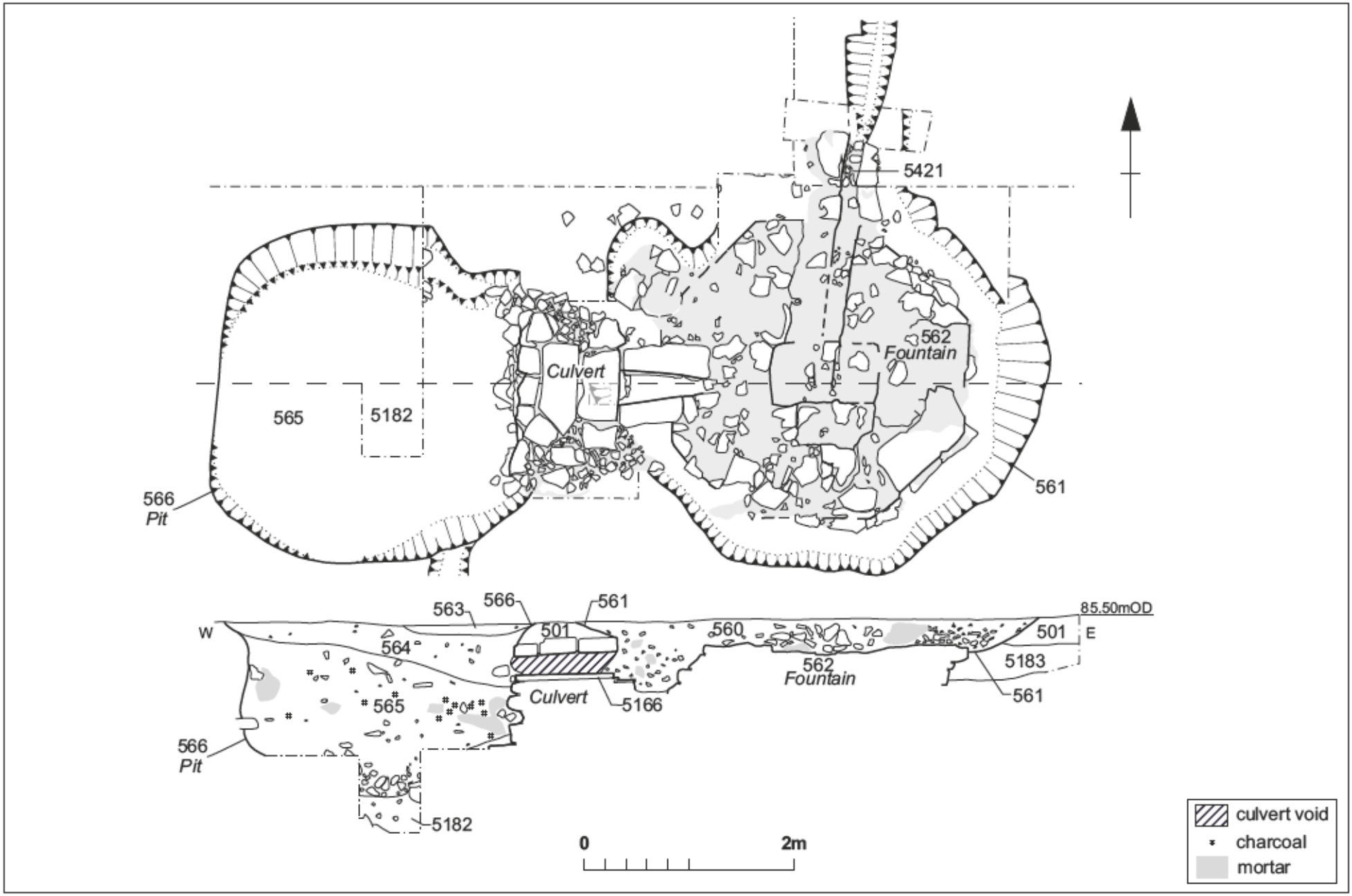
5.1 The central fountain

Most prominent among the surviving elements of the Elizabethan garden was an octagonal stone and mortar foundation (562), placed on a north-south axis in line with the forebuilding entrance. This represents the footings for the central fountain reported in Langham's letter, and the excavated feature matches his description in both position and form (Fig 21). Langham gives several further details: the fountain was of white marble, eight-sided in plan with a central pier or column topped by two 'Athlants' (male figures) standing back-to-back, facing east and west, and supporting a 'boll' from which water fell into the basin below. The surviving foundations were 2.84m across, with each facet being 1.0m-1.20m (3 ft. 3 in. to 3 ft. 11 in.) long. Langham writes that the sides were 'reared a four foot hy', suggesting that each facet of the octagon was square. At the centre a rectangular scar 1.0m x 0.60m appears to indicate the position of the central pier in the lower basin which supported the figures and upper bowl. It is aligned east-west along its length which would accommodate two figures standing back to back, tallying with the description. The foundation was made up of a mix of large and small sandstone blocks, including some re-used dressed pieces, all bonded in a pink-cream lime mortar. The foundation was *c*1.10m deep with a surviving upper limit of 85.06m above Ordnance Datum, indicating that the base of the fountain lay above that level (Fig 22). The top surface of the surviving foundation was very ragged and did not bear any scars which might indicate the size or shape of marble slabs which formed the base of the lower, octagonal basin.

No indication was found of any surrounding apron of paving, which in any case would have been at a higher level. Likewise, none of the marble superstructure remained. Presumably this was removed at a later date, although when has not been established. That the fountain was dismantled rather than broken up for rubble or lime-burning is suggested by the very small fragments of white marble that were found in the backfill of the robber or demolition trench. They are such as might be expected when separate panels or other elements were prised apart (Fig 23). The destruction of the fountain would have created much larger pieces; fragments of white marble uncovered on site during previous excavations at the castle, as well as during a later watching brief by Northamptonshire Archaeology in 2008, mostly appear to be from fireplaces inside Leicester's apartments, but might include a few pieces relating to the fountain (see below section 13).



Excavated marble fragments (Scale 50mm) Fig 23



Scale 1:50

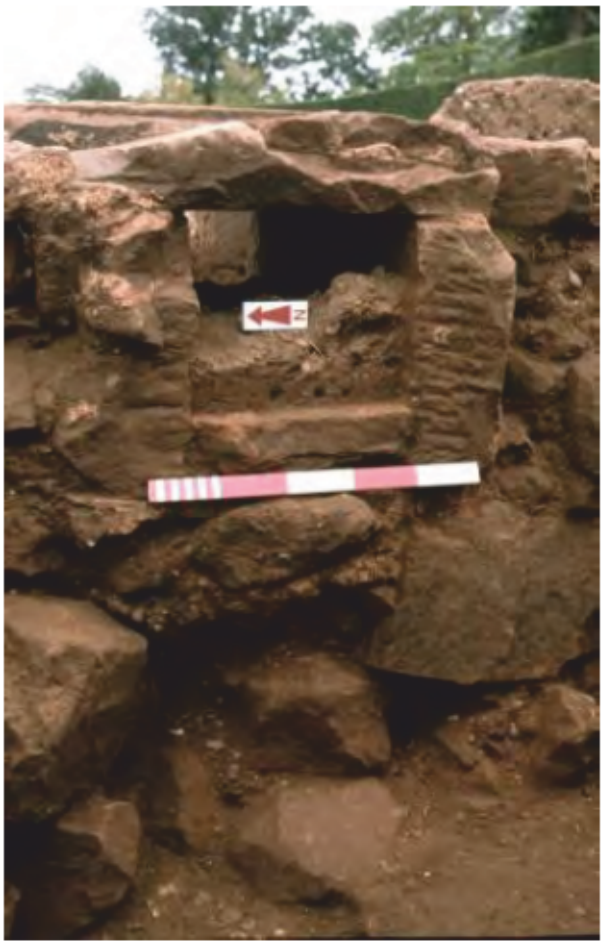
Plan and section of the fountain foundation, culverts and adjoining pit Fig 21

A short culvert extended approximately at right angles to the centre of the fountain on the north side; it was 0.80m long and made of sandstone blocks bonded in lime mortar (5421). It probably shielded a lead pipe conveying water to the fountain, and may indicate the limits of an area of paving, where pipework needed to be protected. No further trace of the course of the pipe was detected continuing northwards, and it appears therefore that it had been shallowly buried. It is not clear how or where the pipe would have passed through the north curtain wall or crossed the outer bailey ditch, although it is thought to have been supplied from a conduit house situated approximately three-quarters of a mile to the north (Keay and Watkins 2013, Appendix 2). The height of the conduit house was approximately 13m above the level of the garden, and so gravity pressure would have been sufficient to supply water to the upper part of the fountain. A scar in the foundation of the fountain showed where the channel led towards the central pier. The lead pipe and any associated stop-cocks were presumably removed at the same time that the fountain was dismantled. No side spurs were present in the stonework to indicate the positions of the water jokes indicated by Langham, but these were most likely composed of plumbing above foundation level.

A separate culvert lay on the west side of the fountain (562) (Fig 24). It was bigger and better constructed from large sandstone blocks, each carefully dressed (probably representing re-use) and laid to form a square-sectioned drain. Three capstones remained *in situ*, bonded in lime mortar, although the culvert remained partly open, and its lower part was filled with soil. The capping stones indicate that the finished level of the garden was at least 120mm above the surviving foundation level at a minimum of 85.5m aOD. At the eastern end, where the culvert joined the fountain, its sides narrowed; the capping had been robbed, presumably when the superstructure was removed. In the backfill of the narrow, eastern end of the culvert, a short length of discarded lead pipe was found *ex situ*. It almost certainly came from pipework somehow connected with the fountain, although its limited size precludes any attempt to suggest specific position or function (Fig 47). The pipe had an external diameter of 38mm, with an internal bore of *c*23mm. Each end was roughly cut, suggesting it had been removed for scrap.

The western end of the culvert had also been removed, but in this instance during the nineteenth century when a large, roughly circular pit or shaft with vertical sides was dug [566] (see below section 7.1). There was no evidence that the culvert extended further in any direction, suggesting that it originally ended somewhere within the confines of the later pit. Its function was clearly to carry water away from the fountain basin, and since it does not seem to have continued, it must have fed into a soakaway. The entire fill from the culvert was taken for environmental analysis, and although this did not reveal any evidence of former seed or pollen material, it did contain fragments of gold thread. A single piece of fifteenth-century pottery was recovered from the probable fountain soakaway [5372]/(5373).

The fountain foundations, looking west Fig 22



Western culvert (562), looking east Fig 24

5.2 Rubble-filled pits

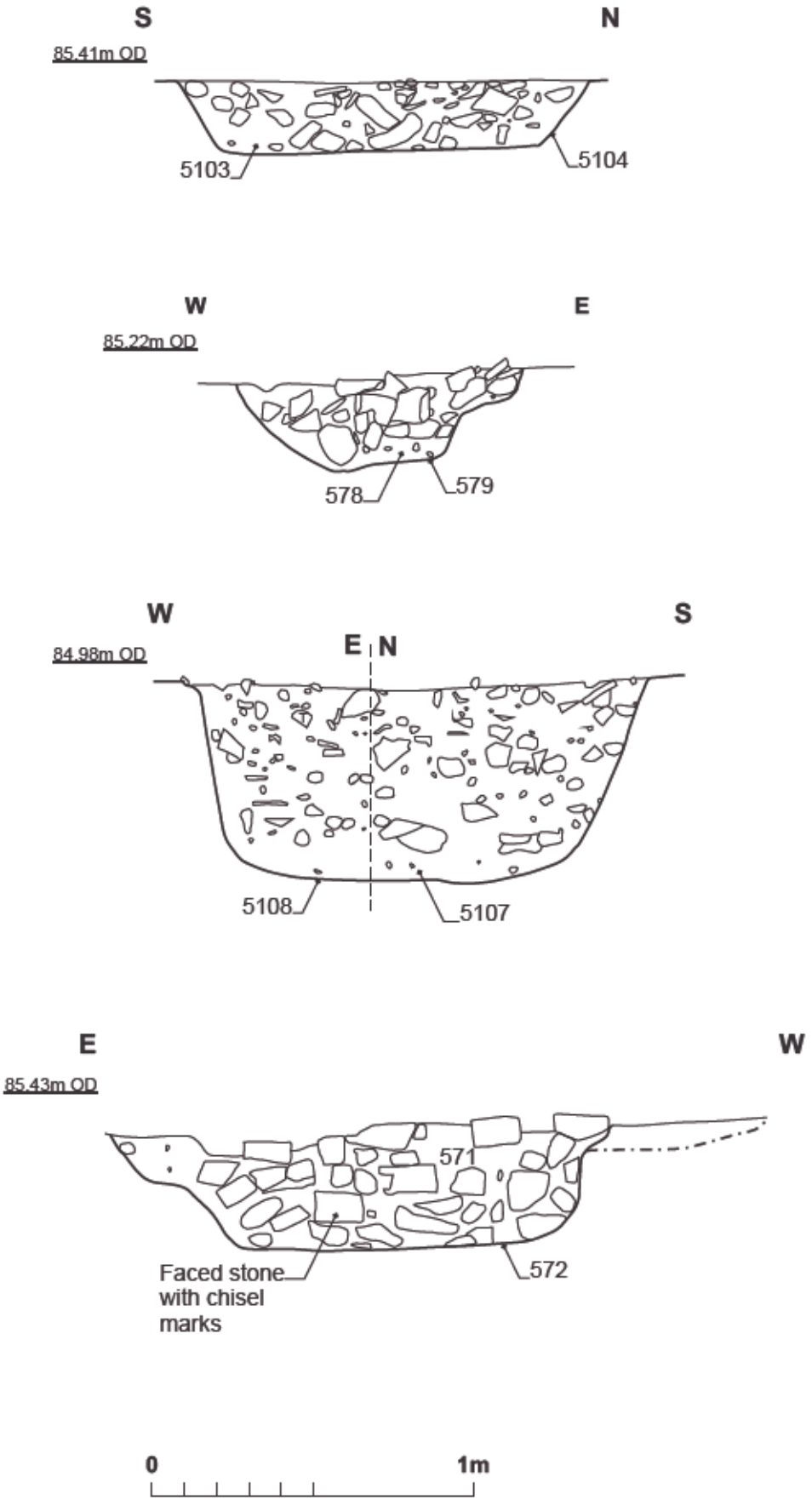
Twenty rubble-filled pits were cut into the earlier levelling layer but sealed by the later cultivation horizon. Small fragments of residual medieval pottery were recovered from them, and, in the absence of further dating evidence, the features are thought to have originated in the Elizabethan period or soon after (Fig 25). Seventeen pits lay to the west of the fountain foundation; some were roughly circular and others were elongated, with depths ranging 0.15m to 0.60m. The fills were also inconsistent, with some pits packed with broken ceramic roofing tile, and others containing mostly small fragments of sandstone (Fig 26). It is not clear if these variations represent different periods of construction, variety of purpose, or simply reflect the availability of materials at the time each was dug and filled. The packing of hard material within them and absence of post-settings suggests that they formed solid bases, possibly to support pedestals or other sculptural ornaments constructed of wood rather than stone or marble.

If the stone-filled and tile-filled pits do represent bases for structural elements, it may be significant that several were in alignment to each other. In the absence of dating evidence and direct stratigraphical links, it is difficult to identify further associations with certainty, and the extent of later disturbance has resulted in unevenness of survival. It is worth noting, however, that such pits are generally absent from the modern garden area to the east, and that their distribution coincides roughly with the centre of the garden area, even though the lack of symmetry in their layout and disproportionate distribution cannot easily be explained. Their location, together with their stratigraphic position, suggests that if these were not features of the Elizabethan garden, they must have been introduced soon after. Pits [579], [570] and [5122], with [5389] perpendicular to their axis, form a group which could coincide with the edges of an east-west path centred on the fountain. They indicate a maximum width of 5.5m (*c*18 feet) but the evidence of other features suggests that paths 12-feet wide were more likely. These would match the width of the terrace as quoted by Langham, and indicate that its face sloped at an angle of about 25 degrees. The distribution of features surviving in the western half of the garden suggests that the individual quarters were rectangular. All of the recorded features would be accommodated within path borders except pits [572] and [5385], which contained large sandstone blocks rather than the rubble found in the other pits.

A further undated sandstone-and-mortar rectangular base (5362) was located in the north-west quarter of the garden, probably intended for an upstanding structure such as a plinth (Fig 27). The base was well constructed, trench-built and deeply founded (0.7m x 0.6m x 0.6m deep). Its construction does not resemble any of the other bases and it is therefore uncertain how, if at all, it relates to the Elizabethan or later gardens. It has no corresponding pair in any other quarter plot and therefore cannot easily be equated with a centrally-placed structural element such as one of the obelisks. Its size and depth of construction does, however, imply that it supported a substantial object.

5.3 The aviary

No evidence was found for the aviary which Langham described being built along the north curtain wall. It was most likely constructed against the tower in line with the forebuilding arch and central fountain. Careful cleaning of an area larger than Langham's given dimensions revealed no evidence of post-pits, stylobates, beam slots or stone footings. Re-excavation of one of Dr. Thompson's trenches and further excavation beyond the present hedge showed the area to have been extensively robbed-out as part of the slighting of the castle. Likewise no evidence was found for the arbours that Langham records, although these may have been supported on sill beams resting directly on the ground surface or set only slightly into the earth, with the result that later cultivation will have destroyed their traces.



Scale 1:20

Elizabethan stone- and tile-filled pits Fig 25

Tile-filled pit (5108) Fig 26

Sandstone and mortar base (5362) Fig 27

5.4 The western boundary wall

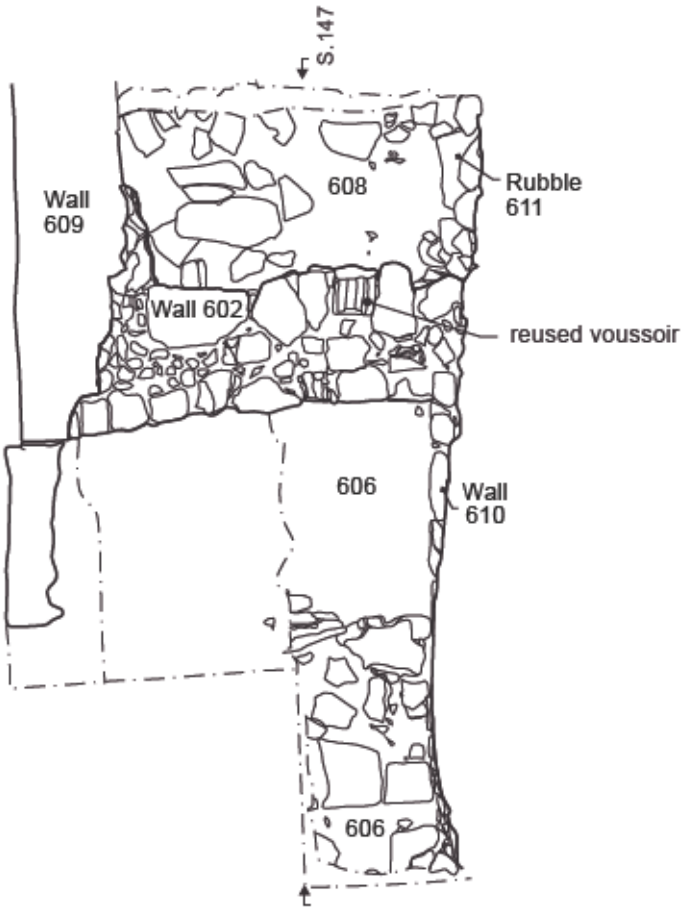
The western boundary wall [609] pre-dates the levelling layer into which the fountain and associated features were dug. Since the make-up simply abuts the wall, it is not possible to be certain whether it was constructed as part of the setting out of the garden, and is therefore coeval, or substantially earlier. Whilst it appears to butt against Swan Tower at its northern end, the junction was rebuilt during the twentieth century (Morris 2013, 29). Likewise, much of the length of the wall has been rebuilt, including the area around the former door or gateway towards the southern end. Although the lower part of a single door jamb survives on the eastern face, dated to the sixteenth century on stylistic grounds, there is no corresponding jamb opposite, while on the west face of the wall there are no carved jambs at all. Originally, the doorway may have provided access from the former Pleasaunce buildings that were re-erected on the triangular space to the west, as shown in the copies of the Newnham Paddox fresco (Fig 4).

In spite of these later alterations, the southern end of the boundary wall appears to predate the time when the ground was levelled up for construction of the Elizabethan garden. A section of walling aligned first east-west (602) then north-south (610) was identified in Trench 6 (Fig 28, Trench 6). This dog-leg is not shown in the Dugdale plan, but is present in exaggerated form on the copies of the Newnham Paddox fresco (Fig 4). The wall was constructed of both dressed and coarse red sandstone blocks, partly laid in lime mortar. The south and west faces are more neatly finished than at the north, suggesting that the adjacent ground levels may have been lower on those sides, with the wall built against higher ground to the north, thereby precluding a neat finish. The east face of (610) was beneath the revetment and could not be exposed. In the upper surviving surface, and much damaged by weathering, a piece of thirteenth-century voussoir with roll, hollow and fillet mouldings probably dates from *c*1250-1300 and almost certainly originates from Kenilworth Priory, indicating re-use (see below, section 13, T1007).

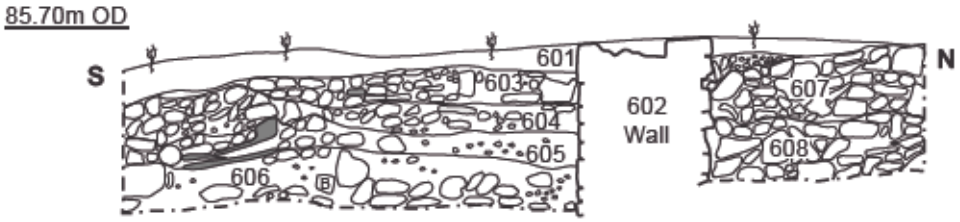
5.5 The terrace

Trenches 1 to 3 were excavated across the terrace to investigate the Elizabethan construction and its subsequent history. The Civil War ditch had removed all traces of the terrace make-up except in the eastern side of Trench 1 (Fig 31). Layers of sand or sandy loam (103-108, 110, 111, 115) extending up to and against the buried footings of the north face of the keep indicate that the terrace was carefully built in horizontal planes, perhaps to avoid the various dumps sliding down the face of the earlier material. There appears to have been no attempt to cut into or step earlier material to create a flat surface upon which to build. Nothing remained of the final surface soil or turf layers, which appear to have been removed either by the Civil War ditch or during late twentieth-century remodelling of the slope. There was no evidence in the small section which survived to indicate if there had been any form of pegging or other means of retention to help bond the new soils to the old. No dating evidence was recovered from these layers but terrace make-up (5137) produced one sherd of late fifteenth to sixteenth-century pottery.

Trench 6



Section 147



Glass

Metal

0 2m

Scale 1:50 Trench 6, dog-leg section of wall, plan and section Fig 28

5.6 The east side of the garden

Trenches 7 and 10 were excavated with the aim of relocating the boundary wall shown on the east side of the garden in both the Dugdale plan and engravings of the Newnham Paddox fresco (Figs 4 and 5). Trench 7 extended eastward from the edge of the 2005 open area as far as the beech hedge, before continuing beyond it on the same alignment. Trench 10 was located to cover the gap in Trench 7 necessitated by the need to keep the hedge, and was positioned on the edge of the modern path entering the garden from the east. It contained the only evidence of a former wall, *c*0.80m wide and built using unmortared, roughly squared, sandstone blocks 0.20m x 0.40m in size (Fig 37). It ran north-south and thus parallel to the surviving section of a separate brick and stone-built wall lying further to the east, which joins at a right angle with the wall at the back of the garden terrace. It is most likely that this other wall is that shown in the historical views, especially when allowing for distortions of perspective and scale, not to mention copy-engraving (Keay 2013b, fig. 9.9). The date and purpose of the excavated fragment of walling are therefore uncertain.

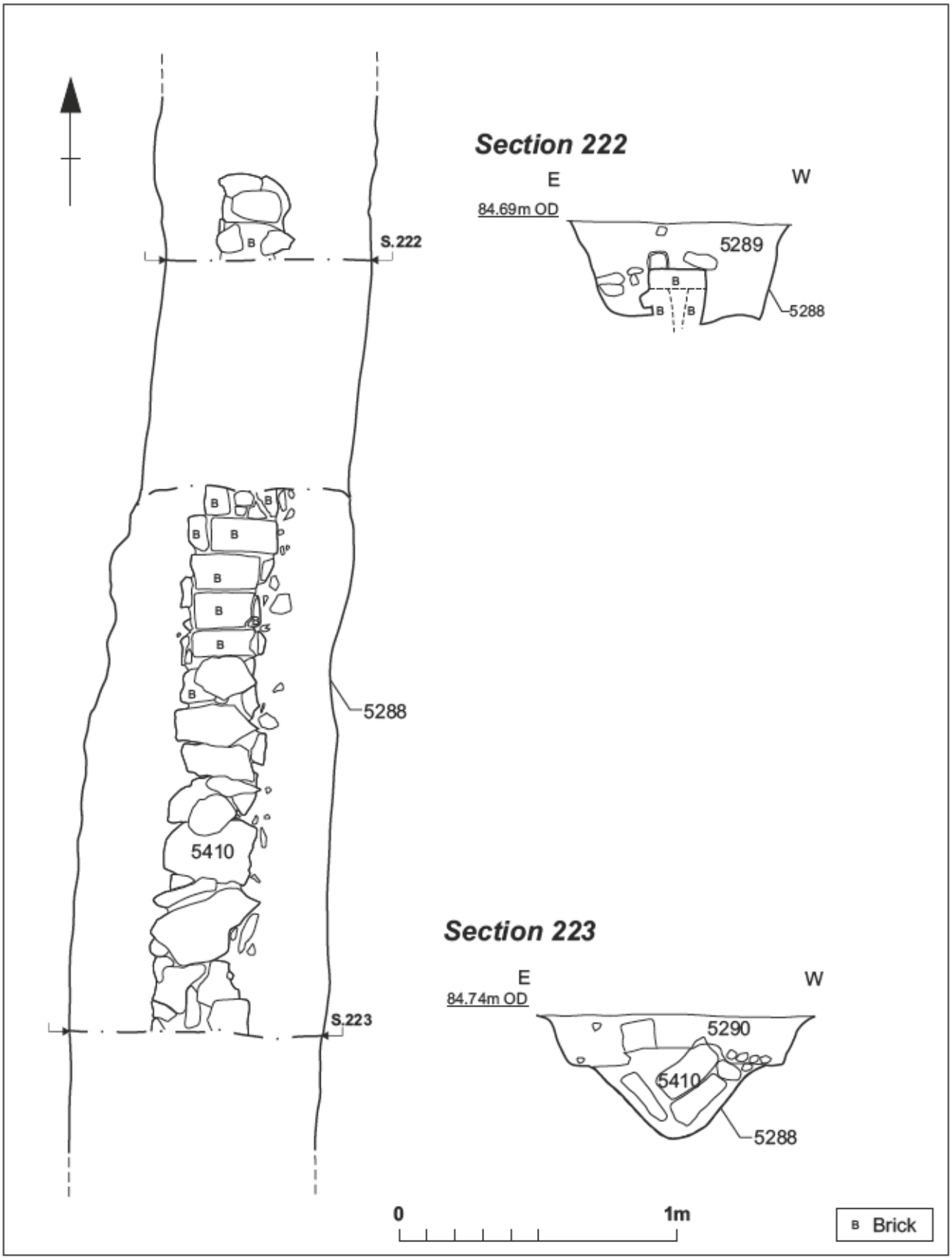
The only carved stone considered to be from the Elizabethan or Jacobean garden period is a fragment of a double-bulb baluster made from New Red Sandstone which had been discarded in the upper fill of the Civil War ditch (407/109) (Fig 55). It has typological similarities to another fragment found previously at the castle and which was formally held in the English Heritage store (see below section 13, T1002).

6 SEVENTEENTH-CENTURY DEVELOPMENTS AND SUBSEQUENT SLIGHTING (1605-1650)

6.1 The early seventeenth century

Very little documentation survives to reveal what changes took place at the castle during the early seventeenth century and up to the Civil War (1642-1649). Some sources, however, do mention the garden, particularly at the beginning of the period. A valuation survey undertaken for the Crown in 1609 noted the fountain of white marble and the 'Queenes seat of freestone', which is otherwise unknown (Jacques and Keay 2013, 39). Henry, Prince of Wales acquired the property in 1611 and ordered that the garden should be restocked or replanted with 'herbes and Trees'. Between his death in the following year and the middle of the century, the castle moved between the hands of James I, Charles I, and Sir Robert Carey, Earl of Monmouth (ibid*)*. Yet whilst the Dugdale plan suggests that further alterations could have been made to the garden layout during this time, it is uncertain whether the design was ever implemented.

Two features which may belong in this period have been located at the western end of the modern garden area. An undated drain cut the levelling layer in a narrow trench on a north-south alignment [5288], (5289 - 92) (Fig 29). It was constructed of red brick and sandstone pieces, laid without mortar in a V-shaped profile, with horizontal capping mostly of stone. Many of the bricks retained lime mortar on one or more surfaces indicating that they had been re-used, and as their individual size 230mm x 110mm x 40mm (9 x 4½ x 1½ inches), suggests a sixteenth-century date, it therefore seems possible that the feature may have post-dated the Elizabethan garden.



Scale 1:20 Sixteenth or seventeenth-century drain, plan and sections Fig 29

The drain opened *c*3.7m south of the north curtain wall and continued southwards before branching to either side. The western arm originally extended through the gateway in the west boundary wall (609), but was subsequently cut by the footings inserted as part of its blocking. The eastern arm was cut by the Civil War ditch. The specific reason for the drain is unclear; the garden does not appear to suffer from waterlogging nor require a field-drain, although the style of the drain suggests it served this function. Slightly to the east, and parallel to the drain, were the remains of a gravel path, which although undated may be contemporary with it.

6.2 The Civil War defences

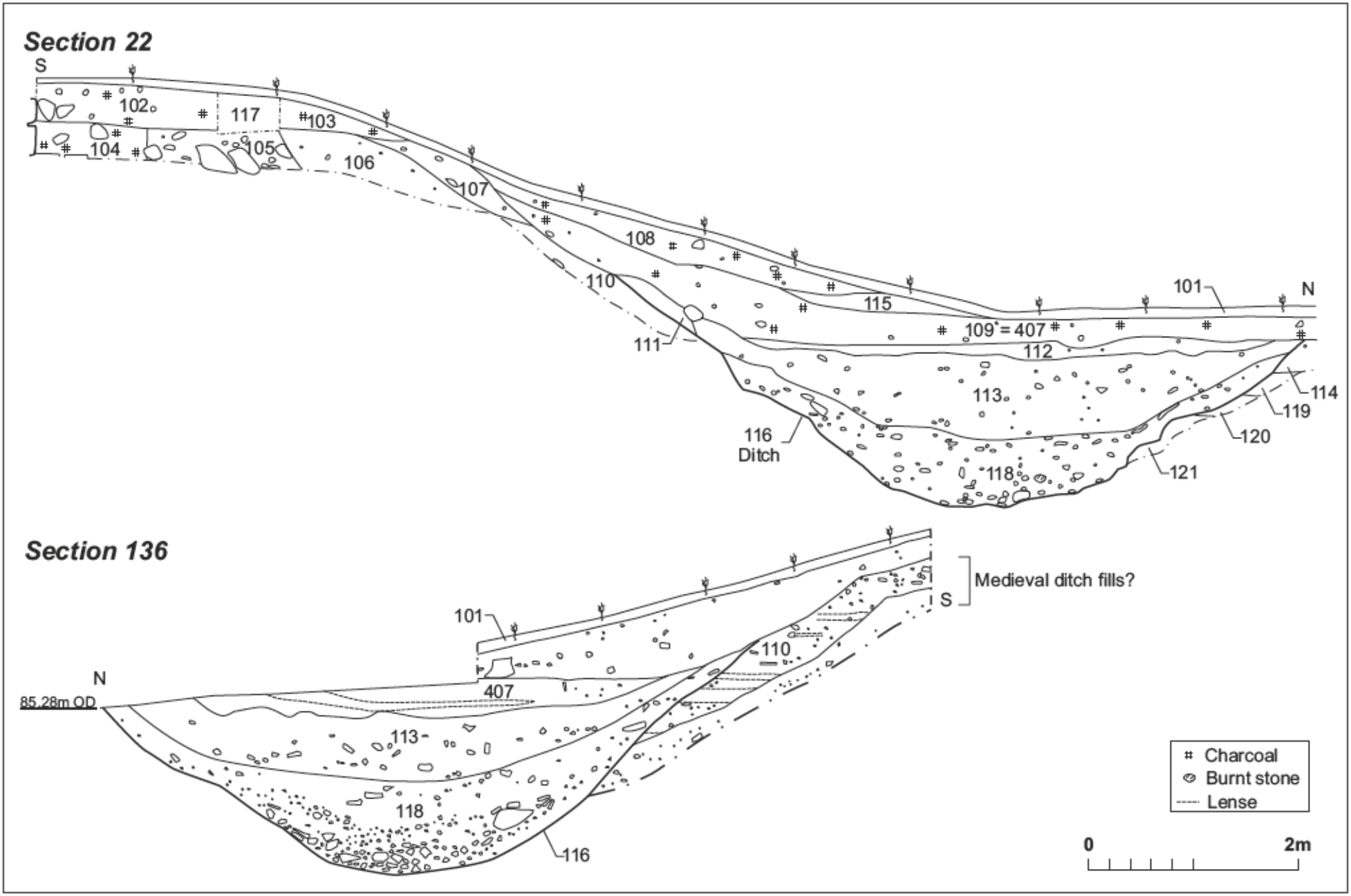
The castle was initially occupied by Royalist forces but after their withdrawal in 1642 became stationed with a Parliamentary garrison (Jacques and Keay 2013, 40). It seems that they strengthened the defences of Kenilworth against an anticipated Royalist counter-attack. From September 1644, 'workes' began to take place at the castle, including various preparations for action. A mill was paid to 'grind Corne in time of a Seidge', and it is noted that the dams were repaired and new gates installed. Between September and December, labourers and overseers were paid for works both inside and outside the castle and it is possible that this included some of the features located during the recent excavation (Fig 30) (TNA 2015, SP28/136/6).

A major piece of work to strengthen the defensive capability of the castle was the cutting of a wide ditch running east-west along the base of the Elizabethan garden and thereby fortifying the north side of the keep (Fig 31). The ditch was up to 6.4m wide and 1.5m deep with a U-shaped profile. It was dug through the surface of the Elizabethan garden and into the upper fills of the backfilled inner bailey ditch [5127]. The south side of the ditch cut into the base of the Elizabethan garden terrace, before narrowing towards the western end where it terminated against the boundary on that side. Despite only its upper edges being exposed, the ditch was seen to turn southwards at the north-east corner of the keep. The engravings of the Newnham Paddox fresco suggest that it ended beside the stone wall which retains the back of the terrace at that point.

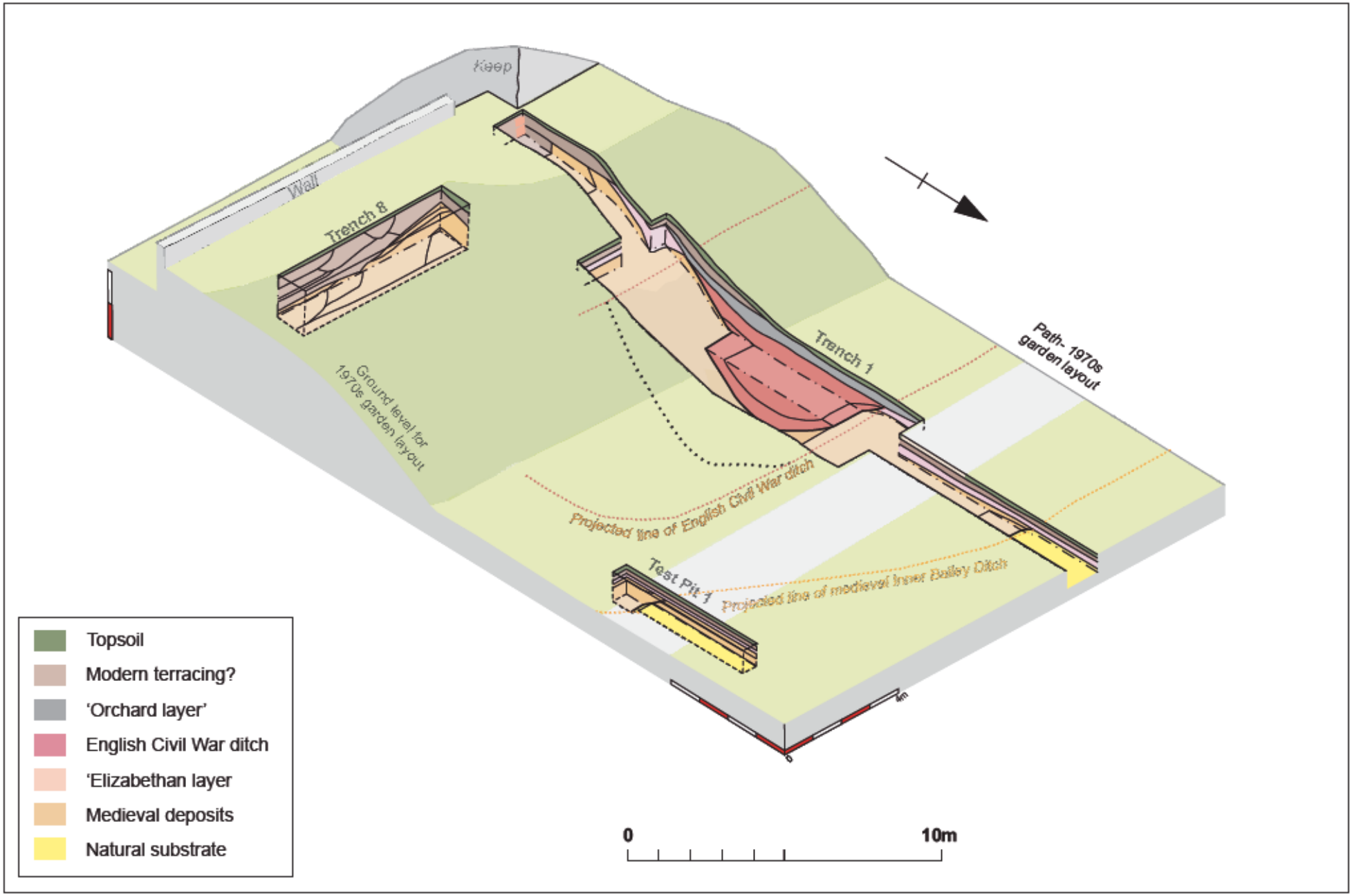
At the eastern end, the uppermost fill of the ditch comprised large quantities of broken sandstone, presumably debris from the slighting of the north side of the keep, together with three sherds of mid to late eighteenth-century pottery (112). Towards the west end the upper fill mostly comprised soil with some stone, perhaps the original upcast that was simply pulled back. Although individual pieces of stone ranged in size from small to large sandstone blocks, almost no dressed pieces were recovered, implying that the bulk of usable faced stone was removed, leaving behind only broken pieces or fragments from the core of the keep wall to be dumped in the ditch. The upper layer also contained large quantities of mortar and occasional glass fragments, and fill (5160) produced three sherds of seventeenth-century pottery; further layers below (113, 114, 211-213) also suggest deliberate backfilling. Layers at the base of the ditch (118, 214, 215) indicate a slight degree of natural silting, formed during the time the feature was open (Figs 31, 32). Four sherds of residual medieval pottery were recovered from (118). The ditch must have been backfilled at the latest when the keep was slighted *c*1650, and even if dug at the very beginning of the conflict, can only have been open for a maximum of eight years. The lack of rubbish in the excavated section suggests that during that time it was kept clean, or alternatively there was relatively little in the way of occupation at the castle.

The doorway in the western boundary wall leading out to the Pleasaunce was blocked up at some point before the mid-seventeenth century, and no opening is shown in this position on the Dugdale plan. Its closure may also have been a defensive action.
Fig 30 – Civil War features

1:50



Civil War ditch, Trench 1 sections Fig 31



Scale 1:150

Isometric view of the survival of the ditches and terracing Fig 32

6.3 The slighting of the castle

Evidence for Parliament's slighting of the castle, carried out in 1650, occurs in other areas across the site. As well as slighting the keep and the north curtain wall, the Great Mere was drained by breaching the dam, and thereby reducing the defensive capabilities on that side of the castle where the water had previously formed a major obstacle. Whilst the north curtain wall is shown still extant in the Dugdale plan, presumably drawn before the Civil War, it appears to have been torn down in the act of slighting. The robber trench [4199] created when the wall was removed lay at the northern limit of excavation and only the southern edge was investigated owing to the presence of a modern beech hedge. The side of the robber trench was sheer and it was backfilled with sandy friable loam containing large quantities of mortar, small sandstone fragments and gravels (4200). These occurred in lenses as well as broader layers and represent material discarded by the wall-robbers, most likely being thrown behind them as they cleaned and followed the dressed stonework of the wall along the trench. It is not clear in which direction the robbing proceeded, or indeed if it was that systematic, and it is perhaps more likely that a number of locations were dismantled over a period of time. Nevertheless, the process appears to have been carried out very cleanly, and the absence of dressed stone or large pieces in the back-fill, suggests that all usable stone was removed.

At the base of the trench, the upper surface of the remaining wall [4201] was generally level, indicating that it was robbed out to an even course. It is not clear why the removal stopped before the entire wall was dismantled; it may simply be that enough of the wall had been demolished or stone had been acquired. A number of buildings close to the castle, including some on the north side of Castle Green, are constructed of stone taken from the castle, and incorporate ashlar, window mouldings and decorative pieces. As a result of previous investigation in 1968, few finds were recovered. Three small sherds from fill (5384) /[5381] comprised two of late seventeenth-century date and one dating to the mid nineteenth century. However, robbing is likely to have taken place during the mid- to late seventeenth century. No contemporary ground surfaces were identified.

To the east, in the area of the central tower, the nature of the robber trench was noticeably different from its character near Swan Tower. The trench changed from a neat excavation following the line of the former wall to a ragged hole which appears much larger than the masonry footprint (Fig 15). The reason for such extensive robbing is unclear but it may have been simply to remove as much stonework as possible, or may represent the work of a different gang, or have been undertaken at a different time. Alternatively, it could indicate that the tower had been built in a different way, possibly with a stepped footing which necessitated excavation beyond the vertical wall plane in order to extract all the usable stonework. As elsewhere, the full extent of the robber trench could not be exposed due to the presence of the modern hedge. However, a cut was identified in Trench 9 to the north of the hedge, which might represent the western extent of robbing of the tower on that side [903]. Pottery from layers of infill suggests that robbing may have taken place from the late seventeenth to mid-eighteenth centuries. The topsoil within this trench came from a flower or vegetable bed which was cultivated well into the twentieth century beside the existing north boundary wall. To the east, the fill comprised a series of layers or lenses of various loams containing gravels, small sandstone fragments, sand and occasional large fragments of undressed sandstone. They may denote deposits from the robbing out of the tower but could equally represent post-Civil War build-up, especially since the present boundary wall lies further to the north and the soil on which it is founded upon lies outside the original curtain wall. In several upper fills (904-906), pottery and clay tobacco-pipes indicate a likely deposition during the mid-eighteenth to nineteenth centuries. The lower layers of the trench contained no finds.

The robber trench continued to be present along the north curtain wall to the east, but although it was visible in the first of the sondages beyond the central tower, it was no longer traceable near the postern tower. However, Trench 11 showed that robbing had taken place around the tower and adjacent curtain wall and outer bailey ditch, albeit in a very different way. Large deposits of finely dressed ashlar, including voussoirs, appear to have been thrown into the upper fill of the outer bailey ditch. The amount of debris contrasts markedly with the removal of the wall to the west of the central tower, where no dressed blocks were found. It suggests that this eastern section was slighted rather than robbed. It is not clear how far the dressed stonework was strewn into the outer bailey ditch, but it is possible that tower and adjoining wall were simply thrown down in 1650 as part of Parliament's order to make the castle indefensible. This is further supported by the fact that the wall was not removed much below existing ground level, unlike to the west where robbing was deeper and more extensive.

No other features were found from the Civil War period. A number of lead musket balls recovered by metal-detector during the excavations probably represent target practice within the outer ward rather than the results of hostile fire. Apart from use as a garrison, the castle is not thought to have been the focus of active hostilities during this time.

7 LATE SEVENTEENTH-CENTURY ABANDONMENT AND THE LATER ORCHARD AND KITCHEN GARDEN

7.1 The late seventeenth century to 1937

Documentary evidence for the history and use of the garden after the Civil War until the middle of the nineteenth century is sparse. The area below the slighted keep appears to have been covered by spoil and debris created from its demolition. All of the contemporary views suggest that the eastern part of the area was left to waste and probably contained trees which were self-set rather than a formal orchard.

Much of the area was nonetheless still identifiable as a garden in 1651 when the castle was surveyed in readiness for sale (Jacques and Keay 2013, 40). The main purchaser, Colonel Joseph Hawkesworth, parliamentary commander at Warwick, subsequently began to adapt the buildings, including the gatehouse, into residences, barns and stables. He took many of the internal fittings from Leicester's Buildings, including a fireplace and panelling, to decorate his new residence, and sold off the majority of the castle's valuables. This most likely included the marble fountain from the garden. It is not clear when the rest of the buildings lost their roofs, but it was presumably around this time (Molyneux 2008).

After the Restoration, the castle became used as a farm and the garden area was once more enclosed. The original garden boundary, formed by the north curtain wall, was robbed out after the Civil War, thereby leaving that side of the garden open. At some stage a new, thinner wall was built to replace it slightly to the north, which served both as a garden wall and to re-establish the castle-like appearance. It maybe this wall that is shown in James Fish's 1692 estate map, since it lacks towers but has a kink at the western end where it approaches Swan Tower (Warwickshire Record Office, CR143A). It also dog-legs around Leicester's gatehouse rather than connecting with it as the earlier curtain wall did.

Scale 1:300

Post Civil War features Fig 33

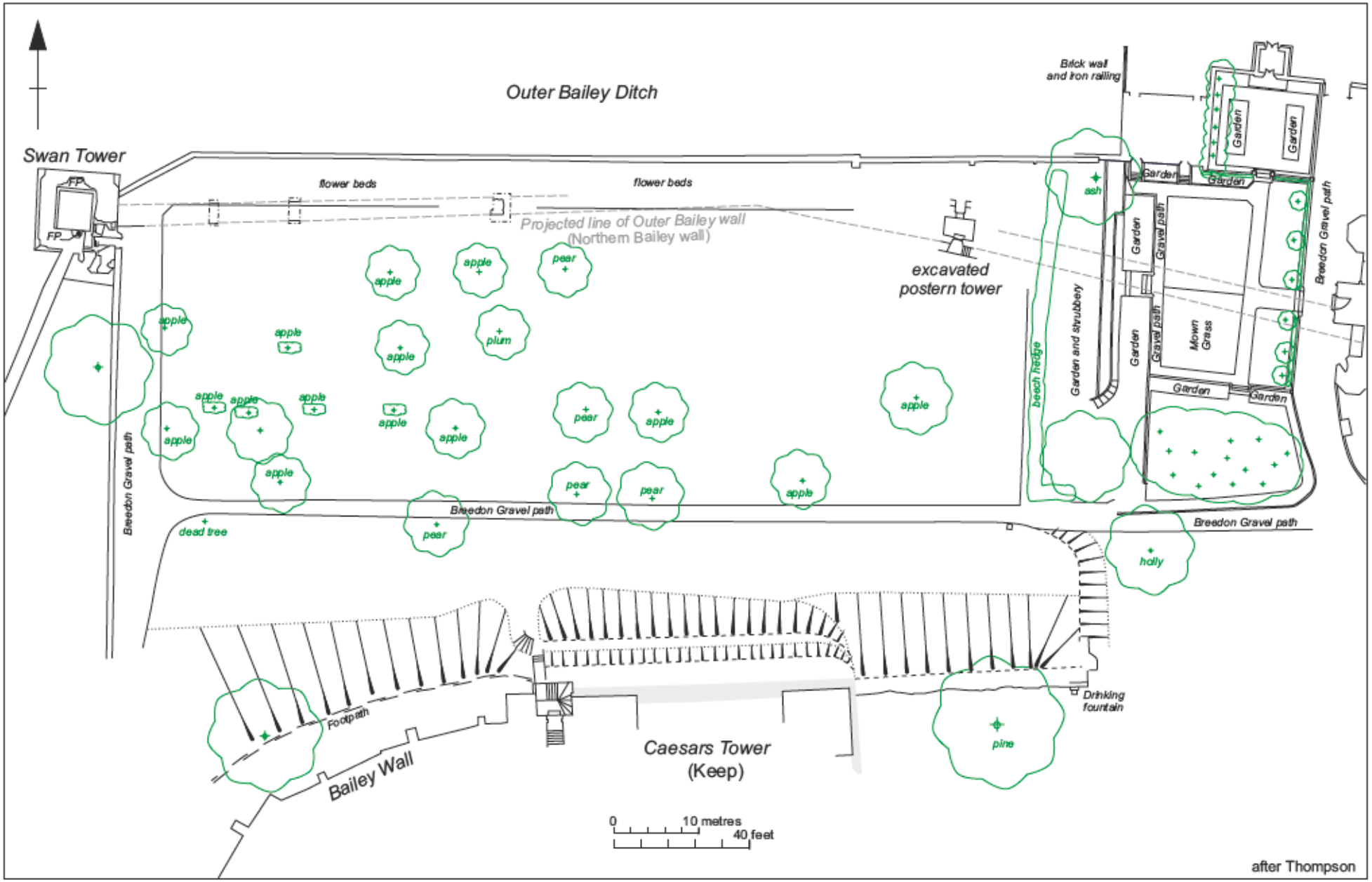
During the eighteenth century the garden appears to have served as a kitchen garden for the farm, and was planted with fruit trees (Jacques and Keay 2013, 40*)*. Pottery recovered from layers (109), (407), (4304) and (5397) suggests this may have begun in the late seventeenth or early eighteenth century, although material from other periods was well represented. It is unlikely, however, that any significant features could have existed towards the eastern end of the garden before clearance of rubble and debris was undertaken in 1868-72. This is supported by the archaeological evidence, which suggests that the main period of cultivation within the garden area was during the second half of the nineteenth century.

Victorian cultivation was denoted by several series of parallel north-south planting strips or bedding trenches up to 350mm deep (Fig 33). Finds from them comprise iron nails and other objects, worked stone, coins, and late seventeenth- to nineteenth-century pottery. The individual trenches were clearly identified by their infilling of dark brown sandy loam, and were set out between four east-west aligned clinker and gravel paths, each *c*2.5 - 3m wide. The paths originally crossed the full length of the garden area, although the extension of some planting beds across the line of the path may indicate some flexibility in the arrangement.

Discrete shallow planting pits appear to denote where fruit trees grew, although their survival was patchy and no clear pattern can be discerned. A plan from 1938 shows something of the arrangement of these trees, which appear to have bordered some of the paths. The trees can also be seen in later aerial photographs, which show the area laid to grass with scattered fruit trees, representing the remnants of the former garden and orchard (Keay 2013b, figs 5.4-5.5). On the clearest, but undated, image, a wide cultivated border is visible, set out against the north boundary wall. Dr Thompson recorded the location and species of the individual trees that still survived in 1968 (Fig 34).

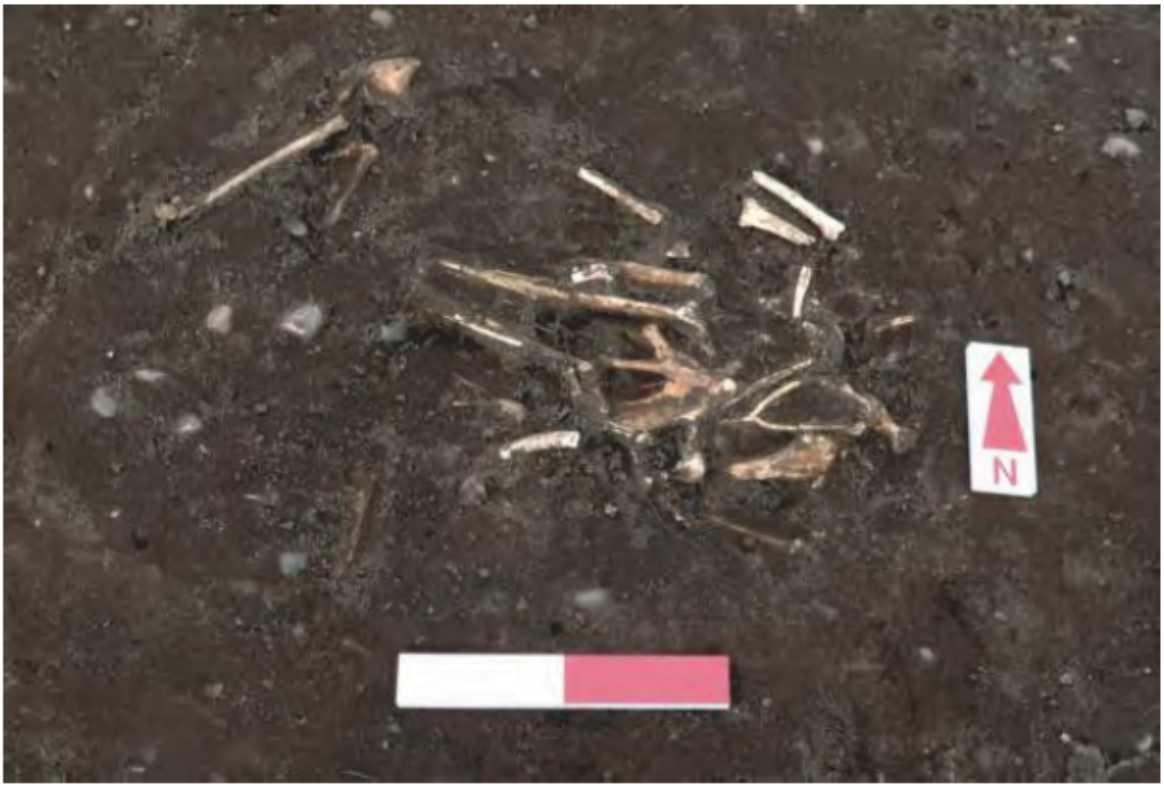
A series of animal burials were also connected with the period of vegetable garden cultivation. The areas where cat and dog skeletons were buried can be inferred to have been flower beds which were probably planted with perennials or shrubs, since it is unlikely that the graves of pets would be located in heavily cultivated area subject to annual re-digging (Fig 35). Several larger animal burials, including two cows and a horse, may be connected with specific types of planting. Nineteenth-century writers recommended burying such animals beneath certain plants so that they would benefit from the fertilization of blood and bone as the animal decomposed (Campbell 2005, 182). The horse was buried intact but had been crammed into a small straight-sided pit [546], 2.10m by 1.30m (Fig 36). One of the cows, however, had been partially dismembered because it was too big to fit into a hole only 1.70m by 0.85m, and 0.35m deep [5270]. The second cow burial [540] was not fully excavated.

A more substantial track towards the southern side of the garden may be identical with one recorded in aerial photographs and on Thompson's plan (Figs 7 and 34). It comprised a hardcore base made up of broken bricks and stone rubble topped with coarse Breedon gravel chippings, and may have been part of the infrastructure added by the Office of Works. Two soakaway pits at either side were connected by salt-glazed drain pipes. The soakaways contained mostly transfer-decorated nineteenth-century domestic china, thin metal sheeting, glass bottles and window glass: there were also items of other broken metalwork and a Plaster of Paris angel figurine (Figs 50 and 51). These various finds indicate a late nineteenth-or early twentieth-century date.



Not to scale

Copy of garden area, drawn by M. W. Thompson c1968 Fig 34



Nineteenth-century cat burial Fig 35

Nineteenth-century horse burial Fig 36

The present northern boundary of the area is formed by a stone and brick wall, possibly dating from the late seventeenth century but in its present form displaying several phases of repair presumably undertaken as sections suffered from decay, or possibly subsided into the backfilled outer bailey ditch below. Its alignment differs from the original curtain wall and continues straight at the eastern end rather than heading towards the side of the Elizabethan gatehouse. The whole outer or northern face is built of red sandstone, although some sections on the garden-side are of red brick. They appear to be of nineteenth or early twentieth-century date and may have been rebuilt during the same works that saw large quantities of spoil removed from the keep and eastern end of the garden. Almost all of the stonework is dressed ashlar, from the castle site, although some is more obviously modern. Some pieces are rusticated but the original source and date remain unknown.

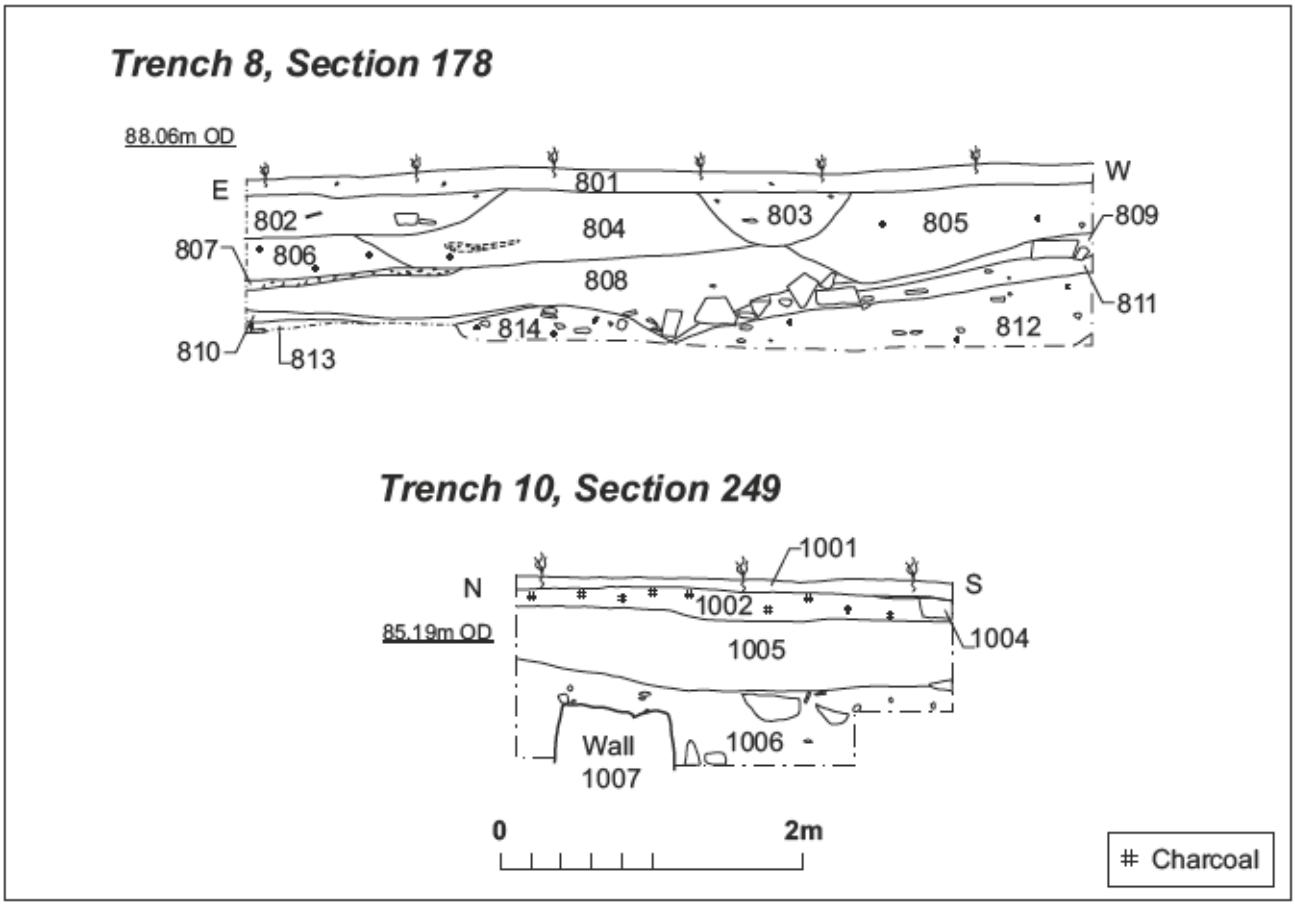
The deep roughly circular pit dug immediately west of the Elizabethan fountain foundation has already been mentioned (section 5.1 above, Fig 22). Its fill (565) contained a variety of layers, comprising mostly sandy loams with varying quantities of stone and gravels. While the pit had cut through the site of the Elizabethan fountain soakaway, it may have provided the same function with loosely packed stone suggesting that it was similarly used to disperse surplus water. Alternatively, it may represent an antiquarian attempt to locate the original fountain based upon the information in Langham's letter but slightly misjudging the precise location, so that by alighting upon the former soakaway it was thought that the structure had been entirely robbed out. The backfilling contained fifteenth- to seventeenth-century pottery, and nineteenth-century domestic china and glass. Other residual thirteenth-century pottery may have been turned up from the layers cut into when the pit was dug. As the feature could not be fully excavated, its wider purpose must remain unclear.

7.2 H. M. Office of Works to English Heritage - 1938 to 1975

In 1938-9, Kenilworth Castle passed into the management of the Office of Works, and over the next quarter of a century various repairs and other works were undertaken to consolidate the ruins and enhance the setting. The gradual loss and removal of the fruit trees left the area of the garden with an open 'prairie' feel (Jacques and Keay 2013, 43).

The top of the terrace appears to have been lowered and heavily truncated to create a flat walkway. At its eastern end, Trench 8 was opened to investigate a difference in profile where the previously stepped slope of the terrace below the keep changed to a simple, shallow gradient (Fig 37). All of the exposed layers dated to the twentieth century and attest to substantial remodelling during the recent period of guardianship.

Much of the course of the western boundary wall (609) has likewise been rebuilt, including its junction with Swan Tower (Morris 2013, 29) and the area around the former door or gateway towards the southern end. An adjacent walkway has been cut through at some stage to allow pedestrian access from the west, necessitating the revetment of the west end of the terrace, which utilises an earlier wall as its foundation (Trench 6, wall (610): see section 5.4 and Fig 28 above. Ellis 1995, F17). The pointing between the stones is hard Portland-type cement.



1:50 Trenches 8 and 10 Fig 37

Sandstone stairs and platforms leading from the forebuilding arch Fig 38

On the south side of the dog-leg wall (602/610), a dump of material dating from the late nineteenth or early twentieth centuries comprised discarded bottles, metalwork (including pieces of bicycle frame and wheel), glass photographic plates and china. Whilst they may represent a localised rubbish dump in an out-of-the-way corner of the castle, the convenience of the tip as a useful levelling layer to raise the walkway to the same height as the garden should not preclude its origin from within the period of the Office of Works.

A flight of sandstone steps formerly led down from the forebuilding onto the terrace. Whilst perhaps in part of sixteenth century or earlier date, almost all of the lower section appears to have been constructed during the twentieth century. They remain *in situ* beneath the wooden steps by which the new garden is entered but were fully recorded in advance. The outer surface of the steps comprised dressed red sandstone blocks, mostly cut from single pieces of stone, but with occasional onsets where they had become damaged or worn. The joints appeared to be pointed with cement. From their start beneath the forebuilding arch, the steps curved in an anti-clockwise direction down to a quarter landing directly below and giving out onto the terrace (Fig 38). Both the steps and lower landing projected beyond the north face of the forebuilding and butted up against the chamfered blocks of the keep, showing them to be of later construction (Fig 39).

Trench 2 extended as far as the base of the steps and showed that the flight sat directly on top of the upper soil layer of the terrace with hardly any foundation. It appears therefore that the projecting section, if not the entire whole flight of steps, is modern and presumably inserted after the castle came into the care of the Office of Works.

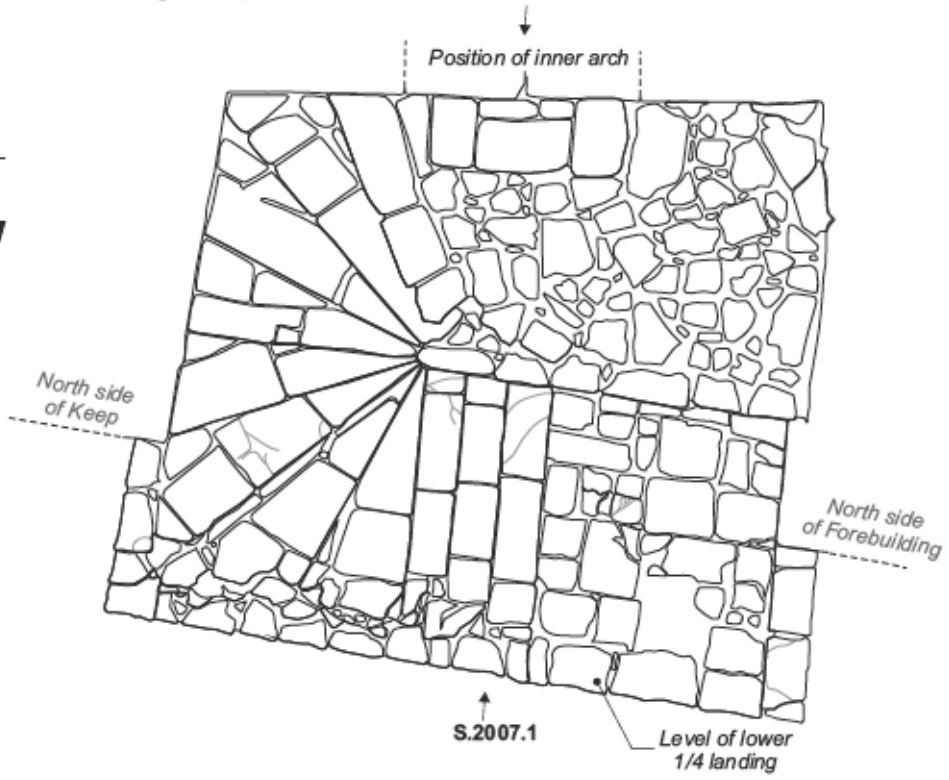
The remains of a path surfaced with small, grey Breedon gravel chippings but without a sub-base was also uncovered. It was edged with thin pinewood planks fastened with short vertical pegs and appears to be a replacement for, or part of the modern arrangement of paths which Dr. Thompson recorded at the time of his excavations in the 1960s (Fig 34).

7.3 The 1975 Garden Restoration

Prior to the restoration of the garden in 1975, Beric Morley excavated two long, hand-dug trenches diagonally across the garden, although the work did not find any indication of Elizabethan garden features (Ellis 1995). Both of these trenches were revealed during the open-area excavations. In 1975, six further trenches were opened mechanically in a project overseen by Peter Brown. Although no evidence was found in either investigation for the garden depicted on the Dugdale plan, its layout was used as the inspiration for the garden restoration (Jacques and Keay 2013, 44).

The design of the 'Tudor Garden' comprised a series of right-angled paths which divided the area into six geometrical plots around an eccentrically placed circle (Fig 40). The paths were constructed of crushed limestone Type 1 hardcore beneath a finer stone surface. There were no drains. Each of the plots was sub-divided by clipped box hedges to create a series of panels interplanted with variegated holly standards and surrounded by a grass border punctuated with conically clipped yews (Fig 41). The panels were further infilled with lavender, sage and rosemary to add seasonal colour and scent.

Plan of Forebuilding Steps



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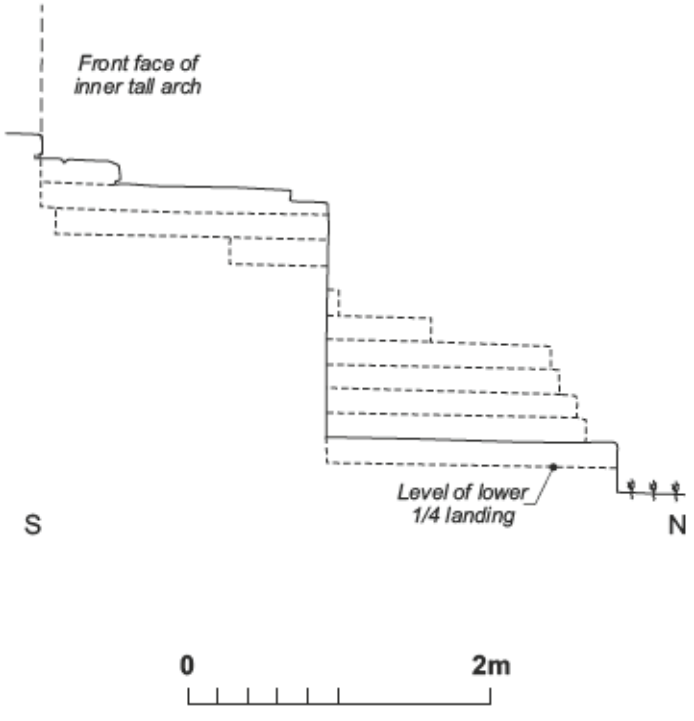


Scale 1:50

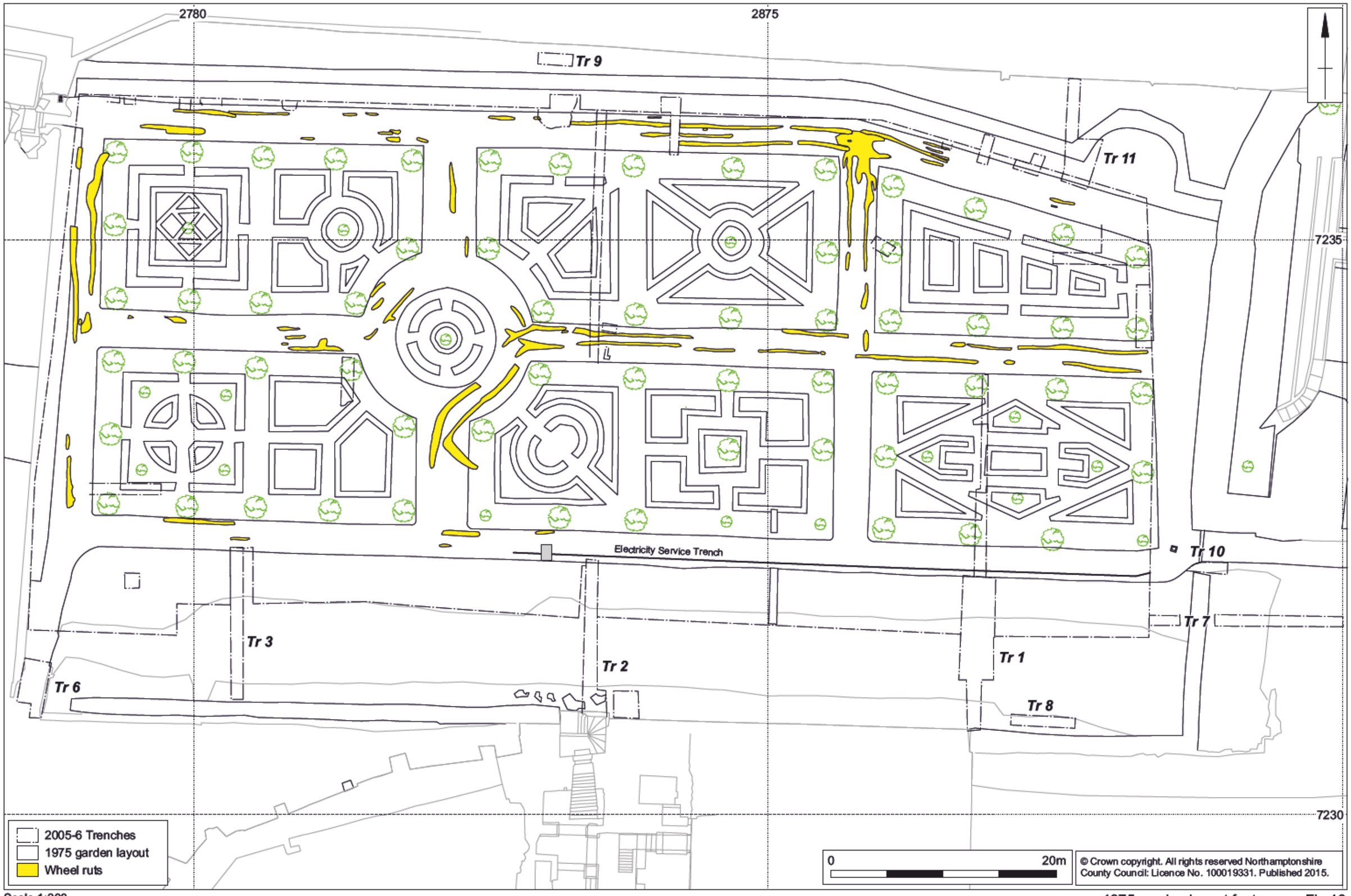
Plan and section across the Forebuilding steps Fig 39

The depth of the bedding trenches for the box hedges varied. Some were shown by re-excavation to have been originally straight-edged and vertical-sided excavations, and filled with compost (Fig 42). In most places, however, there was little sign of the actual trenches, although the layout of the former garden could be discerned by concentrations of roots. The series of yews and hollies had individual planting pits, which were generally circular with a shallow rounded profile.

During the evaluation in 2004, and confirmed by the more extensive scale of excavation in the 2005 and 2006 seasons, it was discovered that both the construction of the path system and the planting of the restored garden had begun to damage the underlying archaeology. In particular, it seems that wet weather at the time the paths were being laid down resulted in machinery causing deep ruts (former gardener, pers comm). Some of these penetrated up to 0.35m into the Elizabethan make-up layer, and in places formed parallel series where presumably there was an attempt to find firmer ground (Fig 40).

At the north-west corner of the garden adjacent to Swan Tower, the depth of the modern hardcore path-base was up to 0.75m: its purpose is unclear, beyond showing that a hole had been dug there for some reason, possibly to investigate the connection between the west boundary wall and Swan Tower, and partly to repair the exposed masonry, which had been re-pointed with cement. Another excessive depth of hardcore was also noted along the northern section of path towards the east end of the garden.

A narrow trench bordering the southern edge of the path running along the foot of the terrace had been dug to install plastic pipe ducts carrying the electricity cables which formerly supplied floodlights to illuminate the north side of the keep. Each light had an associated concrete inspection box; the entire installation was removed during the most recent works after being disconnected at the supply-distributor beside the eastern boundary hedge.



Scale 1:300

1975-garden layout features Fig 40

The 1975 garden photographed in 2005, looking north from the forebuilding Fig 41

Bedding trenches for 1975 box hedging Fig 42

THE FINDS, FAUNAL AND ENVIRONMENTAL EVIDENCE

8 THE POTTERY by Paul Blinkhorn

The pottery assemblage comprises 977 sherds with a total weight of 23,798g. It consists of a range of medieval and later wares, most of which are well-known in the region (e.g. Blinkhorn 2003), apart from two imported sherds. The first is a sherd of North Italian Sgraffito ware, a late-sixteenth to seventeenth century pottery type which in England is usually associated with inland sites of the highest status. It is from a vessel which is likely to have fulfilled a display function at the high table on formal occasions, and it appears to be the only example of such pottery from Warwickshire. The second unusual sherd is a fragment of a Type 1 Martincamp flask, a late medieval French ware which, like the Sgraffito Ware, tends to occur inland at higher status sites i, and also in major towns, although the pottery was, unlike the Sgraffito Ware, of a largely utilitarian nature.

The earlier medieval assemblage is quite large, and a few well-stratified groups were noted. However, over three-quarters of the entire pottery assemblage occurred in deposits of the late seventeenth century or later.

The author is extremely grateful to Duncan Brown of Southampton Museums Service for his identification of the sherd of North Italian Sgraffito ware, and his insightful comments with regard to its function and dating.

8.1 Analytical methodology

The pottery was initially bulk-sorted and recorded by computer using DBase IV software. The material from each context was recorded by number and weight of sherds per fabric type, with featureless body sherds of the same fabric counted, weighed and recorded as one database entry. Feature sherds such as rims, bases and lugs were individually recorded, with individual codes used for the various types. Decorated sherds were similarly treated. In the case of the rim sherds, the form, diameter in mm and the percentage remaining of the original complete circumference were all recorded. This figure was summed for each fabric type to obtain the estimated vessel equivalent (EVE).

The terminology used is that defined by the Medieval Pottery Research Group's *Guide to the Classification of Medieval Ceramic Forms* (MPRG 1998) and to the minimum standards laid out in the *Minimum Standards for the Processing, Recording, Analysis and Publication of post-Roman Ceramics* (MPRG 2001). All the statistical analyses were carried out using a Dbase package written by the author, which interrogated the original or subsidiary databases, with some of the final calculations made with an electronic calculator. All statistical analyses were carried out to the minimum standards suggested by Orton (1998-9, 135-7).

8.2 Fabric types

The pottery was recorded using the codes and chronology of the *Warwickshire Medieval and Post-Medieval Pottery Type-Series* (Ratkai and Soden, nd.), as follows (the numeric codes prefixed by 'F' refer to those used in the databases and tables):

F300: RS01 Warwickshire Black Ware (13th–14th century), 11 sherds, 74g
F301: RS02 Warwickshire Grey Ware (13th–14th century), 103 sherds, 1,543g
F302: Sq02 Warwick Sandy Ware (12th–13th century), 96 sherds, 1,305g
F303: Sq03 Micaceous Sandy Ware (13th century), 2 sherds, 30g
F304: Sg12 Deritend Ware (13th – 14th century), 1 sherds, 2g
F307: Sq202 Coventry 'A' Ware (12th – 14th century), 29 sherds, 774g
F310: WW1 Chilvers Coton 'A' Ware (1250 -1300), 48 sherds, 572g
F312: Sq30 Chilvers Coton 'C' Ware (1300-1500), 57 sherds, 870g
F313: Sg14 Worcester Sandy Glazed Ware (13th – 14th century), 3 sherds, 132g
F324: Sg20 Brill/Boarstall Ware (1200 – 1600), 4 sherds, 97g
F330: CS05 Northants Shelly Ware (1100-1400), 3 sherds, 38g
F401: SLM10 Late Chilvers Coton Ware (15th century), 9 sherds, 147g
F403: MP Midland Purple Ware (15th – mid 17th century), 31 sherds, 921g
F404: CIST Cistercian Ware (1475-1700), 11 sherds, 75g
F405: STG03 Frechen Stoneware (1550 – 1700), 4 sherds, 89g
F409: IMP10 Martincamp Ware (15th – 17th century), 1 sherd, 24g
F410: TGE01 Tin-Glazed Earthenware (16th – 18th century), 1 sherd, 1g
F426: MB02 Late Midland Blackware (1600-1900), 25 sherds, 824g
F428: STE02 Nottingham Stoneware (1750-1900), 4 sherds, 232g
F436: MANG Staffordshire Manganese Mottled Ware (1680-1740), 54 sherds, 748g
F437: SLPW02 Staffordshire Trailed Slipware (1640-1700), 10 sherds, 94g
F438: CRW Creamware (1740-90), 17 sherds, 38g
F439: STE01 English Stoneware (1650 +), 49 sherds, 4262g
F443: STE03 Staffordshire White Salt-Glazed Stoneware (1720-1780), 3 sherds, 35g
F1000: MGW Modern Earthenwares (late 18th century +), 394 sherds, 10760g

The following, not included in the Warwickshire CTS, were also noted:

F411: North Italian Sgraffito Ware (16th – 17th century), 1 sherd, 4g
Fine red fabric with few visible inclusions. White slipped outer surface, with designs cut through the slip to the red clay below, splashes of glaze appearing yellow and green on the slip. Inner surface has a clear glaze (Hurst *et al* 1986, 30-3).

F412: Metropolitan-type Slipware (17th century), 3 sherds, 23g
Fabric is similar to F425, with geometric designs in underglaze white slip. Manufactured at a number of centres. The general range of forms include pancheons, dishes and bowls (Davey and Walker 2009).

By far the most significant pottery find is the single sherd of North Italian Sgraffito Ware (Fig 43), most likely from Pisa, which had virtually cornered the market in the production of such pottery in Italy during the sixteenth and seventeenth centuries (Hurst et al. 1986, 30-1). Unusually, it appears to be from a closed form, while almost all the known vessels of this type are bowls or dishes, with the decoration usually on the inside. It could conceivably have been a deep, high-sided bowl, although this seems unlikely as this would mean that the inside of the vessel would have been plain. Closed forms in this tradition tend to be of late-sixteenth or seventeenth-century date (D Brown, pers comm).

High-quality, lavishly decorated, imported earthenwares of this type are extremely rare in England outside ports, and would only be expected at sites of the highest rank, where they would have functioned as display items at the high table and the like. This appears to be the only sherd of such pottery known from Warwickshire, where all other known early post-medieval imports known are German and French stonewares (Ratkai and Soden, nd.), which are common throughout the country.

The date and quality of this piece means that it is possible that it could have been a personal possession of the Earl of Leicester, and, if so, is likely to have been displayed at the table on formal occasions. It is the only sherd of pottery from the entire

assemblage of which this can be said, with all the other pottery from the excavation of a utilitarian nature and probably not used by the elite other than on the most informal occasions. It is unfortunate that the sherd in question is redeposited in the planting hole of a yew tree (445), which was part of the 1975 garden reconstruction.

North Italian Sgraffito Ware, closed form,
sgraffito decoration on the outer surface, planting hollow (445) Fig 43

The sherd from the sixteenth to seventeenth-century Martincamp mammiform flask (Ickowicz 1993) was also residual and occurred in a nineteenth-century feature. Such vessels are relatively rare finds outside ports or major towns in Britain. Of type I beige-coloured fabric (ibid, 52), it is one of perhaps only a dozen such finds in the Midlands (ibid fig 5). The flasks were specialist containers for liquids, possibly wine or stronger liquor, and appear to have had wicker casings in a similar fashion to the glass wine bottles of the period, although it is likely that they were empty when brought into the country. Fragments of such vessels have been noted in Warwickshire previously at Cheylesmore Manor, Spon Street, Bond Street, St Mary's Priory and Charterhouse in Coventry and at Burton Dassett (Ratkai and Soden nd.; Blinkhorn 2003, 98; Blinkhorn, forthcoming). This is the first find of a vessel in the type 1 fabric however, and is, despite the utilitarian nature of the vessel, is perhaps a further reflection of the status of the site.

The paucity of German Stoneware is notable. It is more or less ubiquitous at sites of all types in England from the mid-sixteenth to seventeenth centuries, and very common in Coventry (e.g. Blinkhorn 2003, 98), but only four sherds were recovered from the excavation. This is perhaps not surprising; a garden of this type and quality would not have been used as a dumping ground for domestic refuse during its lifespan, so little contemporary material, other than perhaps stray losses of small personal items, would be expected to occur. Examination of the residual pottery in the eighteenth and nineteenth-century contexts (below) supports this. Despite the fact that around 30% of the pottery from CP10 (1680 -1720) features is residual medieval, as is about 35% of that from CP11 (1720-1800) features and *c*8% from CP12 features (1800+), there is not very much pottery which can be said with certainty to date from the time of the Elizabethan garden.

8.3 Chronology

Each context-specific pottery assemblage was given a ceramic phase (CP) date, based on the range of major fabrics present. The scheme and the pottery occurrence per ceramic phase are shown in Table 1.

The data show that the majority of the pottery (75.1% by weight of stratified material) was recovered from deposits and features of nineteenth-century date, and 82.2% (by weight of stratified material) occurred in deposits of the late seventeenth century or later. Medieval pottery was present and some appears to be securely stratified (17.1% by weight of the entire assemblage). It is notable that only a very small amount of pottery, just 15 sherds weighing 188g, occurred in contexts datable to CP7 and CP8, *ie* the period 1550 – 1640, and only a single sherd could be dated to the following ceramic phase, CP9 (1640 – 1680), ten of the sherds are residual medieval types and the rest, Midland Purple Ware, Frechen Stoneware and Metropolitan Slipware, could also be residual. The fragment of Italian Sgraffito Ware is certainly residual.

Table 1: Ceramic Phase (CP) chronology, with pottery occurrence per ceramic phase by number and weight (in g) of sherds

Phase	Defining Wares	Date	No	Wt (g)
CP1	Sq02, Sq202	1100-1200	16	294
CP2	RS01, RS02, Sg20, Sg12	1200-1250	62	1201
CP3	WW1	1250-1300	72	1139
CP4	Sq30	1300-1400	58	845
CP5	MP, SLM10	1400-1470	21	396
CP6	CIST	1470-1550	5	46
CP7	STG03	1550-1600	5	64
CP8	TGE01, MB02	1600-1640	13	248
CP9	SLPW02	1640-1680	1	4
CP10	MANG	1680 - 1720	45	847
CP11	STE01- 03, CRW	1720-1800	76	696
CP12	MGW	1800+	556	17334

8.4 Residuality

As noted above, 82.2% by weight of the stratified pottery occurred in deposits of the late seventeenth century or later but up to 35% of it (per phase) appears to be residual material, suggesting that landscaping and other works during the post-Elizabethan garden period have caused considerable attrition to earlier layers. The pottery occurrence by fabric type (major wares) per ceramic phase is shown in Table 2. The data demonstrate fairly well the levels of residuality at all periods.

Table 2: Pottery occurrence by fabric type (major wares) per ceramic phase, expressed as a percentage of the phase assemblage, by weight (g)

Date	F302	F307	F300	F301	F310	F312	F403	F404	F426	F436	F439	F1000
CP1	63.3%	24.8	-	-	-	-	-	-	-	-	-	-
CP2	27.6	39.7	2.2	25.8	-	-	-	-	-	-	-	-
CP3	13.7	3.2	1.6	78.2	3.2	-	-	-	-	-	-	-
CP4	27.6	0	0.9	5.9	16.4	39.6	-	-	-	-	-	-
CP5	6.6	3.5	0	1.3	0	0	58.1	-	-	-	-	-
CP6	28.3	0	0	37.0	0	0	0	34.8	-	-	-	-
CP7	31.3	0	0	0	26.6	0	0	0	-	-	-	-
CP8	0	4.0	0	5.6	21.0	24.2	33.9	3.2	-	-	-	-
CP9	0	0	0	0	0	0	0	0	-	-	-	-
CP10	5.9	6.1	0	4.3	0.8	1.3	9.7	0	34.4	24.4	-	-
CP11	7.0	0	0	0.9	1.2	11.3	23.5	0	0	39.8	0	-
CP12	1.1	0.1	0.1	0.7	1.2	1.5	2.2	0.1	2.6	1.4	24.6	62.1

Shaded cells = residual

8.5 Pottery from key contexts

Medieval

Cesspit [5356]/(5357)

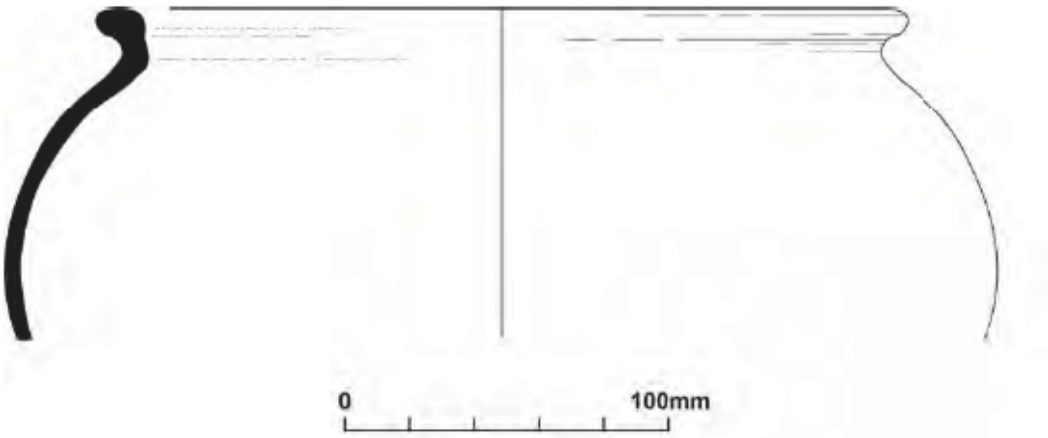
This feature produced by far the largest stratified group of medieval pottery from the site (92 sherds, 1969g). The fill (5357) comprises almost entirely unglazed wares and appears to be a typical assemblage of the thirteenth century. A small sherd of Chilvers Coton 'A' Ware (fabric F310) extends the date into the second half of the thirteenth century. All the sherds are from jars and include several rimsherds, with many of the pots showing signs of sooting. A near-complete base-pad is also present. The fragments are mainly quite large, with some vessels represented by a number of sherds, and the group appears to be well-stratified and the dating secure. One of the sherds of Sq02 (Warwick Sandy Ware), from the base of a jar, has splashes of green glaze on the lower body which is fairly typical of the tradition. A large proportion of the assemblage are sherds from a single vessel, comprising a jar which shows much evidence of heavy use-wear. Two cross-fitting sherds from the rim of a fabric F302 (Warwick Sandy Ware) jar were found (Fig 44). Despite joining, the two sherds are of slightly different colours, indicating that there was localized depositional variation in the soil chemistry, such as might occur in a cesspit.

Inner Bailey Ditch (5155)

Only a single sherd of pottery was present, from near the base of a sooted jar in fabric F302. The sherd is fairly large and unworn, so appears reliably stratified. The vessel it is from appears heavy and crude, so could date to the twelfth century, but this cannot be advanced with total confidence.

Medieval ditch fill (573)

The fill of a medieval ditch feature near the fountain produced two sherds of pottery, both from medieval glazed jugs.



Jar rim, Warwick sandy ware (12th – 13th centuries),
fill (5357) of cesspit [5356] Fig 44

Elizabethan

Fountain (565) and (5422)
The largest assemblage relating to the fountain foundations originated from the later pit cut through the western soakaway (see above section 7.1). The fill (565) produced a large group of pottery (59 sherds, 1,262g), with the bulk (44 sherds, 595g) consisting of white earthenware crockery and horticultural earthenwares of nineteenth to twentieth-century date. Two of the fragments of flower-pots are stamped "SANKEY", indicating their manufacture by Richard Sankey, a Nottingham-based company that was established in 1855 (see Currie 1993).

The earlier material spans the thirteenth to sixteenth centuries, although most of it is of thirteenth to fourteenth-century date. A few sherds of late medieval/early post-medieval pottery are present, including a large fragment from the base of a large, utilitarian Midland Purple Ware jar which cannot be dated more closely than to within the broad span of the tradition. This sherd aside, all the pottery appears residual or the product of secondary deposition.

The range of pottery suggests that there were two phases of activity in relation to this context: in the fifteenth to sixteenth centuries when this pit was dug, disturbing earlier deposits; and in the nineteenth century when domestic refuse was dumped here.

The Elizabethan fountain drain (5422) produced just three sherds of pottery, all of which are medieval. They are small and, although residual, are in fairly good condition and do not appear to have been subject to excessive transportation or attrition.

Probable soakaway [5372](5373)
The fill (5373) of the probably soakaway [5372] contained a small fragment of Late Chilvers Coton Ware (F401), probably of fifteenth-century date.

Rubble-filled foundation pits: (571), (578), (5107), (5113), (5370) and (5380)
These features all produced small groups of mostly small medieval sherds. None contained any pottery later than the fifteenth century, apart from a small sherd from the rim of a Cistercian Ware cup or tyg from context (5370). It would appear therefore that all the pottery is residual.

Garden and terrace layers (501) and (5137)
Layer (501), the Elizabethan garden make-up layer, produced a fairly large assemblage (38 sherds, 535g). The bulk of the material was of medieval date along with a small assemblage of late medieval wares: such as Midlands Purple and Late Chilvers Coton, a few fragments of nineteenth to twentieth-century flower-pots and a single small sherd of Creamware. It seems likely that later material was intrusive, either from nineteenth-century horticulture or through disturbance during installation of the 1975 garden. Excluding this intrusive material gives a date from the fifteenth-sixteenth centuries for the remainder of the assemblage.

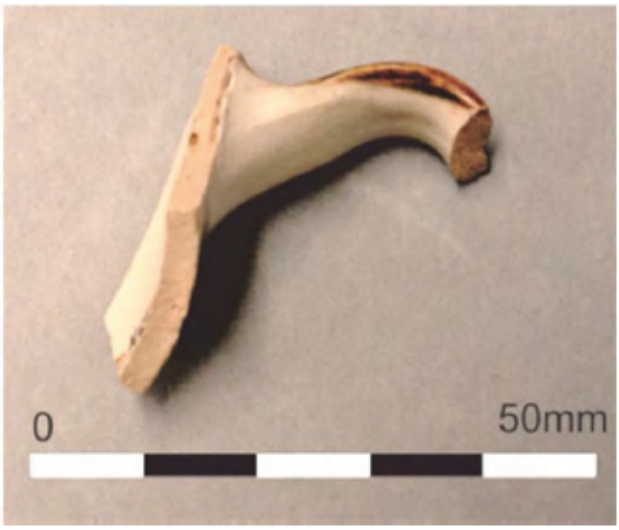
Terrace layer (5137) produced a single fragment of a rim from a jar of Late Chilvers Coton Ware. The rim has a bifid profile, which is typical of the late fifteenth to sixteenth centuries.

Civil War

Ditch (112), (118), (5160) and 5165)[5164)
The upper fill of the Civil War ditch (112) produced just three sherds of pottery, all Creamware, indicating a date of the mid-late eighteenth century. By contrast, the primary fill (118) produced four sherds, all of which are of thirteenth to fourteenth-century date, and clearly residual.

In Trench 5, two fills of the Civil War ditch [5164] produced ceramics. The assemblage from (5160) consists of just three sherds, all broadly contemporary. Two are fairly small fragments of Midland Blackware pancheons (fabric F426) and the other is a sherd of somewhat underfired Midland Purple Ware. Both pottery types were in use during the Civil War but each had a relatively long use-life. The former was still in use in the eighteenth and nineteenth centuries and the latter was first made in the fifteenth century. In the case of the sherds of fabric F426, neither has the poorly-mixed marl fabric which is typical of the later products of the tradition, so they are likely to be of seventeenth-century date. The second fill (5165) produced a single sherd of MB02 suggesting an eighteenth-century date.

Slighting and robber trench activity (904), (905), (906), (1113), and (5384)[5381]
Fills (904), (905) and (906) all derived from the robber trench cut [903] of the North Curtain Wall. Fill (904) produced a fairly large assemblage of pottery, most of which dates to the seventeenth or early eighteenth centuries, apart from two small sherds of Creamware and two others of modern White Earthenware. The sherds of fabric F426 are of the mixed 'marl' type, and some of the sherds of mid-late seventeenth-century material, specifically the Staffordshire Slipware (fabric F437) and the Tin-Glazed Earthenware (F410) are somewhat abraded indicating that they are residual. It seems most likely therefore that this group dates to the early to mid-eighteenth century, with the modern material being intrusive. The only pottery from fill (905) was a fragment from the handle and body of a dipped White Stoneware tankard (Fig 45). It is very likely to date to around the period 1710/1720 - 1760 (Mountford 1971, 35-8 and plate 54-6). Fill (906) produced a small assemblage of a similar character to neighbouring fill (904). It mainly comprised fabric F426 but also a single sherd of Staffordshire Slipware and two sherds of Creamware, suggesting a date in the mid-late eighteenth century. All episodes of robbing therefore appear broadly contemporary and probably of mid-eighteenth century date.



Tankard body and upper part of the handle, English stoneware, fill (905) of robber trench [903] Fig 45

The only pottery from the demolition layer (1113) which appears to be connected with deliberate slighting, was a fragment of Midland Purple Ware which cannot be closely dated. Just three small sherds occurred in fill (5384) of robber trench [5381], two of which are seventeenth to eighteenth century and the other, presumably intrusive, is the handle of a tea-cup of mid-late nineteenth century date.

Post-Civil War

Orchard and Kitchen Garden Layers (109), (407), (4304) and (5397)
The largest group is from layer (109), where eight small sherds of nineteenth-century pottery seem likely to be the result of disturbance from horticulture. The same applies to the two large sherds of Nottingham Stoneware and possibly the large fragment of Late Midland Blackware (MB02 - 1600-1900), although the only other pottery from this context are a sherd of German Stoneware of mid-sixteenth to eighteenth-century date and five medieval sherds of thirteenth to fourteenth-century date. The assemblage from the layer (407) is very small; two tiny sherds of modern material may be intrusive and of three other small sherds, two are fourteenth century and the other mid-sixteenth to eighteenth century. Layer (4304) produced only two sherds of pottery, but both are fairly large. Both are Staffordshire wares, one Manganese Ware (fabric F436) and the other Slip-trailed Earthenware (F437). They are likely to be of late seventeenth to early eighteenth-century date. A small fragment of mid-eighteenth to nineteenth-century Creamware (Fabric F438) came from layer (5397).

Given the range of pottery types, it seems most likely that the kitchen garden or orchard use was established at some point in the late seventeenth or early eighteenth century, although a slightly later date is possible.

9 OTHER FINDS by Tora Hylton

9.1 Introduction

The excavations produced a group of medieval and post-medieval finds. In tandem with the pottery evidence, successive episodes of landscaping and other groundwork have resulted in a predominantly residual assemblage. A small number of medieval finds came from medieval features, but the majority of datable medieval finds were recovered as residual finds from Elizabethan and later deposits, while finds of sixteenth and seventeenth-century date were located in post-medieval or modern deposits. The finds date from the thirteenth or fourteenth centuries through to the twentieth century and the range represented provides a brief insight into some of the activities which may have taken place prior to the landscaping of the garden. The assemblage includes horse trappings, military equipment, coins, some tools, and a range of dress accessories.

In total there are 118 individual or group recorded finds in eight material types. Each object has been described and measured, and a descriptive catalogue is retained in archive. Twenty-seven of the finds are unstratified. The small finds may be quantified by material type as follows:

Table 3: The individual finds quantified by material

Material	Total
Gold	1
Silver	3
Copper alloy	38
Iron	33
Lead	34
Misc metal	6
Glass	2
Bone	1
Total	**118**

A total of 11 iron objects (excluding nails and small fragments) were submitted for X-ray, which was undertaken by Kelly Abbot, Contract Conservator with Wiltshire Conservation Service. This not only provided a permanent record but aided identification and revealed technical details not previously visible. No stabilisation was necessary. Three copper alloy objects are gilded and two buckle-plates still have organic remains (leather) adhering to their surfaces.

9.2 Finds by period

Medieval

Five objects were recovered from medieval deposits. They include a silver half-real coin of Ferdinand and Isabella (1497-*c*1520) from stratified pit [5334] (SF138), two fragments of lead waste from a cobbled surface (4287) (SF93) and make-up layer (5156) (SF56), and a nail located in the Inner Bailey Ditch (5127).

However, a larger number of medieval objects were recovered as residual finds in later deposits and topsoil. These include two hammered silver coins (identified by Dr Mark Curteis): a half-cut long cross penny of Henry III (1247-72) (SF94) and an Edward I (1301-10) long cross penny (SF 92), both were recovered from topsoil.

Table 4: Catalogue of coins (compiled by Mark Curteis)

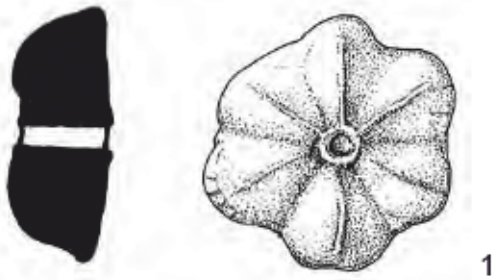
Description	SF number	Context	Mint	Class	Date	Condition
Henry III Long cross half penny	94	Unstratified	London Mint	Class 5b	1247-72	W/W
Edward I Long cross penny	92	401, topsoil	London Mint	Class 10	1301-10	SW/SW
Ferdinand and Isabella of Spain Half-real	138	Pit fill, 5335	Castille mint		1497-*c*1520	EW/VW

Other finds include a range of fittings and mounts from dress accessories, furniture, and horse gear. Three copper alloy cast belt stiffeners were recovered, one would have been secured by rivets (SF 102) and the other two by integral spikes protruding from the underside (SF 27, 407). Chronologically the earliest type, *c*1350-1400, was recovered from topsoil. An octofoil mount was recovered from the Elizabethan garden make-up (SF25) (501) and comprises a central lobe decorated with a cross-hatched motif flanked by perforated terminal lobes (cf. Goodall, AR 1990, fig 9.13, 72). Although incomplete, it stylistically resembles a type of mount manufactured from sheet copper alloy and stamped to form a raised central boss surrounded by eight domed lobes. A similar example from London dates to the fourteenth century (Egan 1991, fig 122, 1039).

A copper alloy cast buckle frame/plate from probable soakaway (5374) (SF 135, Fig 46.3) has a trapezoidal frame with integral triangular plate separated by a transverse ridge; although not identical, a similar example is known from North Elmham Park (Goodall 1980, fig 236, 20). Buckles of this type are generally recovered from thirteenth and fourteenth-century deposits and it has been suggested that they may have been used with spurs (for a discussion see Ottaway and Rogers 2002, 2889). Two more buckle-plates comprise a gilded rectangular example secured by dome-headed rivets, which was recovered from the garden make-up (SF 102), (501), and a U-shaped-plate with squared slot for the pin from a medieval drain (557) (SF 35). Both would have been attached to the buckle by folding the end round the frame and securing it to the strap by rivets. Gilding would have been used to enhance the status of items manufactured from leather and textile.

Other finds relating to the use of horses include a harness pendant in the form of a fleur-de-lis, two spur-buckles and an iron buckle for use on harness straps. The harness pendant was recovered from the Elizabethan garden make up (501), although complete, it is badly damaged. It appears to represent a fleur-de-lis ornamented with linear and zig zag motifs, patches of gilding are evident on the surface (SF 106, Fig 46.2). A similar example has been recorded on the PAS database and dated to the thirteenth and fourteenth centuries (YORYM - SF2F53 - find No 246859).

There are two spur-buckles; both are furnished with hooks for attachment to the terminal loop of the spur. One buckle was recovered from the Elizabethan fountain (565). It has a cast rectangular frame with integral plate and hook, and resembles examples from London (SF 37) (Clarke 1995, fig 101, 342b) and Seacourt, Berkshire (Biddle 1963, fig 30, 22) which date to the fourteenth century. The other was recovered from a later gardening deposit (407), and has a double oval frame with decorated outer edges; a separate rectangular plate with hooked terminal is attached to the central bar; it too dates to the fourteenth century (SF 84).



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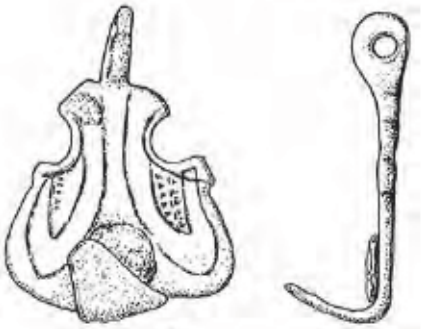

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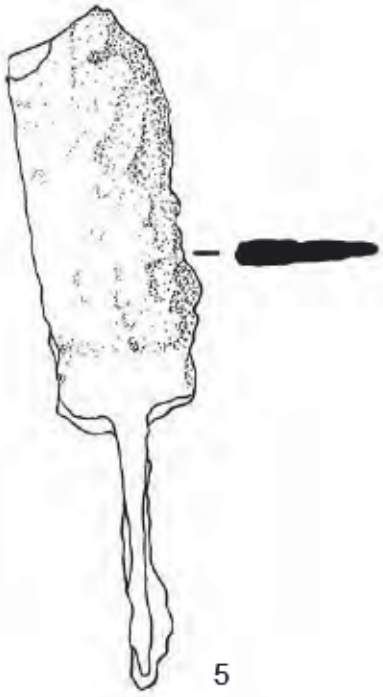


5

6

Scale 1:1

Other finds 1 - 6 Fig 46

The remaining iron buckle would have been for use on harness straps (SF 46). It was recovered from the early Civil War ditch (5160), but probably dates to *c*1350-1450. It has a D-shaped frame and a broad rectangular-sectioned pin which is folded around the bar. It is not dissimilar to an example from London (Clarke 1995, fig 42, 20).

Finally, a cast copper alloy hooked fitting, possibly from a box or furniture (SF 98) was recovered from the early post-medieval drain (5292). It comprises a rectangular bar with a shaped terminal at one end and a hook at the other; it would have been secured by two rivets (Fig 46.4). The terminal is separated from the main part of the mount by a raised transverse ridge; much of the exterior surface retains patches of the original gilding. Stylistically this mount dates to *c*1350-1450 and it is similar to an example from Wintringham (Goodall 1977, fig 48, 23).

Items associated with household use include a small number of domestic utensils, a skimmer and three knives. The skimmer was residual within post-medieval deposits. It comprises a tapered socket into which a wooden handle would have been inserted (traces are evident) and part of the perforated plate (skimmer) (SF 17). Similar examples from Ludgershall Castle (Robinson and Griffiths 2000, fig 6.12, 112) and London (Egan 1998, fig 126) date to the early fifteenth century. They were used in the kitchen for skimming fat, cream, or foods. There are two whittle-tang knives which date to the medieval period, each formed with a tapered prong at one end, onto which a handle of wood, bone or horn would have been hafted. Both are incomplete with parts of their blade and tang missing. They were residual within post-medieval/modern deposits. One was recovered from the fill of a planting bowl (4211); it has a circular-sectioned spiked tang and a non-ferrous hilt band at the junction of the blade and tang is ornamented with a small cast 'floral' appliqué/mount (SF 137; Fig 46, 5). Finally a plain, tapered knife was recovered from unstratified garden deposits. Typologically it is similar to Goodall's Type D and is medieval/late medieval in date (Goodall 1990, fig 255, 2761) (SF 112, Fig 46.5).

One pin or needle was recovered, manufactured from a pig fibula. It has a tapered sub-circular shaft (length: 72mm) and the perforated head is formed from the spatulate distal end (SF 136). For a similar example from Salisbury see MacGregor 2001, fig 4, 15. Such pins are not uncommon, and were manufactured from the Iron Age through to the early medieval period (for discussion see MacGregor 1985, 120).

One hand-forged medieval nail was recovered from the Inner Bailey Ditch (SF 65).

Elizabethan

Given the nature of the site, there are few finds which can be directly associated with the use of the Elizabethan garden. In total 39 finds were recovered from deposits relating to around this period. The majority were recovered from the garden make-up layer (501), with lesser numbers found in drains (557, 5291, 5292), the fountain (560, 565) and packed foundations (5107, 5370); most appear to be residual finds of medieval date. Among finds which probably date to use of the garden is the fragment of lead waterpipe from the fountain (560). The seamless lead tube is 5mm-9mm thick and 38mm in diameter, and has a cut length of 165mm (Fig 47, SF 139).

Lead pipe fragment, found *ex situ* in the fountain foundations Fig 47

Other potentially contemporary finds include a large decorative lead mount from layer (501) (SF31, Fig 46.1). It is in the form of a 'rosette' in high relief, with flat underside and a centrally placed circular perforation for attachment, possibly to one of the garden structures. Three hand-forged timber nails were also recovered. They have square-sectioned shanks and flat sub-circular heads, and are up to 76mm long, and they would have sat flush with the surface of a timber structure.

An interesting discovery was thirteen fragments of gold thread in the fill of the western culvert of the fountain (SF 43) (5166). Analysis shows that they were made of thin strips of gold foil wrapped around a core of yarn, giving the impression of a thicker solid gold thread. Inventories of the castle during Leicester's tenure show that it contained an enormous quantity of rich fabrics (tapestries, cushions, bed coverings, etc.) embroidered with silver and gold thread, suggesting a likely source (Goldring 2007).

Possible Elizabethan tools and utensils from the garden include a scale-tang knife from a deposit associated with the fountain (565) (SF 62). Although part of the blade and tang are missing, it is similar to late sixteenth and early seventeenth-century knives with a broad tapered tang in line with the back of blade. The tang has two perforations for attaching the scales of a handle and there is a shoulder plate at the junction of the blade and tang (see Egan 2005, fig 79, 4-6-8).

Ten pieces of lead shot from layer (501) range in size from 11mm-19mm across. The majority are at the lower end of the scale and may have been for use with a pistol. Two have become flattened from firing or impact with an object. Only one example is over 18mm in diameter, and would have been for use with a musket (Egan 2005, 202). It is possible that all were intrusive from Civil War activity on the site. There are also two socketed crossbow bolt heads; an incomplete fragment was found in the Elizabethan make-up layer (SF 57) (501) and a complete example was recovered from twentieth-century deposits (204) (SF 50, Fig 46.6). Characteristically, weaponry of this type is ideal for piercing armour; the head which is narrower than the socket has a triangular

cross-section. Similar examples have been recorded amongst the finds at Salisbury and South Wiltshire Museum (Borg 1991, fig 23, 100).

Civil War

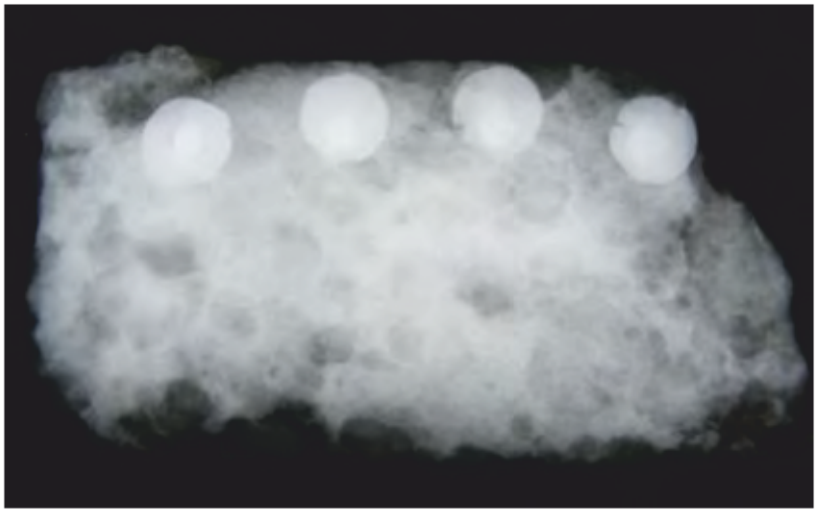
Few finds can be definitively related to Civil War activity and most were recovered from the Civil War ditch. They include fragments of lead waste and two hand-forged timber nails. Some of the residual musket balls found across the site might originate from this period, as well as the armour fragments (see below).

Post-Civil War to modern

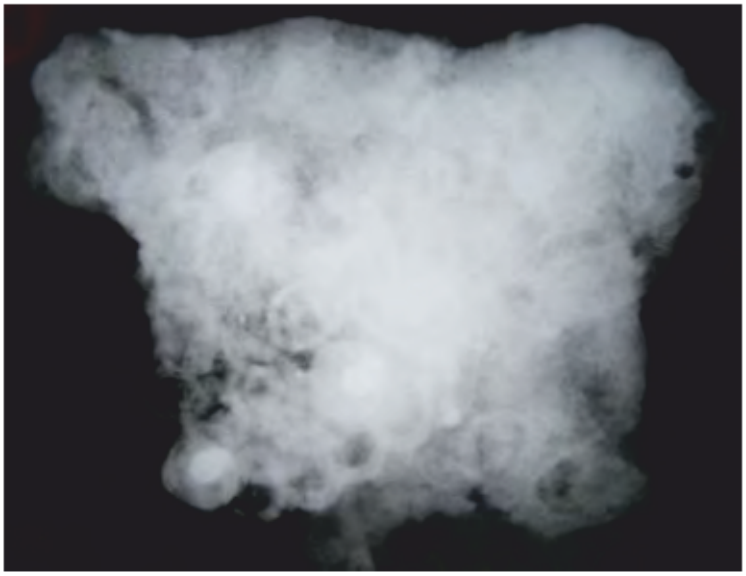
Finds from post-Civil War and modern deposits were located within a range of horticultural features/disturbances and pathways etc. which covered the site. In tandem with earlier phases a number of the finds are residual, dating either to the medieval or late sixteenth or early seventeenth centuries. The largest concentration of finds (30) came from the gardening layer (407), in which the only item clearly relating to horticultural activity is a small copper alloy watering-can rose (SF 79). Other finds include a buckle/strapslide dating to *c*1720-1790 (SF 11), a nineteenth-century buckle with rectangular frame and circular cross-section (SF 81), six plain metal alloy buttons (SF 5, 7, 14, 20, 80, 87), and seven pieces of lead shot. Again, the majority of these measured between 11mm-17mm and were probably for use with a pistol (Egan 2005, 202). Only one larger (18mm) musket ball was found and like six of the pistol balls, was flattened from firing (cf. Biddle 1990, 1070). Some examples have a casting line, indicating that they were manufactured in two pieces. Three other pieces of lead shot were recovered from topsoil.

Ten nails were found in post-medieval and modern deposits, and a further five were recovered from topsoil. All are either hand-forged or mass-produced wire nails. Complete examples measure up to 77mm long, with flat sub-circular heads; they would have been for use with wood. Other building materials included a single hinge pivot and a staple, recovered from topsoil. The hinge pivot comprises a circular-section pivot (guide arm) measuring 35mm high and a tapered rectangular-section shank 85mm long. The shank would have been driven into wood leaving the pivot free to retain the hanging eye of a strap hinge attached to a door shutter or gate. The staple is U-shaped (length: 66mm), and would have been fixed so that its continuous end protruded to form an attachment for chains, rings and hasps, etc.

Two finds of particular interest are pieces of defensive dress which were residual within post-medieval terracing deposits (805, 812) (incorporating comments from Alex Thompson). A piece of plate armour is sub-rectangular, 63mm x 32mm and *c*2mm thick (SF90). The X-ray revealed that the plate would have been secured by a single row of four rivets along one side (Fig 48). The rivets have domed-heads (diam: 7mm) with shanks measuring *c*2mm in diameter; white corrosion deposits on the heads of the rivets indicate that they are coated in a white metal alloy, possibly tin. The piece appears to be a brigandine plate and would have been riveted to a close-fitting defensive coat made from canvas or leather. The second piece is a small fragment of corroded mail armour, measuring some 60mm x 50mm (SF89).The X-ray showed a small fragment comprising 14 horizontal rows of interlinked circular rings (Fig 49). Where visible it is possible to determine that each link is connected to four others; in places rivets can be observed in the cross-over of the rings. Each ring is relatively small (external diam: 7mm; internal. diam: 5mm) suggesting that the surviving fragment may have been edging for a ‘standard’, ‘neck defence’ or ‘mantle’.



X-ray of armour plate, iron Fig 48



X-ray of armour mail, iron Fig 49

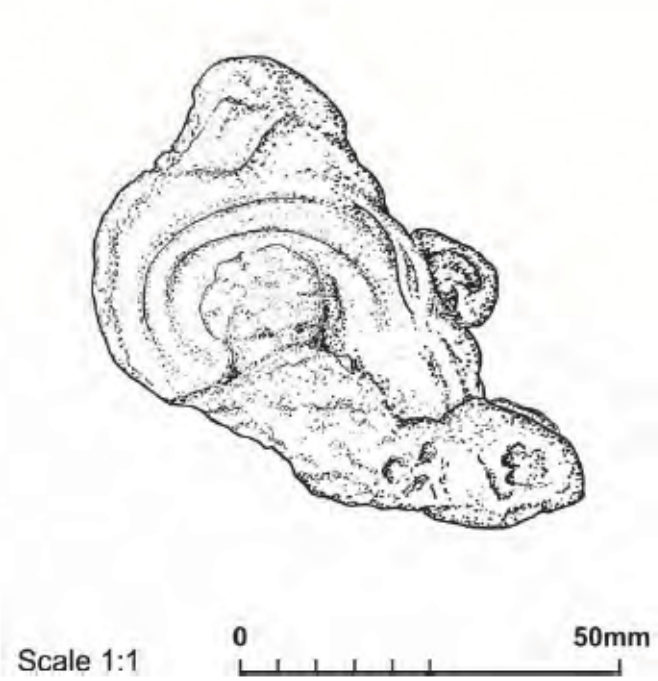
Other small finds recovered from the post-Civil War and modern deposits, include several fragments of clay tobacco-pipe (see section 10). The backfill of the 1968 trench produced an unstratified eighteenth-century shoe buckle decorated with an incised florid motif (SF 140). Three copper alloy thimbles were also found; they are machine-made with knurled indentations. One intrusive thimble was recovered from the Elizabethan garden make-up (SF 33) (501), its lower section is plain apart from a single line of rouletting. Two small examples (height: 14mm) for use by a child were recovered from post-medieval deposits; one displays signs of excessive wear (SF 101, SF 143).

Seven post-medieval copper alloy coins were found. A George III penny dated 1766 from the Civil War ditch was presumably intructive; a Charles II farthing (1660-85) and a George II halfpenny (1727-60) were found in later garden deposits, and a George II penny dated 1732, together with and a George VI threepenny piece dated 1942 were recovered from the modern path. In addition, halfpennies of Victoria (1862) and George V (1917) were found in topsoil.

9.3 Plaster of Paris figurine by Claire Finn

One unusual find was recovered from the fill (4176) of a soakaway. Two soakaway pits, connected by stoneware drain pipes, were associated with the post-medieval gravel track which crossed the garden during the twentieth century. As well as nineteenth-century domestic china, glass bottles and other debris, the fill of [4177] also contained pieces from one or more small Plaster of Paris or 'chalkware' figurines. The largest piece is the body of a figure with flowing robes, 126mm tall, 67mm wide, and 42mm deep. The plaster is soft and rather brittle, and the surface is discoloured dark grey, although it does not seem that the original piece was painted. The figure is incomplete, missing its head, both hands and lower legs. The right wing was found separately, and the left wing is missing. Given the angle of the arms, with the right bent and left extended forwards, the figure may have been blowing a trumpet. An iron pin can still be seen in the right forearm, and several other pins can be seen in the neck, presumably to hold the head or other decorative feature. Iron stains and the remnants of thin pins can be seen on two other pieces.

Due to the soft nature of plaster, it seems likely that the figurine originated as an internal decorative feature. On the reverse, the figure is set against an angled flat plane, indicating it was part of a panel rather than free-standing. Remnants on an iron nail or hook can also be seen in the degraded plaster on the reverse. Several other wing pieces and a fragment of head (Fig 50) appear to have originated from different figures, possibly from a single long frieze. These may have formed elements of decoration from internal architecture, or from a tomb. The style of the large angel piece suggests it dates to the late nineteenth or twentieth centuries (Fig 51).



Plaster of Paris moulded head, fill (4176) of soakaway Fig 50

0 50mm

Scale 1:1 Plaster of Paris angel figurine, top and front view (4176) Fig 51

Table 5: Catalogue of selected finds

Fig Number	Find No.	Context	Description	Dimensions
Fig 46.1	31	501, garden make-up, Elizabethan	Decorative mount, lead. Complete cast sexfoil mount in high relief with flat underside; centrally placed perforation for securing.	Diam: 34mm H: 9mm Wgt: 49g
Fig 46.2	106	501, garden make-up, Elizabethan	Horse harness pendant, copper alloy. Complete but damaged. Cast and in the form of a fleur de lis, linear and zig-zag motif, patches of gilding evident on the surface	Length: 57mm
Fig 46.3	135	5374, fill of soakaway, ?Elizabethan	Buckle, copper alloy. Complete, trapezoidal frame and integral plate separated by transverse ridge; two rivets (extant); vestige of wire pin through small hole. 13th/14th centuries	Length: 32mm Width:13mm
Fig 46.4	98	5292, fill of drain, 16th/17th century	Mount, copper alloy. Cast with D-shaped cross-section; pointed terminal with transverse groove; solid square-sectioned hook at the other end; two circular rivet holes; exterior surface gilded.	Length: *c*62mm
Fig 46.5	137	4211, fill of planting pit, Post-medieval	Whittle tang knife, iron. Incomplete, part of blade and end of tang missing. Circular-sectioned tang central to blade; back of blade horizontal; non-ferrous hilt band set at junction of blade and tang. Poss. applique attached to hilt band.	Blade (incomplete): L; 50mm W:19mm Th:3mm Tang L: 36mm Diam: 4mm
Fig 46.6	50	204, levelling layer, 20th century	Crossbow bolt, iron. Complete, socket and blade with triangular cross-section	L: 96mm Socket L: 35mm Diam: 13mm Blade L: 65mm Th: 14mm
Fig 48	90	805, terracing layer, Post-medieval	Armour plate (brigandine), iron. Sub-rectangular fragment of metal plate, one row of four dome-headed rivets sited close to the edge of the plate.	63 x 32mm
Fig 49	89	812, terracing layer, Post-medieval	Armour mail, iron. Small corroded fragment comprising 14 horizontal rows of interlinked circular rings.	60mm x 50mm; Rings Ext. Diam: 7mm; Int. Diam:5mm
NI	62	565, fountain, Elizabethan	Scale-tang knife, iron. Incomplete, part of blade and tang missing. Tang in line with horizontal back, cutting edge straight; two rivet holes in tang and shoulder plate set at junction of blade and tang.	Blade W: 19mm Th: *c*2mm

9.4 Clay tobacco-pipes by Tora Hylton

A small group of 27 clay tobacco-pipe fragments comprises an unidentifiable pipe-bowl fragment and 26 stem fragments. The assemblage was largely retrieved from topsoil and post-Civil War deposits, although two stem fragments were recovered from the fountain (560, 565). A small number of stems indicate moderate abrasion and no single fragment measures more than 105mm in length.

Two stem fragments preserve maker's marks on the stem: 'T. RAYNOLD' and 'R. SMITHEMAN & CO BROSELEY'. The former may refers to T. Reynolds & Son who were in business between 1868-84 (Oswald 1975, 197) and the other, Rowland Smithman, a Broseley pipe manufacturer from 1885-1917.

Table 6: The clay tobacco-pipes by context

Trench	Context	Feature	Stems	Bowls	Comments
	001	Topsoil, 20th century	2		
1	102	Levelling layer 20th century	1		Maker's mark – T. Raynold (*c*1868-84)
	109	Gardening layer Post 17th century	1		
	118	Primary ditch fill 17th century	1		
4	4176	Modern soakaway	1		
5	560	Fountain, Elizabethan	1		
	565	Fountain, Elizabethan	1		
	5289	Drain, 16th/17th centuries	1		
	5319	Planting hollow Post-medieval	1		
	5332	Clay spread Post-medieval	1		Maker's mark – R. Smitheman (*c*1885-1917)
	5350	Layer (?)	7		
	5355	Spread (?)		1	Undiagnostic fragment
	5397	Layer, post-medieval	3		
9	901	Topsoil, 20th century	1		
	902	Gardening layer post-medieval	1		
	904	Robber trench post-medieval	1		
11	1109	Layer, medieval	1		
Misc		Backfill of 1968 trench	1		

9.5 Glass by Iain Soden

The vessel and window glass

A small quantity of vessel and window glass was recovered (Table 7). None of the glass is significant, being predominantly small undiagnostic fragments.

Table 7: The glass by trench and weight (g)

Trench	Sherds/fragments	Weight (g)
1	39	1002
3	1	41
4	48	2650
5	39	227
6	11 bottles	-
7	34	819
Totals	**161 (excluding T6)**	**4739 (excluding T6)**

In addition, the fill of a modern wheel rut (4176) produced three complete nineteenth or twentieth-century wine bottles and a bottle marked *'terezol for polishing furniture'*.

The eleven bottles from Trench 6 (604) are worthy of note. They include several examples which have been blown with maker's details in relief. They are:

- *THE LEAMINGTON SPA/ AERATED WATERS CO LTD 02 (1902), MANDER & CO, KENILWORTH*
- *THE LEAMINGTON SPA/ AERATED WATERS CO LTD, BURGIS & COLBOURNE LIMITED, LEAMINGTON*
- *W. LA]NT & CO/ [MINERAL WATER/COVENTRY* Codd bottle fragments made by Lant and Company of Bond Street, Coventry. Hiram Codd designed and patented his Codd bottle invention in 1872. Lant continued to trade until the Second World War, producing lemonade and ginger beer as well as aerated mineral waters.
- *W BANNISTER & CO, ROCK SPRING MINERAL WATER WORKS, SMETHWICK/ AI KILNER & SONS, MAKERS, WAKEFIELD* (two examples). Kilner and Sons were making Codds to order for multiple drinks suppliers, which were exported across the British Empire, including South Africa and Australia.
- *THE PROPERTY OF M H HIORNS, ATHERSTONE* (two examples).
- *THE LICENSED TRADE SUPPLY SOCIETY, COVENTRY/ L.T.S.S. LTD* (two examples).

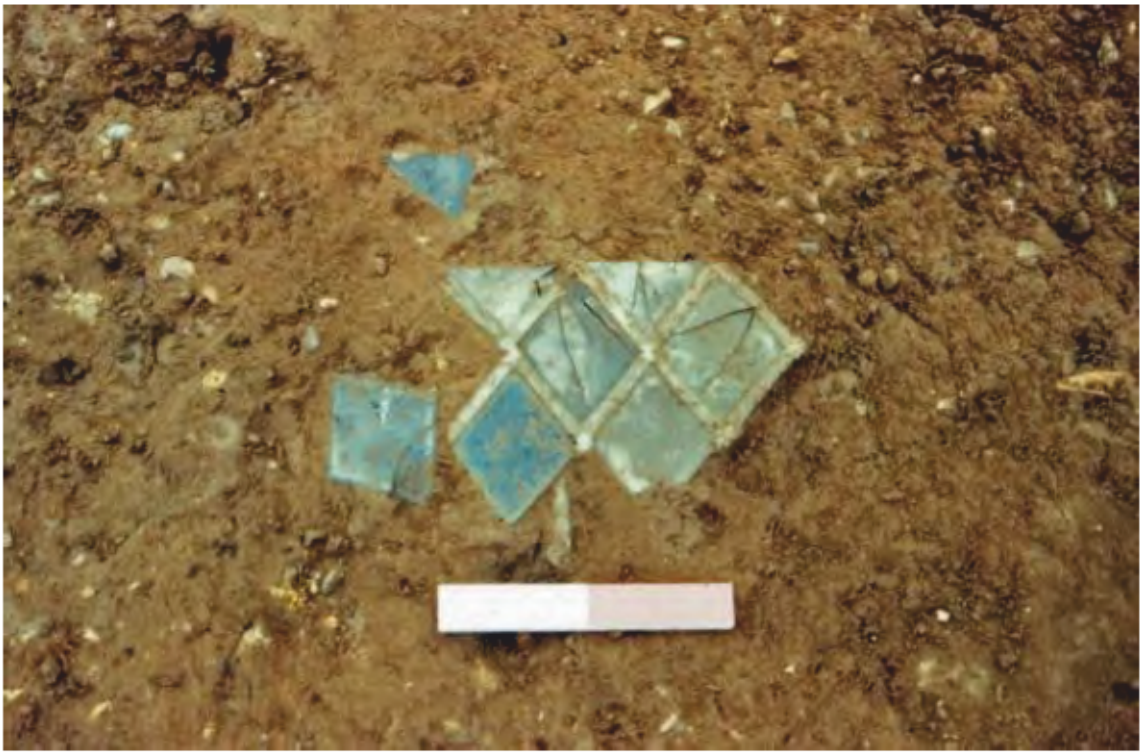
Photographic plates

Thirteen complete glass photographic plates came from context (604) came, each measuring 108mm x 82mm x 1.5mm. They probably relate to Ambrotype photographs, a technique developed in the 1850s and 60s, but enjoying only a brief period of use. Two pieces of glass were used for each photograph. They were (and remain) very fragile, with images easily damaged. Not surprisingly, none retains any fragment of an image. The context also produced 13 small bags of fragments of similar plates.

Window fragment by Iain Soden and Claire Finn

A fragment of leaded window, measuring 250mm high x 290mm wide was recovered from the threshold between the Elizabethan and post-medieval garden layers (Fig 52). It comprises five complete diamond-shaped panes (quarries) and two half-panes, all of colourless undecorated glass, and held in place by the original lead cames (Fig 53). The individual quarries measure *c*120mm high x 85mm wide, and all of the glass pieces have a reasonably even thickness of 1.5mm. Different panels of the glass have decayed at very different rates, with some pieces being still of good clear quality, and others having poor surface condition and becoming opaque and crystalline. As all the pieces were found together in the same post-depositional conditions, the differential preservation indicates that the pieces were not cut from a single sheet, but were formed from different sheets of glass with slightly varying chemical compositions. The glass which has not devitrified is visibly of high quality, with a smooth even surface and a few large bubbles. All pieces have been neatly cut during the manufacture and have no grozed edges, also suggesting a later date.

The lead cames holding the quarries have a wide, flat H-profile, with a thin flange measuring 9.5mm across, and with a 2mm cross bar. Several of the pieces bear clear milling marks along the central cross bar, with a low tooth-count of 5 in 20mm; a type described as 'G type' by Knight, and of post sixteenth-century date (Knight 1986, Egan *et al* 1986). The find-spot of the window indicates that the fragment may have been deposited during the slighting of the castle during the mid-seventeenth century, and it is possible to have been made as part of Leicester's programme of building at the castle. However, the high quality and thickness of the glass, and the type of cames is more likely to indicate that the window was of later seventeenth-century date.



Leaded glass quarries *in situ* (scale 200mm) Fig 52

Leaded window (250mm high by 290mm wide) Fig 53

10 CERAMIC BUILDING MATERIAL by Pat Chapman

10.1 Bricks

Fifty-one bricks come from eighteen contexts. A partial brick and two fragments derive from medieval contexts, nine bricks come from a sixteenth or seventeenth-century drain and two very similar bricks appear residual in later fills. The remaining 37 bricks come from post-medieval, Victorian and modern contexts.

Medieval

One brick dated to the medieval period, from the lowest level of the revetment against the east of the Elizabethan terrace (711), is 110mm wide by 50mm thick (4 by 2 inches) and made from hard sandy red clay with a few angular and sub-rounded small pebbles. Two small fragments from (5117) comprise one of sandy orange clay, and the other overfired to mauve.

Elizabethan

An assemblage of eleven very similar handmade bricks, six complete, came mainly from drain fills (554), (557), (5290) and as residual items in the post-medieval terracing (812) and modern fills (604), (704). All are thin bricks, typically 228mm long by 110mm wide and 45 mm thick (9 x 4 x 1¾ inches). Eight of them, six from the drain and two residual, are made with very hard-fired, orange-brown sandy clay, with occasional large pebbles up to 25mm long and some very small gravel. The bricks are typically blackened on one header and towards the end of the top surface, the header being very slightly vitrified. Some have traces of lime mortar. One other brick in the drain is of friable sandy pink clay similar to the local sandstone, and another was fired dark red. These bricks are sandy on the base and sides from being placed in a pallet mould. Two fragments of bricks of hard red clay came from the fountain area (571).

There are 22 bricks from tile-packed pit (5391/5392), none complete. They are 105-115mm wide and 55-60mm thick (4⅛-4½ by 2⅛-2⅜ inches). The majority are coarse sandy clay burnt dark red to grey as a result of overfiring, and some headers and surfaces show traces of slight vitrification. A few bricks are of coarse sandy orange-brown clay. A number have quantities of white lime mortar adhering to the top and bottom. In three cases some are still mortared together, but in a very rough and ready fashion. Two broken bricks have been stuck together with lumps of mortar covering their broken edges; a brick split horizontally has part of a roof tile mortared onto the top, together with fragments of overfired dark grey brick rammed in and another brick has fragments of overfired brick stuck randomly on top. These reused bricks and fragments may have been discarded from use in normal build, and then very crudely stuck together with dollops of white lime mortar, perhaps for mending a wall or filling a hole.

Of the two incomplete bricks from (1103), both made with dark red pebbly sandy clay, one has a layer of possible Portland cement up to 60mm thick on one surface, which includes a flat piece of stone as well as small stones and overfired brick fragments.

Seventeenth to early twentieth centuries

A fragment of mass-produced red-brown brick from modern planting pit 405 has the letters …KHART and ...ORTH stamped in the frog, another fragment from (204) has KENIL... in a shallow frog. In 1872 Walter Lockhart took on a lease for a brickworks at Whitemoor and produced the first Kenilworth bricks known to have carried the town's name. In the 1880s the works were taken over by the Leamington and Lillington Brick Company (www.leamingtoncourier.co.uk, accessed 19/03/2015). The lettering should therefore be reconstructed as LOCKHART and KENILWORTH and dated to the 1870s.

A Foxley's Patent Brick, a specially moulded brick designed for garden purposes in about 1864, was found in the backfill of the 1968 trench (4328). Made from very hard fine silty pink clay, it has a hemispherical ridge along the mid-line of one stretcher which is perforated every 38mm by a hole 4mm in diameter. This would have been used in garden or greenhouse walls by threading wire or twine through the perforations to support growing plants (Williams and Williams 2009).

10.2 Roof tiles

The assemblage comprises 376 sherds of plain flat roof tiles, with an average sherd size of 90x80mm. The number of sherds from contexts assigned to different periods is shown in Table 8 below. There is little to distinguish the tile from the different periods, and fabrics of orange-brown and red-brown in varying degrees of finer or coarser sandy clay appear throughout, with a few containing frequent small sub-rounded pebbles. Scattered among those sherds are others made in silty brown clay, usually with a black core, or a pinkish brown sandy clay.

One sherd, from post-medieval context (810), has a measurable width, 165mm (6½ inches), which is a standard dimension. The tiles are typically 13-16mm thick. Six square and round pegholes with diameters or edges of 5-8mm, and sixteen pulled nibs come from all periods. There is one plain curved ridge sherd, 15-22mm thick from the Elizabethan garden make-up (501). One sherd has a patch of green glaze, another a patch of clear glaze over slip; both from modern contexts. One dog paw print was seen.

Table 8: Quantification of ceramic roof tile by period

Period	No	Comment
Medieval	65	1 square peg; 4 nibs
Pre-16th century	12	-
Elizabethan	52	1 square, 1 round peghole; 1 nib; ridge tile
Pre-Civil War	3	1 nib
Civil War	1	-
post-medieval	180	1 square, 1 round peghole; 6 nibs; dog print
19th and 20th centuries	57	1 square peghole; 3 nibs, 1 green, 1 clear glaze
Western terrace	6	1 nib; garden edging?
Total	**376**	

There are a few tile sherds of post-medieval and modern date. They are 11mm thick and machine-made in very hard white or red clay with shiny purple to black surfaces. A sherd from the western end of terrace, made of very hard fine orange clay with a flat body 25mm thick, and a thin raised flange could be edging for a path or flower bed.

The small size of the sherds and their distribution in contexts of all periods implies a high level of residuality. These are ordinary roof tiles that would have been used on buildings of any status, and there is nothing that would indicate the presence of a prestigious building. The fact that no large sherds or near complete tiles were found suggests that they were generally recycled into local buildings.

10.3 Ceramic floor or wall tiles

Six floor tile sherds, four medieval and two from nineteenth to twentieth century deposits were found, together with a single wall or furniture tile. An almost complete medieval tile

from post-medieval context (594) is 112mm square and 25mm thick (4½ x ⅞ inches); it is worn, with a clear glaze over white slip but scraped from something dragged across the surface. Two sherds from medieval context (711) are 20mm and 25mm thick (⅞ of an inch and 1 inch) with chamfered edges and very worn green glaze. Half a tile, very worn with just the hint of a pattern, was found in topsoil.

A floor tile, 153mm long (6 inches) and 25mm thick and made from orange-brown clay with keying lines on the base and a smooth top, came from modern context (496). Another modern context (604) provided an encaustic floor tile, 10mm thick and made with red-brown clay with shallow keying indentations on one side. A wall or furniture encaustic tile, 11mm thick in white clay with a blue and white linear pattern was found in topsoil.

11 THE WORKED STONE condensed from reports prepared by the late Dr. R K Morris

Thirteen worked stones were recovered during excavation of the Elizabethan garden, six in 2005 and seven in 2006. None were complete, and all were recovered loose, or where they had been reused.

T1001 (SF129)
From the topsoil is the base for a group of three shafts and seems to have been originally part of an ashlar block (Fig 54). The circular plan of the base, the tooling, and the vertical profile suggest a date of the early Decorative Period (*c*1290-1325). The shafts have a small diameter (*c*80mm) suggesting a fixture or fitting, such as a church sedilia. It most likely originated from Kenilworth Priory.

The base of three shafts, early fourteenth century, T1001 (SF129) (5392)
(Scale 50mm) Fig 54

T1002 (SF2)
This is the only stone which can securely be said to have an Elizabethan or Jacobean date. It was found at the top of the Civil War ditch (407/109) and comprises part of the main bulb of a baluster, in particular one half of a double-bulb baluster which is a type common in early Renaissance architecture. It is likely to have come from a balustrade, possibly in the garden, where balustrades may have framed the walk on the terrace or the staircase descending from the forebuilding. The shape and decoration are rather vernacular, possibly as a result of using local stonemasons or in a deliberate attempt to evoke a rustic, 'Mannerist' decorative style, identified in Leicester's other works at Kenilworth. The incised decoration around the bulb, for instance, is reminiscent of lathe-turned furniture. A fragment from the upper part of a baluster has been found previously. A detailed find location is not known, but it may have been excavated from the garden during the 1970s. Although these two pieces were not fitting pieces, they are certainly from similar features (Fig 55).

T1003 (SF1)
From planting hollow (405), this stone is badly damaged but has three stepped surfaces visible on one face, probably from carved decoration rather than architectural mouldings. It is likely to be a piece of Romanesque Norman chevron, similar in design and date to T1004. A similar piece of chevron carved stone can be seen in the existing English Heritage collection (88112661), as well as in the Lapidarium Wall in Kenilworth parish churchyard.

T1004 (SF36)

A tiny fragment from a Romanesque Norman chevron carving, from two or more orders of ornament in stepped formation; it was found in rubble fill (557) of drain [556]. This type of decoration was present on the interior of the Kenilworth Priory chapter house constructed in the second quarter of the twelfth century. While it is possible that chevron motifs were also used in the contemporary castle, the priory seems a much more likely source for this stone.

T1005 (SF41)

A corner section of an octagonal chimney stack was also found in the same drain fill (557). It has a circular interior plan, with a diameter of 460mm, marked with soot staining. This sort of stack was common in the later medieval period on high status buildings and this piece probably has this date. The kitchens, which ran along the inside of the north inner bailey close to the garden, were rebuilt by John of Gaunt in *c*1370 and this is a possible source for this stone. Another octagonal chimney piece is held by English Heritage (88112654).

T1006 (SF40)

This stone was also reused as a cover from the land-drain towards the west of the site [556]. This piece is a small section of slab with a roll moulding carved along one edge (Fig 56). The moulding has a relatively small diameter, suggesting a function such as the tread of a church step, as is seen, for example, in other Cistercian church sites from the twelfth and thirteenth centuries.

Stone baluster T1002 (SF2) (407/109) (left), and upper baluster found previously (right), (Scale 20mm) Fig 55

T1006 (SF40) (557), possible twelfth or thirteenth-century step (Scale 50mm) Fig 56

T1007

This thirteenth-century voussoir was reused in the wall foundation (602) near the west end of the terrace (Fig 57). It originally had roll, hollow and fillet mouldings. Almost identical parallels are to be found among the material in English Heritage storage (88112667), and a piece preserved in the Lapidarium Wall at Kenilworth Priory site. Piece T1007 probably originated from an elaborate door or window arch at the priory.

Voussoir stone T1007 *in situ,* reused in wall (602) Fig 57

T1008
The bottom stone of a jamb for a door or aperture, with a soft-edged hollow chamfer (Decorated period *c*1280-1350), was reused at least twice, initially in a large circular feature, for which it has been turned at 90° and a concave hollow carved in one side. It was later used as part of wall structure from whence it was recovered (602). It is of a non-local yellow sandstone, and none other has been found at the site, perhaps indicating a special decorative function. It is possible therefore that the circular feature might have related to the garden in some way, perhaps as a chute for the fountain.

T1009 (SF133)
Part of a fluted shaft probably originated as part of the sub-base of a shaft group (Fig 58). This type of carved stone appeared in the early fourteenth century and was used throughout the Perpendicular period. It was later reused as part of the cover for the land drain in the west of the garden (5290)/[5288].

T1010 (SF131)
This was recovered from the same drain fill as T1009. It is probably a vault rib, with simple returned chamfers, dating to the thirteenth or fourteenth century. Similar stonework can be found in John of Gaunt's Hall and Strong Tower.

T1011-1013
A quantity of large worked stones from demolition layer (1111) around the foundations of the postern tower is probably debris from when the tower was slighted in 1650. Three types can be noted, all displaying diagonal linear tooling diagnostic of the twelfth and early thirteenth centuries. T1011 (SF121) and T1012 are voussoirs from large apertures, the former with chamfer moulding and the latter plain (Fig 59). T1013 is a length of plinth with a 75mm chamfer moulding. No exact parallels can be drawn with extant stonework in the castle although the similarity with the De Clinton fabric of the keep suggests that the stones are twelfth century rather than later. This in turn implies that the postern tower, from where these stones originated, was constructed in the twelfth century probably during the reign of Henry II, and therefore predating the later parts of the north curtain wall.

T1009 (SF133) (5290), fourteenth-century fluted shaft (Scale 50mm) Fig 58

Voussoir stones from the postern tower (1111) (scale interval 0.5m) Fig 59

Miscellaneous

Six other small fragments of worked stone were recovered from Trench 6. One has a small rebate cut down one edge (SF118, 608), another appears to be one end of a coping with returned chamfers (SF116, 607), and the third has incomplete chamfer moulding (SF117, 607). All appear to be medieval and probably no later than mid-thirteenth century. One further piece from a small slab has an 'X' deeply incised into it, but this is probably a modern mark. The remaining two small fragments are mullion pieces with ovolo mouldings, a standard feature throughout Leicester's works at the castle (*c*1570-75). One retains a glazing slot. They may well have originated from the demolition of the north wall of the keep in 1650.

When excavating the fountain foundations, several fragments of white, crystalline stone were identified (Fig 23), and another larger piece (63mm x 57mm) recovered from during watching brief work in 2008. These are thought to be chips of Italian marble from the Elizabethan fountain. Other larger pieces of white marble and alabaster are held in the English Heritage collection. A number of them, particularly the larger pieces with scrolled brackets, are likely to have derived from fireplaces in Leicester's apartments. However, other pieces may have come from the fountain, including those pieces with carved entablature, exterior weathering, and pieces broken from a block with a hole (28-30mm) drilled through it. Such holes are unlikely to have constructional purpose and instead may have given access to small pipes intended to produce surprise jets of water from the panels of the fountain.

Summary

Several of the pieces of worked stone provide an impression of the quantity of reuse taking place at the site. T1007, which originated from Kenilworth Priory, had been reused as wall foundation for wall (602). T1009 and T1010 were found *in situ* reused, as capping for the drain [5290]; T1006 was also used as a drain cover (557). T1008, a door jamb of yellow sandstone, seems to have been reused at least twice, in a drain or shaft and as part of wall (602). Much of the reused stone originally came from Kenilworth Priory, or possibly elsewhere in the castle.

Because of this intensive reuse, little of the worked stone fragments found in the garden were originally intended for use in that area. Some exceptions are types T1011-T1013 which were found in the outer bailey ditch. They appear to have fallen from arches in the postern tower during robbing or slighting. The baluster T1002 and the fragments of marble from the fountain are probably the only remnants of Elizabethan stonework still surviving in the garden.

Table 9: Worked stone excavated from the garden

Stone no.	SF No.	Type	Context	Material	Date	Probable provenance
T1001	129	Shaft base	(5392)	New Red Sandstone	*c*1290 - 1325	Kenilworth Priory?
T1002	2	Baluster	(407)	New Red Sandstone	Elizabethan/ Jacobean	Garden balustrade?
T1003	1	?Chevron	(405)	New Red Sandstone	*c*1125 - 1175	Kenilworth Priory
T1004	36	Chevron	[556]/(557)	New Red Sandstone	*c*1125 - 1175	Kenilworth Priory
T1005	41	Octagonal chimney stack	[556]/(557)	New Red Sandstone	Later medieval	Castle kitchens?
T1006	40	Slab with roll moulding	[556]/(557)	New Red Sandstone	12th – 13th century	Kenilworth Priory?
T1007	*	Voussoir	(602) wall foundations	New Red Sandstone	*c*1250 - 1300	Kenilworth Priory
T1008	*	Chamfered door jamb	(602) wall	Yellow Sandstone	*c*1280 – 1400	The fountain or water systems?
T1009	133	Fluted shaft	[5288]/(5290) drain	New Red Sandstone	Early 14th century to *c*1530s	
T1010	131	Vault rib	[5288]/(5290) drain	New Red Sandstone	13th-14th century (pre-*c*1400)	
T1011	121	Chamfer moulded voussoir	(1111) wall	New Red Sandstone	12th century (pre-*c*1190)	postern tower
T1012	*	Plain voussoir	(1111) wall	New Red Sandstone	12th century (pre-*c*1195)	postern tower
T1013	*	Chamfer moulded plinth	(1111) wall	New Red Sandstone	12th century (pre-*c*1225)	postern tower
No number		Chippings		White marble	Elizabethan	The fountain
No number	118	Small rebate	(608)	New Red Sandstone	Pre-*c*1225-1300	
No number	116	End of a coping with chamfers	(607)	New Red Sandstone	Pre-*c*1225-1300	
No number	117	Block with incomplete chamfers	(607)	New Red Sandstone	Pre-*c*1225-1300	
No number	*	Ovolo mullion	Trench 6	New Red Sandstone	Pre- c1575	North keep

* These pieces were not retained as part of the Northamptonshire Archaeology archive

12 THE ANIMAL BONES by Stephanie Vann

The animal bones from Kenilworth Castle were subjected to macroscopic examination and identifiable bones were noted and quantified by context. A summary of the results is presented in Table 10. Age was calculated where possible from bones where fusion was discernible, neonatal/juvenile bone and teeth.

Preservation was moderate to high. Fragmentation was moderate and surface abrasion was moderate with bone exhibiting few signs of erosion, weathering and other taphonomic damage. Fragmentation was the result of both old and fresh breaks. Evidence for butchery was low with eight examples; these included both cut and chop marks. There was evidence of canid gnawing on 15 bones and nine burned bone fragments were noted. There was evidence of possible pathology on 19 bones.

The total number of fragments was 769, of which 306 (40 %) were identifiable. Excluded from this count, in order not to distort the results, were nine articulated or semi-articulated individuals: two cows, one horse, two dogs, two birds, a cat and an ovicaprid. The species present were cattle, ovicaprid (sheep/goat), horse, pig, dog, bird and cat. Wild species included an isolated example of a frog bone, and a possible fallow deer. There was no evidence of fish remains.

Table 10: Total number of animal bone fragments per species

Phase	Elizabethean and mid-17th century	Post-Civil War and Modern	TOTAL
Bos/ Cattle	16	16	32
Ovicaprid Sheep/Goat	17	24	41
Equus/Horse	1	3	4
Sus/Pig	5	10	15
Canid/Dog	1	11	12
Deer	1	0	1
Large mammal	39	81	120
Small mammal	22	34	56
Bird	6	18	24
Frog	1	0	1
Unidentified	189	274	463

Tooth wear was recorded for the few mandibles that were complete enough to permit it following Grant (1982) and the results are shown in Table 11. This is a widely used, published procedure that records the stage of tooth eruption and wear based on a series of defined stages, enabling an age to be assigned to individual animals and thereby allowing of age at death patterns to be analysed.

Table 11: Ageing of species by tooth wear (Grant 1982)

Context	Species	DP4	M1	M2	M3
714	Cattle	J	Erupting	-	-
714	Cattle	J	Erupting	-	-
1006	pig	-	C	Erupting	-

Following the York System (Table 12), the mandibles for which it was possible to calculate ages would appear to have belonged to juvenile animals. This suggests that these animals might have been slaughtered before reaching full maturity, perhaps for their meat. Adult stages are defined by reference to Tooth Wear Stage *sensu* Grant 1982; (also Reitz and Wing 1999, 163-5, after O'Connor 2003, table 31)

There were 134 elements showing unfused epiphyses. The significant majority of these were from cattle, or large ungulates of comparable size, or ovicaprids.

Table 12: Definitions of dental eruption and attrition stages used in analysis of age at death, using mandibles with at least one recordable molar or 4th premolar

Cattle and Sheep Mandibles		
N	Neonatal	DP4 Unerupted or just in the process of eruption
J	Juvenile	DP4 in wear, M1 not in wear
I	Immature	M1 in wear, M2 not in wear
SA	Subadult	M2 in wear, M3 not in wear
SA1		M3 forming, to just erupting
SA2		M3 erupting
A	Adult	M3 in wear
A1		M3 up to minor dental exposure (stages a and b)
A2		M3 dentine exposure across central column (stages c and d)
A3		M3 dentine exposure on distal column (stages e to h)
E	Elderly	Dentine exposure to or beyond stage j
Pig Mandibles		
N	Neonatal	DP4 Unerupted or just in the process of eruption
J	Juvenile	DP4 in wear, M1 not in wear
I	Immature	M1 in wear, M2 not in wear
I1		M2 present in crypt
I2		M2 erupting
SA	Subadult	M2 in wear, M3 not in wear
SA1		M3 present in crypt
SA2		M3 erupting
A	Adult	M3 in wear
A1		M3 with enamel attrition only (stage a)
A2		M3 with minor dentine exposure (stages b to d)
A3		M3 dentine exposure merging on mesial cusps (stages e to h)
E	Elderly	Three main zones of dentine exposure across M3 merging (stage j)

13 ENVIRONMENTAL EVIDENCE

Environmental sampling was undertaken with the advice of Dr Helen Keeley. The relatively shallow depth of the open-area excavations and the soil types generally precluded survival of environmental remains. Following a specialist site visit during the 2005 season a small number of features were identified as suitable for sampling. Due to the high level of contamination, however, the majority of the site did not lend itself to having a sufficiently high potential to make sampling worthwhile. A further visit in 2006 confirmed the assessment

A single contained sample was identified from the western culvert of the fountain, although it suffered a high level of root contamination from the box hedging planted directly above it. The total available amount of soil present was 10 litres. No organic material was present but thirteen pieces of gold thread were recovered (see section 9.2 above).

Samples from the rubble filled pits 5108, 5367, 5370, 5378, 5376, 5386, 5388, 5390 and 5392 were also taken. None contained any organic remains.

14 CONCLUSION

The principal aim of the excavations at Kenilworth Castle was to identify archaeological remains of the 1575 Elizabethan garden. The major discovery was the foundation and associated culverts for the central octagonal fountain. The feature lies on axis between the entrance from the keep forebuilding and the position of the former tower in the north curtain wall. A series of small pits packed with broken tile or sandstone rubble appear to indicate the positions of some of the other architectural elements of the garden although none were closely dateable and a layout design is not clear. Due to prolonged subsequent use of the garden for horticulture there was no conclusive evidence for the terrace dimensions, aviary, arbours, planting layout, decorative elements or paths described by Langham. The absence of firm foundations for the structural features he described may indicate that they were built of a light material, probably wood painted to resemble porphyry and other stonework. The only decorative stone object found was a fragment of a sandstone baluster of Elizabethan or Jacobean date which corresponds well with a similar fragment found previously at the property.

The terrace which formed a viewing promenade and intermediate stage in the descent to the floor of the garden has undergone substantial alteration. The original (north) face was destroyed during the English Civil War by the digging of a defensive ditch, although a remnant of its original make-up survives towards the eastern end. No evidence was found for any arrangement of steps which afforded access to and from the forebuilding prior to the Elizabethan garden being laid out; given that the inner bailey ditch runs along the entire north side of the building, there must have been some form of bridge. The original top of the terrace appears to have been lowered, possibly when the Civil War ditch was dug or later during removal of the slighting demolition rubble which spread above it. Works to alter the size and appearance of the terrace continued into the twentieth century when quantities of soil and an unmortared stone revetment were added, probably by H.M. Office of Works.

The Civil War defensive ditch was shown to have a shallow V-shaped profile. No other features located in the garden area can be related to the re-defence of the castle. Following the end of the Civil War the castle was slighted, involving demolition of the north wall of the keep and part of the north curtain wall including two towers. This activity can be seen in the large dumps of stone, including dressed ashlar blocks, which were found in the outer bailey ditch outside the line of the curtain wall near to the postern tower. During this activity, the slighting of the castle and the removal of its military function seem to be the key goals, rather than the recovery of the stone. A secondary period of demolition can be seen where useable stone was more carefully reclaimed from wall and tower structures, and was taken away for reuse elsewhere. Along the western part of the curtain wall towards the Swan Tower for instance, the robber trench closely followed the foundations of the wall, and the faced stones had been carefully removed. This robber trench and the fill of the Civil War trench to the north of the keep both contained quantities of broken stone, core filling, and mortar, presumably cleaned from good, faced stones when they were removed.

The area appears to have been cultivated as a kitchen garden and orchard from at least the beginning of the eighteenth century, with more intensified use occurring after *c*1870 when some of the overlying rubble from the broken-down keep was probably removed. A series of clinker paths divided the area into broad plots which were cultivated by north-south aligned beds. When they were abandoned, the area appears in aerial photographs to have been laid to grass, with the paths becoming overgrown and the fruit trees gradually becoming more scattered. Twentieth-century activity included the rebuilding and repair of the western boundary wall, the introduction of paths and the remodelling of the terrace.

The final phase of activity in the garden before the latest works was the creation in 1975 of an ornamental garden. Its installation damaged some of the earlier remains through extensive rutting along tracks and in areas by digging various planting pits.

The extensive repurposing and replanting of the garden in the centuries since its inception in 1575 have caused little of the Elizabethan garden features to survive. However, the data which has been revealed, such as the location of the fountain, the possible foundations of some structural features, the overall dimensions, boundaries and layout of possible divisions within the garden, have all been vital in informing the new Elizabethan Garden reconstruction which was completed in 2009. The original remains are retained *in situ* and have been carefully reburied beneath the new garden, with a geotextile membrane forming a separation layer.

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