ARCHAEOLOGICAL WORK AT WARWICK HOUSE, WELLS ROAD, MALVERN, WORCESTERSHIRE

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Archaeological Work at Warwick House, Malvern Worcestershire

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Part 1 Project summary

A programme of archaeological work was undertaken at Warwick House, Malvern, Worcestershire (SO 7752 4574). It was undertaken on behalf of GVA Grimley and Mark Brock Consulting Engineers (for Warwick House Investments Ltd), who intend to demolish a cottage, workshop and the north wing of a retail building for which a planning application has been submitted. The project aimed to define the alignment of a medieval ditch recorded in an earlier evaluation (Napthan, Ratkai and Pearson 1996), and to record the buildings earmarked for demolition.

The cottage to the rear of the site was determined to be the earliest surviving building on the site, dated to the early 19th century. It is a single phase two-up, two-down handmade red brick building, apparently part of a row of structures first noted on the Tithe Map of 1846. It is butted by the large workshop to the west. This is also a single phase building, of red machine-made bricks, built prior to 1906. It was the successor to a building on a slightly different plan predating 1888. The present workshop was abutted by another range to the north, which was demolished sometime after 1938. Warwick House was established in 1833 as a linen drapers. The present building was constructed between 1846 and 1888 when the business was expanded under new owners, probably in the 18040s/50s.

Three trenches were excavated along the projected alignment of the medieval ditch identified in 1996. It was found to maintain a north-south alignment. It was not possible to bottom the feature, but the earliest layers contained 13th-14th century material. Later deposits contained 15th-16th century material. The assemblage is comparable with the 16th-17th century material recovered during the previous investigation. It is therefore determined to represent the western boundary of Great Malvern Priory, which was dissolved in 1539.

The main ditch was truncated by a deep sub-oval pit, which was in turn cut by an east-west aligned ditch. Neither feature can be assigned a definite function. The pit, which was not bottomed, contained material of 13th-16th century date, comparable with the major ditch. It may be redeposited material from the ditch or from unidentified adjacent activity. The smaller gully ditch also contained material of 13th-16th century date within the primary fill, but included 17th-18th century material and a single modern sherd in the upper fill. It is not noted on any modern maps of the site, so the single sherd is reasoned to be intrusive and the feature therefore of 17th-18th century date. It is at this stage unclear what was its function, or to what activity it relates.

Part 2 Detailed report

1. Background

1.1 Reasons for the project

A programme of archaeological work was undertaken at Warwick House, Wells Road, Malvern, Worcestershire (SO 7742 4574), on behalf of GVA Grimley and Mark Brock Consulting Engineers. They intend to demolish a cottage, workshop and the north wing of a retail building and have submitted a planning application to Malvern Hills District Council (ref. MH/98/0823), who consider that a site of archaeological interest may be affected (WSM 23861).

1.2 Project parameters

The project conforms to the *Standard and guidance for archaeological excavation* (IFA 1999a) and the *Standard and guidance for the archaeological investigation and recording of standing buildings or structures* (IFA 1999b).

The project also conforms to a brief prepared by Worcestershire County Council (AS 2001a) and for which a project proposal (including detailed specification) was produced (AS 2001b).

1.3 Aims

The aims of the archaeological project were threefold (AS 2001a; AS 2001b):

to monitor and record geotechnical test pits (Trenches 1 and 2).

to hand excavate a trench (Trench 3) across the medieval ditch identified during previous archaeological works (Napthan, Ratkai and Pearson 1996).

to record the structures to be demolished (the cottage, workshop and northern wing of the retail store) and altered (the north boundary wall in the lower car park).

2. Methods

2.1 Documentary search

Prior to fieldwork commencing a search was made of the Sites and Monuments Record (SMR). In addition the following sources were also consulted:

Cartographic sources

- 1744/5 Doharty: Map the first, contains all that part of the Manor of Much Malvern bounded on the north by Sherards Green etc and on the south by Bleakmore Park and part of the Chase, the property of Lord Foley (Smith 1965, Plate 8).
- Great Malvern Tithe Map 1846: Details of Buildings, west of parish. WCRO BA1572 x760.436
- 1st edition Ordnance Survey, 1888, scale 1:2500, sheet XXXIX SE
- 2nd edition Ordnance Survey, 1906, scale 1:2500, sheet XXXIX SE

- 3rd edition Ordnance Survey, 1931, scale 1:2500, sheet XXXIX SE
- Provisional edition Ordnance Survey, 1938, scale 1:10560, sheet SO7745NW

Documentary sources

- County histories (VCH II and IV).
- Site archives (Napthan, Ratkai and Pearson, 1996).

The following source was consulted but considered not to be relevant to this project:

1831 Map: Leasehold and other property in Great Malvern village and county of Worcester, held under E. T. Foley esq. WCRO BA 1770/2 f1970 5.298

2.2 Fieldwork

2.2.1 Fieldwork strategy

A detailed specification has been prepared by the Service (AS 2001b).

Fieldwork was undertaken between 4th January and 3rd October 2002.

Three trenches, amounting to 18.25m² in area, were excavated within the eastern half of the study area. The location of the trenches is indicated in Figs. 16 and 17. They were located to determine the alignment of the medieval ditch first identified during the previous evaluation of the site (WSM 23861; Napthan, Ratkai and Pearson, 1996).

Trenches 1 and 2 were dug entirely with a 180° wheeled excavator and the sections recorded archaeologically. In Trench 3 deposits considered not to be significant were removed using a 180º wheeled excavator, employing a toothless bucket and under archaeological supervision. Subsequent excavation was undertaken by hand. Clean surfaces were inspected and selected deposits were excavated to retrieve artefactual material and environmental samples, as well as to determine their nature. Deposits were recorded according to standard Service practice (CAS 1995). On completion of excavation, trenches were reinstated by replacing the excavated material.

2.2.2 Structural analysis

All fieldwork records were checked and cross-referenced. Analysis was effected through a combination of structural, artefactual and ecofactual evidence, allied to the information derived from other sources.

2.3 Artefacts (Laura Griffin)

2.3.1 Artefact recovery policy

All artefacts from the area of salvage excavation were retrieved by hand and retained in accordance with the service manual (CAS 1995 as amended).

2.3.2 Method of analysis

All hand-retrieved finds were examined. A primary record was made of all finds on *pro forma* sheets. Artefacts were identified, quantified and dated. A *terminus post quem* was produced for each stratified context

Pottery was examined under x20 magnification and recorded by fabric type and form according to the fabric reference series maintained by the service (Hurst and Rees 1992).

2.4 Environment (Liz Pearson)

2.4.1 Fieldwork and sampling policy

The environmental sampling policy was as defined in the County Archaeological Service Recording System (1995 as amended). Large animal bone was hand-collected during excavation and samples of 10 to 20 litres taken from 5 contexts of medieval to post-medieval date (Table 3).

Evaluation of the former Abbey Garage Site

Environmental samples were taken during this earlier project (WSM 23861; Napthan, Ratkai and Pearson, 1996). As they relate to the same feature they have been incorporated into this report.

The environmental sampling policy was as defined in the County Archaeological Service Recording System (1995 as amended). Large animal bone was hand-collected during excavation and a sample of 30 litres taken from context 105 of 16th to 17th century date (Table 3).

2.4.2 Processing and analysis

The samples were processed by flotation followed by wet-sieving using a Siraf tank. The flots from Warwick House were collected on a 300µm sieve, from Abbey Garage on a 500µm sieve, and the residues retained on a 1mm mesh. This allows for the recovery of items such as small animal bones, molluscs and seeds.

The residues were fully sorted by eye and the abundance of each category of environmental remains estimated. The flots were fully sorted using a low power EMT stereo light microscope and plant remains identified using modern reference collections maintained by the Service.

2.5 Building recording

The project conformed to the specification for a photographic/level 2 survey as defined by the Royal Commission on the Historic Monuments of England (RCHME 1996) but with the following exceptions:

- Existing buildings and the steep slope often prevented perpendicular photography of a number of external elevations of all buildings.
- Interior photographs of the second floor of the workshop were not possible as it was in use as the contractor's offices, canteen and toilets.
- Interior photographs of Warwick House north wing were largely not possible as it was in use as the contractor's store.

2.6 The methods in retrospect

The methods adopted allow a high degree of confidence that the aims of the project have been achieved.

3. Topographical and archaeological context

Topography

The site lies to the south of Malvern town centre, between Wells Road to the west and Abbey Road to the east. It is steeply sloped, at 131.1-148.7m AOD and covers an area of approximately 2000m². It is currently occupied by disused buildings: Warwick House department store lies along the Wells Road frontage, a brick built workshop is to the rear, along the south boundary of the site, next to a small cottage. The rest of the site comprises rough ground under gravel and hardcore, presently used for car parking.

Archaeology and history

The Priory Church of St Mary and St Michael lies 0.1km to the north-east (WSM 00492), while 0.1km north of the site is the Abbey Gateway (WSM 00493). They are the best surviving features of Great Malvern Priory, which was established in 1085 by Alwy, as a Benedictine cell of Westminster Abbey. It was maintained until its dissolution in 1539 during the reformation of Henry VIII and was largely subsequently demolished (WSM 00491; VCH II, 136-143; VCH IV, 123-131).

Little archaeological work has been undertaken in the area. An evaluation has been carried out in the north-east corner of the site (WSM 23861; Napthan, Ratkai, Pearson, 1996). This identified a 4.2m wide ditch aligned NNE/SSW, of unknown depth, with back-filled material of 14th-17th century date. Artefacts recovered included building stone, brick, peg-tile, glazed floor tile, glazed ridge tile, medieval coloured glass and lead. The feature is considered to represent the western boundary ditch of the precinct of Great Malvern Priory.

The earliest map of the area to be sufficiently small scale to indicate detail of the development area is that by John Doharty (junior) in 1744/5 (Fig. 2; Smith 1964, p8). It depicts the site to be part of a larger swathe of undeveloped land owned by Byrche Savage Esq., with the Wells Road to the west, a track bisecting the south-west corner of the site and orchards to the south-west.

A linen draper's shop was established on the site on 28th October 1833 by George Warwick, who also rented rooms to lodgers. The original small store occupied the south end of the frontage of Wells Road (Fig. 3). The premises were taken over by Thomas Cox in the ?late 1840s. He expanded the business with his partner Mr Painter, and it became known as Warwick House, as part of the Gieves and Hawkes group in the 20th century. (Smith 1964, 237-8; Hurle and Winsor 1985, 62). A number of pictures of the interior rooms were drawn by an unknown artist between 1845-55, which were on view in the foyer of the shop (Plates 38-42). The first edition Ordnance Survey map of 1888 indicates the outline of the north wing of the building to be as presently existing (Fig. 4). The actual date of the rebuilding of the store under Cox and Painter is unknown, but presumably took place not long after their take-over of the business.

The cottage is indicated on the first edition Ordnance Survey map of 1888 (Fig. 4), and has not undergone any alterations to the ground plan down to the present day. The tithe map of 1846 (Fig. 3) depicts a number of small adjoining buildings along the staggered south boundary of this plot (no. 299). The extant cottage is considered to be the only surviving one of these.

A building is first indicated in the location of the workshop on the first edition Ordnance Survey map of 1888, however it has a different outline to the present building (Fig. 4). The second edition map of 1906 indicates an L-shaped building, which continues to the north boundary of the plot (Fig. 5). Subsequent editions of the Ordnance Survey show the building to have retained this outline down to the Second World War (Figs. 6 and 7). It is unknown when the northern wing was demolished, however the present north elevation of the extant

north wing has traces of a single storey building butting against it, rising to two storeys on the west frontage (Plate 16).

Geology

Geologically the site lies within an undefined urban area. However the predominant soil group to the west is the Malvern group (611a) comprising well drained, very stony loamy soils on moderate to steep boulder slopes, with extensive local crags and scree. The parent material is igneous metamorphic rock (Soil Survey of England and Wales 1983).

4. Description of results

Table 1 summarises the artefacts recovered. The trenches and features recorded are shown in Figs. 16 and 17.

4.1 Phase 1: Natural deposits

The natural matrix was identified within two of the three trenches. It was found to be variable, comprising a reddish brown decayed keuper marl clay in the south-east side of the site (Trench 2), but was predominantly an orange degraded rock and gravel toward the north-east (Trench 3).

4.2 Phase 2: Medieval deposits

A north-south aligned linear was identified. To the north (Trench 3) it was found to be c 3.80m wide and 1.63m deep, with steep sides straight to a flattish base with a shallow convex centre. To the south (Trench 1) it was >4.80m wide and >2.20m deep. The feature contained four distinct fills, with varying quantities of stone, animal bone, pottery and tile.

The ditch was cut by a sub-oval pit. It was >3.25m in diameter, and >2.62m deep, with near vertical sides and two similar fills. The lowest identified deposit contained extensive animal bone. The upper contained pottery in addition to bone.

No other features or deposits of medieval date were observed.

4.3 Phase 3: Post-medieval/modern deposits

An east-west aligned curvilinear feature was identified (Trench 3), truncating the two medieval features. It had variable stepped concave sides, 0.35-1.60m wide, and was >2m deep. The base was not identified. Of the two distinct fills, the lower contained extensive and compacted brick, tile, bone and pottery. The upper fill contained only occasional tile, pottery and stone rubble

Elsewhere (Trench 2) modern deposits were noted to lie directly over the natural matrix. No other features or deposits of post-medieval or modern date were observed

4.4 Artefactual analysis (Laura Griffin)

A summary of the artefacts recovered can be seen in Table 1. The assemblage retrieved from the excavated area came from seven stratified contexts and the site surface. The group ranged in date, from the medieval to modern periods, with the earliest material from all contexts dating to the 13th century. The level of preservation was generally good with low levels of abrasion, suggesting that the finds were contemporary with the deposits they were associated with.

The pottery assemblage retrieved from the excavated area consisted of 26 sherds weighing 1410g. The group was primarily of medieval and early post-medieval date, although a small amount of modern material was identified (see Table 1). All sherds were grouped and quantified according to fabric (see Table 2) and a table was produced to show fabric and form by context with associated date ranges (see archive).

The vast majority of the pottery was of Malvernian production, with only a very small number of non-local fabrics identified, as might be expected given the location of the site in Malvern itself. A high proportion of diagnostic rim forms was present within the medieval assemblage, enabling identification of a number of individual vessels and associated date ranges. Non-diagnostic sherds were datable only by fabric type and decoration to their general period or production span. The assemblage displayed a range of form and fabric types commonly identified on sites of this date in the Malvern area, but is notable for the large proportion of dripping dishes present.

Ceramic building material accounted for 71% of the assemblage and comprised 100 fragments of tile and 7 pieces of brick. The tile included flat roof tile, ridge tile and floor tile. The roofing tile was predominantly of Malvernian manufacture, although a small number could be identified as of Worcester fabric. Both fabric types can be dated from the 13th century, with manufacture continuing into the post-medieval period. The floor tile also appeared to be of Malvernian fabric and could be dated to between the 13th and 15th centuries. All brick was of post-medieval or modern date. Other building material consisted of eight pieces of stone, including three possible tiles (contexts 104 and 113) and two fragments of mortar (context 205).

Other finds consisted of two pieces of slag (contexts 106 and 108), an unidentifiable iron object (context 106), a small fragment of window glass (context 108) and a lead window came (context 108).

Material	Total	Weight (g)
Medieval pottery	18	1155
Post-medieval pottery	6	241
Modern pottery	2	14
Floor tile	7	2190
Flat roof tile	89	7111
Ridge tile	4	492
Brick	7	3031
Stone	5	4270
Stone tile	3	616
Mortar	2	7
Iron Object	1	72
Slag	2	61
Window glass	1	1
Lead window came	1	13

Table 1: Quantification of the assemblage

Fabric number	Fabric name	Context	Total	Weight (g)
53	Early Malvernian glazed ware	106	1	46
56	Malvernian unglazed ware	106	1	22
56	Malvernian unglazed ware	110	1	3
64.1	Worcester-type sandy glazed ware	108	1	9
69	Oxidised glazed Malvernian ware	104	8	517
69	Oxidised glazed Malvernian ware	106	3	157
69	Oxidised glazed Malvernian ware	108	1	102
69	Oxidised glazed Malvernian ware	111/112	1	13
69	Oxidised glazed Malvernian ware	113	1	5
69	Oxidised glazed Malvernian ware	200	1	180
69	Oxidised glazed Malvernian ware	205	2	220
?69	?Oxidised glazed Malvernian ware	200	1	112
78	Post-medieval red wares	104	2	10
85	Modern stone china	108	1	1
100	Miscellaneous post-medieval/modern wares	104	1	13

Table 2: Quantification of pottery fabrics

4.5 Environmental analysis (Liz Pearson)

4.5.1 Wet-sieved samples

Context 110: primary fill of medieval Abbey ditch (13th-14th century)

Only occasional fish bones were recovered in association with root fragments, which are likely to be modern contamination.

Contexts 111 and 112: lower and upper fills of pit 114 (?15th-16th century)

Small quantities of large mammal bone (including dog teeth in context 111), small mammal bone, molluscs, unidentified charred cereal and grass grains, vetch seeds (*Vicia* sp) hammerscale and a fragment of lead (112) were noted in the flots and residues. Seeds of elderberry (*Sambucus nigra*), in context 111 may have survived as a result of anoxic conditions in a well-sealed deposit. These seeds (of a shrub commonly found on neglected waste ground or scrub) are relatively robust and survive in many deposits.

Evaluation trench context 105

This deposit was particularly rich in environmental remains (Table 4). There was an abundance of large mammal bone, fish bone and scale, and eggshell fragments. Occasional small mammal bone, frog/toad bone and charred grain (unidentified) were also present. The fish bone was unusually well preserved in that many small, delicate fragments survived in addition to the more robust vertebrae.

4.5.2 Animal, bird and fish bone (Ian Baxter, contribution from S. Hamilton-Dyer)

Introduction

A total of 424 "countable" (see below and Table 5) animal bone fragments were recovered from excavations conducted in the Abbey ditch, Malvern at two sites. Only a few fragments were hand-collected during the later project (WSM 31175) while the bulk of the assemblage (84%) derives from environmental samples taken during the earlier evaluation (WSM 23861). Only tiny amounts of material were hand-collected from deposits dating from the medieval (13th-16th century) and later post-medieval (17th/18th century) periods. The bulk of the

assemblage is early post-medieval and dates from the 16th-17th centuries. This report concentrates on the early post-medieval (16th/17th) assemblage.

Methods

This is a small assemblage. However, intensive sampling has ensured the representation of bones from many of the smaller species, particularly birds and fish, generally absent or recovered in numbers that do not reflect their relative importance in hand-collected assemblages.

The mammal bones were recorded on an Access database following a modified version of the method described in Davis (1992) and Alberalla and Davis (1994). In brief, all teeth (lower and upper) and a restricted suite of parts of the postcranial skeleton was recorded and used in counts. These are: horncores with a complete transverse section, skull (zygomaticus), atlas, axis, scapula (glenoid articulation), distal humerus, distal radius, proximal ulna, carpal 2+3, distal metacarpal, pelvis (ischial part of acetabulum), distal femur, distal tibia, calcaneum (sustenaculum), astragalus (lateral side), centrotarsale, distal metatarsal, proximal parts of the 1st, 2nd and 3rd phalanges. At least 50% of a given part had to be present for it to be counted.

The presence of large (cattle/horse size) and medium (sheep/pig size) vertebrae and ribs was recorded for each context, although these were not counted. "Non-countable" elements of particular interest were recorded but not included in the counts. For birds the following were always recorded: scapula (articular end), proximal coracoid, distal humerus, proximal ulna, proximal carpometacarpus, distal femur, distal tibiotarsus, distal tarsometatarsus.

The separation of sheep and goat was attempted on the following elements (if present): horncores, dP_3, dP_4, distal humerus, distal metapodials (both fused and unfused), distal tibia, astragalus, and calcaneum using the criteria described in Boessneck (1969), Kratochvil (1969), and Payne (1969 and 1985).

Wear stages were recorded for all sheep/goat P_4s and dP_4s as well as the lower molars, both isolated and in mandibles. Tooth wear stages follow Grant (1982).

Measurements are retained on the Access database. These in general follow von den Driesch (1976). All pig measurements follow Payne and Bull (1988). Humerus HTC and BT and tibia Bd measurements were taken for all species as suggested by Payne and Bull (1988) for pigs.

Medieval (13th-16t h century)

Most of the very few medieval remains originate from the watching brief at Warwick House. Cattle and pig are both represented together with a fallow deer (*Dama dama*) proximal metacarpal fragment in (106).

Post-medieval (16th/17th century)

Domestic species - cattle, sheep and pig

Cattle fragments comprise the most frequent taxon exclusive of fish species, accounting for 68% of domesticates by NISP. No cattle horncores, or suitable bones sufficiently complete to be used to calculate withers heights, were recovered and therefore little can be said regarding the type, size or conformation of the beasts represented. There is also an absence of lower teeth suitable for ageing. Most of the long bones found have fused epiphyses suggesting that adults were in a majority. Elements from most parts of the skeleton were recovered together with cattle sized vertebra and rib fragments indicating on site butchery.

Several bones were seen exhibiting butchery marks. An M^3 found in (102) has extremely uneven wear with the anterior surface worn flat and the posterior surface worn to a 45º point. This malocclusion probably resulted from a combination of M_3 with third pillar (hypoconulid)

absent, possibly combined with an absence of P_2. The absence of the M_3 hypoconulid and P_2 are congenital abnormalities (Andrews and Noddle 1975; Albarella and Davis 1996). A cattle centrotarsale and tarsal 2+3 from the same context are fused (ankylosed) indicating a spavin associated with draught cattle (Baker and Brothwell 1980; Bartosiewicz *et al.* 1997).

Of the sheep/goat remains none were identifiable as goat and three out of nine (33%) certainly belong to sheep. Sheep/goat account for 18% of the domestic assemblage. Both adult and juvenile/subadult animals are represented by teeth and long bones. A sheep calcaneum from (105) came from an animal 57cm high at the shoulder based on the multiplication factors of Teichert (1975).

Pig fragments account for 12% of the domestic assemblage. Mostly consisting of gnathic elements they include a perinatal Mc.IV diaphysis found in (105) strongly suggesting on site breeding.

Other domestic mammals

The only other domestic mammal fragment recovered is an (uncounted) horse proximal metacarpal found in (102).

Domestic birds

Relatively few domestic bird remains were recovered. A chicken scapula was recovered from a sample taken from (105). Further (uncounted) chicken bones were recovered from samples taken in the same context. A non-countable goose radius shaft fragment was found in (102) but it is not possible to determine if it belonged to a domestic goose or a wild species. An uncounted goose wing 3rd phalanx was recovered from a sample taken from (105). A duck foot 1st phalanx was found in (102), which could derive from either a domestic duck or wild mallard (*Anas platyrhynchos*).

Wild species

A fallow deer (*Dama dama*) radius fragment was recovered from (102). Two rabbit (*Oryctolagus cuniculus*) bones, a humerus and tibia, were found in a sample from (105). While these probably represent food items, the mole (*Talpa europaea*) humerus, mouse/vole humerus and anuran amphibian radio-ulna, found in the same context are more plausibly seen as unintentional inclusions of wildlife present at the time.

Scattered wild passerine remains are quite frequent in the sample residues from (105), including birds similar in size to thrush (*Turdus* sp.), mistle thrush (*Turdus viscivorus*) and greenfinch/chaffinch (*Carduelis/Fringilla* sp.). The tarsometatarsus of an indeterminate medium sized wader of godwit/large sandpiper size was also recovered. These are, in general, unlikely food items, and along with the micro mammal (see above) and anuran amphibian (*Rana/Bufo* sp.) fragments are probably best interpreted as unintentional inclusions of wildlife present in the vicinity during the period.

Fish

Fish bones comprise the most significant proportion of the sample material from context (105) and include cod (*Gadus morhua*), hake (*Merlucius merlucius*), ray (*Raja clavata*), herring (*Clupea harengus*), and the freshwater species eel (*Anguilla anguilla*), pike (*Esox lucius*), chub (*Leuciscus cephalus*) and gudgeon (*Gobio gobio*). The species are similar to those identified in medieval and post-medieval material from Hereford (Hamilton-Dyer 1991, 2001; Jones and Spencer 1985).

Table 3: List of environmental samples

Context no	Sample no	Context type	Description	Period	Sample vol	Vol processed	Res assessed	Flot assessed
Warwick House								
104	1	ditch	upper fill 105	MOD	10	10	Y	Y
110	2	ditch	lower fill 109	MED	10	10	Y	N
110	3	ditch	lower fill 109	MED	10	10	Y	Y
111	4	pit	upper fill 114	PMED	20	20	Y	Y
112	5	pit	lower fill 114	PMED	20	20	Y	Y
Abbey Garage Evaluation								
105	1	ditch		PMED	30	30	Y	Y

Table 4: summary of environmental remains

Context	Large mammal	Small mammal	Fish	Frog/toad	Mollusc	Eggshell	Charred plant	Waterlogged plant	Comment
Warwick House									
104	mod	occ	occ		occ		occ	occ	
110									no enviro. remains
110			occ					occ	
111	occ						occ	occ	
112	occ	occ			occ		occ	occ	
Abbey Garage Evaluation									
105	abt	mod	abt	Occ		abt	occ		

Key: occ = occasional, mod = moderate, abt = abundant

Table 5. The Abbey Ditch (Former Abbey Garage Evaluation and Warwick House sites combined), Malvern. Number of identified specimens (NISP).

Taxon	**Period**				Total
	Medieval (C13th-16th) Hand-collected	**C16th/17th**		**C17th/18th Hand-collected**	
		Hand-collected	**Sample**		
Cattle (*Bos* f. domestic)	3	31	3	4	41
Sheep/Goat (*Ovis/Capra* f. domestic)	1	7	2	2	**12**
Sheep (*Ovis* f. domestic)	-	(2)	(1)	-	**(3)**
Fallow Deer (*Dama dama*)	1	1	-	-	**2**
Pig (*Sus* f. domestic)	1	1	5	-	**7**
Horse (*Equus caballus*)	-	+	-	-	+
Rabbit (*Oryctolagus cuniculus*)	-	-	2	-	**2**
Mole (*Talpa europaea*)	-	-	1	-	**1**
Murid/Microtine	-	-	1	-	**1**
Domestic Fowl (*Gallus* f. domestic)	-	-	1	-	**1**
Goose (*Anser/Branta*)	-	-	+	-	+
cf. Duck (*Anas*)	-	+	-	-	+
Wader sp.	-	-	1	-	**1**
Indeterminate Passerine	-	-	12	-	**12**
Bird (*Aves*)	-	-	+	-	+
Anuran (*Rana/Bufo* sp.)	-	-	1	-	**1**
Cod (*Gadus morhua*)	-	1	9	-	**10**
Hake (*Merlucius merlucius*)	-	-	5	-	**5**
Thornback Ray (*Raja clavata*)	-	-	2	-	**2**
Herring (*Clupea harengus*)	-	-	45	-	**45**
Eel (*Anguilla anguilla*)	-	-	45	-	**45**
Pike (*Esox lucius*)	-	-	2	-	**2**
cf. Chub (*Leuciscus cephalus*)	-	-	1	-	**1**
cf. Gudgeon (*Gobio gobio*)	-	-	1	-	**1**
Cyprinid sp.	-	-	2	-	**2**
Fish (*Pisces*)	-	15	215	-	**230**
Total	**6**	**56**	**356**	**6**	**424**

"Sheep/Goat" also includes the specimens identified to species. Numbers in parentheses are not included in the total of the period. "+" means that the taxon is present but no specimens could be "counted" (see text).

4.6 Buildings: Cottage

The cottage (Plates. 1-15) is a simple two-up, two-down, hand-made brick building with two bays, and roofs of grey slate, with occasional red replacements. The gutters and visible pipes are all plastic and of later 20th century date. The building is located to the rear of Warwick House, aligned north-south, on the south boundary of the site, approached off Abbey Road (SO 77533 45743).

The frontage faces north, with the bay aligned east to west. A small brick-built porch leading to the front door lies on the north-east corner. The façade is whitewashed, so there is no indication of alteration. There is a single sash window on the first floor, and two on the ground floor. All have undecorated concrete or sandstone lintels, and sills of brick laid on edge. In the porch the windows have six panes. All are wood framed with thin wooden glazing bars (Plate 1).

The east side elevation has a single window in the front bay and traces of whitewash. It has been altered, but retains the original simple shallow-arched sandstone lintel. A tall finial is attached to the wall projecting above the apex of the roof. A decorated barge-board survives under the north eve (Plate 2).

The west side elevation is butted by the workshop. Only a small portion of the south end is visible. It is clad in concrete, with a single sash window on the ground floor and a single modern inserted window on the first floor (Plate 3).

The rear, south elevation has traces of whitewash (Plate 4). The backdoor lies on the south-west corner, with plain sandstone lintels and jambs. Two six-pane windows are to the east. They have single brick sills, but elaborate moulded sandstone lintels. The two windows in the first floor have the same lintels, but sandstone sills. That to the west has six panes, the one to the east has four (Plate 5). The undecorated barge-boards survive, along with a finial, broken at the level of the roof line. A small single pane window illuminates the roof space, with a moulded lintel and sandstone sill. A narrow staggered chimney springs out of the wall at the first floor. It cuts through the moulding of the first and upper storey windows, protruding above the roof to the east of the apex, topped by a single pot. It is a later insertion (Plate 6).

Inside the small square porch leads directly into the front room, through a doorway with a low four-centred pointed arch. The wooden floor is a simple herringbone-pattern. The fireplace is against the south wall, comprising a cast iron grate with a modern-painted tile surround. A single wooden beam projects down from the ceiling, aligned east-west across the middle of the room (Plate 7). The room is lit by two windows in the north wall. A simple doorway in the south-east corner leads through to the rear kitchen. This room has a brick floor and modern units along most walls. It is lit by two windows in the south wall and one in the west wall. A further window in the west wall has been blocked by the construction of the workshop. An enclosed staircase leads up to the first floor from the south-east corner of the room. An under-stairs cupboard is enclosed with wood panelling (Plates 8 and 9).

The first floor comprises three rooms, off a small landing at the top of the staircase. In the front bay is the main bedroom. It has a cast-iron grate with similar fire-surround incorporating a modest mantelpiece. The ceiling comprises boarding fixed directly to the rafters. It is lit by a single window in the north wall (Plates 10 and 11). The rear bay, aligned north-south originally comprised a single room, however it has been uncomfortably partitioned with a bathroom to the east and a narrow second bedroom to the west (Plates 12 and 13). The bedroom is lit by a window in the west wall, and two-thirds of a window in the south wall, shared with the bathroom. The bathroom is lit by a further window in the south wall.

The roof space of the rear bay is accessed through a hatch in the landing ceiling. It is lit by a small window in the south wall. The roof, open to the rafters, is supported by a single purlin king-post and truss. The wide chimney-stack runs up through the roof, although its construction above the roof is not visible from outside the building. The west purlin is an

irregular beam and may have been reused. It is unclear if the beams and rafters are original or later replacements. The brickwork in the south wall is very patchy and irregular, possibly due to the insertion of the chimney or that the roof has been rebuilt at some stage (Plates 14 and 15).

4.7 Buildings: Workshop

The workshop (Plates 16-29) similarly lies along the south boundary of the site, butting against the west side of the cottage (SO 77521 45746). It is a single-phase red brick building, on an L-shaped plan, with three storeys. The roof comprises grey slate tiles. The brick is machine-made, laid in Flemish bond. The guttering and visible pipes are plastic and of later 20th century date.

The east elevation of the east wing butts against the earlier cottage (4.5 above). There is a single elongated window for the first floor and the second floor is lit by a skylight. There is a similar skylight in the roof above the north elevation. It is unclear if they are original or inserted at a later date. This elevation is pierced with six windows. The two on the second floor are tall with four panes. The two on the first floor are elongated and the glazing has been removed. The two on the ground floor are tall and multi-paned. They all have thin wooden glazing bars, simple brick sills and low arched brick lintels (Plate 16). A double-door with an iron lintel beam lies on the north-east corner, providing access via steps into the ground floor/basement. A single tie-pin and plate has been inserted through this wall at the level of the basement ceiling (Plate 17).

The east elevation of the north wing is pierced by four windows (Plate 18). Two sash windows light the second floor, and two light the first floor. The latter comprise a tall narrow window to the south and an elongated window to the north. As in the adjacent wing, the latter are unglazed. Cast iron balconies/walkways with a fire-escape ladder connect the windows nearest the corner of the two wings at first and second floor level (Plate 19). There are two wooden large doors in the east elevation providing garage access into the basement/ground floor.

The north elevation of the north wing also has four windows; two sash windows at second floor and two elongated unglazed windows at first floor level (Plate 16). At ground floor level there are two arched recesses with iron ventilation grills to the east, and a bricked up doorway to the west. Adjacent a chimney-stack steps out from the wall. It is capped below the eves. Traces of whitewash and mortar indicate that a building previously existed, butting on this elevation. To the east it comprised a single storey with a shallow roof. It rose to a level between the first and second floors to the west. There is now no other trace of this building above ground.

The west elevation is accessed at the height of the second floor via brick steps to a door in the middle of the building and temporary steps to the north door. The first floor is accessed via steps down to the south corner (Plates 20-22). There are only two windows at the second floor; to the north a small elongated piercing, and to the south a tall narrow later insertion with a painted horizontal lintel. The steps to the middle door access a wooden porch into the main building. It rests on a concrete beam creating an undercroft with access to the first floor and basement/ground floor. Two doors provide access into the first floor at the south end of this elevation; further steps lead down to a doorway into the basement/ground floor. Two shallow elongated windows light the first floor toward the north end.

The south elevation of the workshop building is pierced by eight windows, plus a skylight toward the west end of the roof (Plates 23 and 24). Three windows light the second floor. They are tall, with four panes and painted horizontal wooden lintels. Only two windows light the first floor. Both are to the west end of this elevation. That to the west is shallow and elongated, with a painted lintel as above; the other, to the east, mirrors the elongated windows piercing the other elevations, with a low brick arch and brick lintel. Finally three windows

light the basement/ground floor. They are clearly later alterations or insertions. The two to the west are low and elongated, with concrete lintels; that to the east is square and with a horizontal lintel. Three iron tie-pins and plates have been inserted through this elevation at the level of the basement ceiling.

The basement/ground floor is only accessible within the eastern wing of the building (Plates 25 and 26). Here it comprises one large room with wooden partitions to divide off a porch in the north-east corner and a narrow room to the west. The ceilings are plaster-boarded, so details of structure are indeterminate. The walls are whitewashed and without any obvious fixtures for machinery other than fittings for cupboards. A blocked door leads through into further rooms in the west wing, which are also accessed via steps under the west side of the building (Plate 21).

The first floor (Plates 27-29) is accessed via steps down to two doors in the south-west corner of the building (Plate 22). The west wing comprises a well-lit single large room with a stepped wooden floor (Plates 27 and 28). A narrow store-room lies to the south, and two small rooms with raised floors lie the west. The east wing comprises a single large room with a chimney in the north-east corner (Plate 29). As in the basement, all walls are whitewashed and without fixtures for machinery. The ceilings are supported by brick pillars and cast iron joists.

The second floor has been altered for use by the contractors during the development, so the original layout is unclear. The floor is divided into two separate sections, both accessed via two doors up steps on the west side of the building. Within the north half are six rooms; a long room on the east side which has been subdivided into modern offices, a room to north and south in the centre, and two small rooms (toilets) off the hall on the west side. The south half has a small toilet off the narrow hallway which leads into a long east-west room taking up the rest of this section. It is presently subdivided with two small rooms to the west and a large room to the east, currently in use as a canteen.

4.8 Buildings: Warwick House - north wing

Warwick House is a long building fronting onto Wells Road (nos. 1-9) along the west side of the site. The north wing and annex are due to be demolished (SO 77490 45755; Plates 30-42). The building is whitewashed with a stuccoed west façade and stepped quoins at the corners.

At the north end of the building is a small single storey annex. The ground floor of the annex comprises a single room, currently in use as a sales office. It has a modern-looking shop-front on the west side with access and windows (Fig. 13; Plate 32). To the east a number of doors and windows lead into basement storage rooms, which were not accessible (Fig. 12; Plate 33).

The north wing is a three-storey building with additional basements to the east (Plate 31). It comprises two parallel east-west bays, fronting onto Wells Road, with two-storey wing to the east. Each bay has a steep pitched grey slate roof with deep-set eves joined by a flat-roofed section between. The east wing is flat-roofed. The west elevation comprises a shop-front at ground level with full-length windows and a door to the south. A tall single multi-pane window with molded lintels and a plain stepped sill lights each bay of each bay above the ground floor (Plates 30 and 31). On the north elevation the first floor is pierced by two tall multi-paned windows with molded lintels in the main bay and a lower window in the east wing (Plate 33). A small sky-light in the roof of the north bay illuminates the second floor (Plate 31).

The east elevation has small narrow windows to light the roof spaces of either bay. The east wing has a series of wide tall windows on each floor toward the north side, two sash windows on the first and second floors towards the middle, and two wide windows toward the south side. The ground floor/basement is accessed by a single door to the south, and a door on the corner of the north elevation. The sub-basement is also accessed via a single door, toward the

middle of the structure (Plates 33 and 34). The foundations of this wing comprise thick Malvernian stone walls (Plate 35).

Inside the north wing the plans are very similar. Each floor comprises three large rooms along the frontage with smaller rooms to the east. The middle and south rooms of the ground floor are open to each other, as are the middle and north rooms of the first floor (Figs. 13and 14). A number of original features survive in the north wing, notably decoration around the middle room door and ceiling leading into the north room on the ground floor (Plate 36). Drawings from the mid 19th century survive, depicting internal views of a number of rooms. Although each is titled, it is unclear exactly which room in the building they represent (Plates 38-42).

The attics and roof spaces of Warwick House are presently inaccessible. The basement and sub-basement are similarly inaccessible but existing plans reveal the layout of the basement to comprise storage rooms and toilets (Figs. 12).

4.9 North wall of lower car park

The wall comprises three brick arches with c 1m wide battered buttresses The bricks are soft, red, hand-made and originally laid in an off-white lime mortar. Those within the arch are bullnose bricks. The western and middle arches are in-filled with recessed Malvernian stone, also originally laid in lime mortar. The eastern arch has been much altered, with the insertion of a central c 0.50m wide brick buttress and rough concrete in-fill to either side (Plate 37).

5. Discussion

5.1 Artefacts (Laura Griffin)

The discussion below is a summary of the finds and associated location or contexts by period. Where possible, *terminus post quem* dates have been allocated based on the evidence recorded and the importance of individual finds commented upon as necessary

5.1.1 Medieval and early post-medieval

Pottery

The pottery assemblage of the medieval to early post-medieval periods was of particular interest, due to the narrow range of fabrics and forms present. In general, the *terminus post quem* dates indicated by the pottery were of a later medieval to early post-medieval date. Due to the high number of pottery forms and the tile assemblage spanning both the late medieval and early post-medieval periods in date range, the discussion of these periods has been amalgamated.

The assemblage was domestic in character and dominated by the locally produced Malvernian fabrics (fabrics 53, 56 and 69). A single sherd of sandy glazed Worcester-type ware (fabric 64.1; from context 108) was the only other fabric-type present. Sherds of oxidised glazed Malvernian ware (fabric 69) formed the largest single fabric group, with only two sherds of unglazed cooking pot fabric (fabric 56) and a single sherd of the earlier glazed ware (fabric 53) present.

A total of 17 sherds of oxidised glazed Malvernian ware were identified, all dating from the later medieval period onwards. The group included a number of diagnostic sherds, six of which were from ‘dripping dish’ vessels dating from the late 15th century (Deansway form 69.5, Bryant 2001; also sometimes termed ‘fish dishes’, Derek Hurst pers comm). These vessels were slab built and oval in shape with a spout at one end and a horizontal handle on one of the long sides. A complete example from Deansway also had a small oval-sectioned foot underneath the handle. The vessels are often heavily sooted on the side opposite the

handle where they have been placed under a spit to collect meat juices. The occurrence of a number of these specialised vessels within such a small assemblage is unusual and would suggest the presence of kitchen-related deposits dumped within the ditch. A similar pattern was observed within the medieval assemblage from the kitchen area of Shrewsbury Abbey (V Bryant, pers comm). If they were used as dishes for cooking fish, this would represent a tangible link with medieval monastic diet which relied quite heavily on fish (Derek Hurst pers comm).

Remaining identifiable forms of Malvernian fabric type were also of a domestic nature and included a lid (context 106) and a jar/cistern (context 104), dating to between the late 15th and 16th centuries. A pancheon base was also recovered from context 205, and could be dated between the late 15th and early 17th centuries. The dating of sherds of this fabric type provided a *terminus post quem* of 16th century to contexts 106, 111/112 and 113 and of early 17th century to context 205.

The two sherds of unglazed Malvernian cooking pot fabric (fabric 56) were identified as residual within contexts 106 and 110. The largest (context 106) was identified as a 'short everted folded rim' sherd (Deansway form 56.2 or 56.3; Bryant 2001) and could be dated to the 13th century. Vessels of this fabric commonly dated from the late 12th century onwards (Hurst and Rees 1992; Bryant 2001), peaking in the 13th century, with production ceasing during the 14th century. On this basis, a *terminus post quem* date of 14th century could be given to the earliest deposit within the ditch sequence (context 110). The single sherd of early Malvernian glazed ware was residual within context 106. Sherds of this fabric are commonly from tripod pitcher forms and date between the 12th and 13th centuries.

The single sherd of sandy glazed Worcester-type ware was identified as the rim of a jug dating to between the 13th and 15th centuries.

Tile

The large assemblage of roofing and floor tile recovered from the site was of a similar date range to the pottery. Once more, Malvernian products predominated, although a small number of flat roof tiles were of Worcester provenance. In general, roofing tiles are of a long-lived form spanning the 13th-18th centuries, and are, therefore, reliant on associated finds for dating purposes.

The flat roof tile assemblage largely comprised of undiagnostic fragments. However, a small number of nibbed fragments and two pierced holes were identified. Nibbed tiles are thought to have been the earliest form of flat roof tile, being produced from the 13th century onwards. These appear to have been superseded by pegged forms by the 14th century in some areas of England, becoming virtually universal by the end of the 15th century (Fagan 1992, 13). A total of four ridge tiles were identified (contexts 104, 106, 108 and 113), all of which were decorated with a sparse green speckled glaze, characteristic of this form. In addition, two pieces had the remains of an applied crest visible.

A total of seven fragments of floor tile were identified and all appear to be of local manufacture. Three pieces are plain with a dark green glaze. A fourth fragment has the same glaze but is also decorated with a counter-relief diamond pattern. Two corner fragments have brown and yellow inlaid slip decoration in the form of a rose and may be from the same tile (contexts 104 and 108). The remaining fragment is not glazed but has the remains of a white slip on the upper surface. The date range of these tiles is the same as that of the pottery from the site.

The presence of tile produced in Worcester within the assemblage is not unexpected as there appears to have been regular exchange of ceramic goods between the two areas throughout the medieval period. For instance, Malvernian tile is commonly identified in small amounts within assemblages from sites within Worcester, as are vessels of Malvernian origin.

The main north to south ditch on the site (Cut 109) could be clearly dated to the medieval period, and this tended to confirm that the ditch could be identified as part of the same ditch recorded in 1996, which had similar proportions and dating. Here it was interpreted as the main boundary ditch of the monastic precinct (Napthan, Ratkai and Pearson 1996).

5.1.2 Late Post-medieval and Modern

Two contexts (104 and 108) were identified as having a modern *terminus post quem* on the basis of the pottery retrieved. However, in the case of context 108, the presence of a small fragment of modern stone china (fabric 85) is almost certainly intrusive due to the position of the context within the ditch deposit sequence. The remaining pottery of these periods came from context 104 and included two sherds of red sandy ware (fabric 78) dating to the 17th and 18th centuries, and a single sherd of modern stone china dating between the late 19th and 21st centuries.

5.2 Environmental (Liz Pearson and Ian Baxter)

The samples from the main trench revealed limited evidence for residues of human activities, in the form of fragmented animal bone, hand-collected animal bone, charred cereal grain and hammerscale (the latter being suggestive of smithing). Little detailed interpretation could be made of this small assemblage of remains (Table 4).

Those from the evaluation (ditch fill 105), however, had much better preservation of environmental remains, with some delicate material surviving, such as eggshell, which is rarely found on archaeological sites in the county (Table 4). This material was dominated by bone waste, with only low levels of charcoal and charred cereal grain. The good preservation of environmental remains (particularly of animal bone) is most likely to be a reflection of its deposition in a deep, well sealed feature, rather than local soil conditions which are acidic.

From the evidence of the larger animal bone assemblage beef was the main meat consumed and the cattle were butchered in the immediate vicinity. Mutton, possibly lamb, and pork/bacon were also dietary items. Pigs were raised on site. Some hunting was undertaken in both the medieval and early post-medieval periods as evidenced by very occasional fallow deer bones. Domestic fowl, geese and rabbits provided a dietary supplement and fish, both marine and freshwater, appear to have been of some significance. Evidence for wildfowling is somewhat tentative, consisting of one wader bone and infrequent bones of what may be wild or domestic geese and duck, but this may also have been a seasonal occupation.

The presence of only relatively small numbers of small mammal and amphibian bone, despite the good preservation of fragile bones, suggests that these deposits were rapidly sealed.

Fish bones were abundant and well preserved. Both sea fish and freshwater fish were recorded, with bones from the marine herring and the freshwater eel being the most numerous. A concentration of such waste is rare and is most often found on sites associated with large, well organised estates or large urban centres, usually of medieval or post-medieval date. Although the deposits are post-dissolution in date, this may signify a retention of the medieval religious dietary custom of eating fish on fast days or days of abstinence, in preference to meat. This aspect is of interest as monastic estates commonly had fishponds supplying the Abbey with freshwater fish, and at Malvern Priory it is commonly believed that fishponds existed in the area now called the Winter Gardens. Fishponds were expensive to maintain and were therefore only associated with wealthy or well-organised institutions. The consumption of freshwater fish from ponds, in particular, symbolised high status, and monetary values attached to some fish were far in excess of their palatability (Dyer pers. comm. in Astill and Grant 1988).

Some of the fish (from context 105) may have come from fishponds (such as pike, chubb, and gudgeon), and therefore may have had some importance attached to them. Nevertheless, at

this site, herring which were one of the most numerous, were described by Dyer (2000), along with other whitefish, as everyday staples. Their cost in a list of fish prices documented in South Staffordshire in 1461 fell below that of freshwater fish, pike and chubb (both found on the site), pickerel and bream and salt-fish. Sea fish such as the herring, cod and hake found may have been salted or dried to preserve them during transportation inland. Astill and Grant note that "Documentary sources indicate that a range of fresh marine fish was available from inland markets. Pershore Abbey in Worcestershire was buying fresh sea fish at Coventry. The archaeological evidence, however, suggests that, while in coastal regions many species of sea fish were consumed, those that reached the more inland areas were usually restricted to a smaller number of common species. While some fish processing may have been carried out at the English ports, it is clear from documentary evidence that during the medieval period there were substantial imports of preserved fish into Britain. Cod were imported already or dried from fisheries as far distant as Norway and Iceland" (1988). Eel bones were as common as herring in the Abbey ditch, and are also common on other archaeological sites (for example at Southampton (Coy 1989).

The sample was also rich in eggshell fragments, suggesting that they were successfully produced in large quantities, and were an important part of the diet. This may also relate to a possible retention of the religious dietary restrictions as eggs, like fish, were also considered an alternative resource to meat (Astill and Grant 1988). However, it may also be a retention of a well organised and possibly self-sufficient agricultural system characteristic of a wealthy estate.

Comparison with other sites

The abundance of fish bone and eggshell material found on this site could be considered as a characteristic most commonly associated with large well-organised estates or large urban centres of medieval and post-medieval date. Other sites in the country where samples are known to have been rich in fish bone are the larger urban centres of Worcester and Hereford, such as at Deansway, Worcester (Nicholson and Scott 2001), Worcester Cathedral (Pearson 1995b), Cathedral Close, Hereford (Pearson 1994), and St Guthlacs, Hereford (Hamilton-Dyer 1991). These sites are medieval or post-medieval in date, the Worcester Cathedral remains being directly associated with ecclesiastical use. Only at Leominster Old Priory (Locker 1994), and the Northwick Arms Hotel, Evesham (Napthan, Hancocks and Pearson 1996) outside of Worcester and Hereford has a concentration of such remains been found, and notably were also associated with ecclesiastical use and an urban centre respectively.

Outside the county, examples of deposits rich in fish bone frequently include large estates and establishments, such as at Battle Abbey, Kent (Locker 1985), the Austin Friars, Leicester (Thawley 1981), and Vyne House, Basingstoke (Pearson 1995a).

5.3 Medieval features

The main ditch compares with that identified in the earlier evaluation in terms of proportions, alignment and assemblage. It was not possible to bottom the feature, although material recovered from the lowest fill was of 13th-14th century date, and 15th-16th century from the upper fills, indicating that it remained open for a long time. The assemblage comprised largely domestic pottery of local, Malvern production, plus tiles from Malvern and Worcester. The *terminus post quem* from the upper fills ties in with the end of the medieval period, generally regarded as the reformation, and indeed Great Malvern Priory was dissolved in 1539. The feature is therefore determined to represent the western boundary of the Priory, which was probably deliberately backfilled very soon after the buildings were sold off.

The nature, function and date of the sub-oval pit are indeterminate. It clearly cut through the deposits within the main ditch, and was truncated in turn by the east-west aligned post-medieval gully-ditch (below). However all of the material recovered dated from the 13th-16th century, being comparable with the assemblage from the major ditch. It is probably therefore

redeposited from this or something adjacent, which was also truncated by the deep sub-oval pit.

5.4 Post-medieval/modern features

Both the large linear feature and the sub-oval pit were cut by a sub-linear gully-ditch on an east-west alignment. The primary fill contained material of 13th-16th century date, comparable with the medieval features. However this material was probably redeposited during disturbance of the earlier activity. The upper fill contained 17th-18th century material, plus a modern china sherd. The latter is considered to be intrusive. There is no cartographic evidence for activity within the site in this period. Therefore it is at present unclear what function this feature had, or to what activity it related.

5.5 Buildings

Cartographic evidence indicates the site to have been undeveloped in the mid 18th century, although a number of abbey buildings survived to the east (including the refectory or Guesten Hall), and Wells Road lay to the west. By the mid 19th century as part of the general expansion of Great Malvern following the prosperity engendered by the popularity of the water cure, Abbey Road had also been laid down and plots divided off.

The cottage is considered to be the oldest surviving building on the site, although it was probably part of a row of buildings, built in the early 19th century. It is depicted on the tithe map of 1846 along with buildings on the west frontage which represent George Warwick's shop, established in 1833. He also let out rooms to lodgers, so the cottage may well be a lodging house, or related to stores for the shop.

The present Warwick House was built after the take-over of the business by Messers Cox and Painter, sometime in the late 1840s/50s. Without further research it cannot at present be said who the architect was, although a great many of the Victorian builders in the town are recorded. It was purpose built as a department store, and as such, underwent little alteration in the ground plan down to the present day.

The workshop which butts the west side of the cottage dates from the late 19th or very early 20th century. Again it was purpose built and is of a single phase. Further ranges existed to the north, which were demolished after 1938.

6. Publication summary

The Service has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, the Service intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

A programme of archaeological work was undertaken on behalf of GVA Grimley and Mark Brock Consulting Engineers at Warwick House, Wells Road, Malvern, Worcestershire (SO 7752 4574; WSM 31175). Three buildings due to be demolished were recorded. The cottage to the rear of the site was determined to be the earliest surviving building on the site, dated to the early 19th century. It is a single phase two-up, two-down handmade red brick building, apparently part of a row of structures first noted on the tithe map of 1846. It is abutted by the large workshop to the west. This is also a single phase building, of red machine-made bricks, built prior to 1906. It was the successor to a building on a slightly different plan predating 1888. The present workshop was butted by another range to the north, which was demolished sometime after 1938. The present Warwick House was built between 1846 and 1888. It was established in 1833 as a linen drapers and expanded under new owners in the 18040s/50s.

Three trenches were excavated along the projected route of a medieval ditch identified in the earlier evaluation. It was found to be linear and to maintain the NNE/SSW alignment. It was not possible to bottom the feature, but the earliest layers contained 13th-14th century material. Later deposits contained 15th-16th century material. The assemblage is comparable with the 16th-17th century material recovered during the previous investigation. It is therefore determined to represent the western boundary of Great Malvern Priory, which was dissolved in 1539.

Environmental samples provide a good indication of the diet prevalent in the post-Dissolution period. Material included cattle, sheep and pig bone, in addition to fresh water and marine fish, wildfowl and eggshell.

The main ditch was truncated by a deep sub-oval pit, which was in turn cut by an east-west aligned ditch. Neither feature can be assigned a definite function. The pit, which was not bottomed, contained material of 13th-16th century date, comparable with the major ditch. It may represent redeposited material from the ditch or from unidentified activity adjacent. The smaller gully ditch also contained material of 13th-16th century date within the primary fill, but included 17th-18th century material and a single modern sherd in the upper fill. It is not noted on any modern maps of the site, so the single sherd is reasoned to be intrusive and the feature of 17th-18th century date. It is at this stage unclear what was its function, or to what activity it relates.

7. The archive

The archive consists of:

4	Fieldwork progress records AS2
10	Photographic records AS3
6	Colour transparency films
5	Black and white photographic films
2	Drawing number catalogues AS4
8	Scale drawings
2	Context number catalogue AS5
5	Sample records AS17
1	Sample number catalogue AS18
6	Abbreviated context records AS40
5	Building record sheets AS43
3	Boxes of finds
1	Computer disk

The project archive is intended to be placed at:

Worcestershire County Museum

Hartlebury Castle

Hartlebury

Near Kidderminster

Worcestershire DY11 7XZ

Tel Hartlebury (01299) 250416

8. Acknowledgements

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9. Personnel

The fieldwork was led by Paul Williams and Tom Vaughan. The report was prepared by Tom Vaughan. The project manager responsible for the quality of the project was Simon Woodiwiss. Fieldwork was undertaken by Joss Davis, Darren Miller and Richard Lee. Illustration was undertaken by Carolyn Hunt, finds analysis by Laura Griffin, environmental analysis by Liz Pearson and Ian Baxter.

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11. Abbreviations

NMR	National Monuments Record.
SMR	Sites and Monuments Record.
WCM	Numbers prefixed with 'WCM' are the primary reference numbers used by the Worcester City Sites and Monuments Record.
WCRO	Worcestershire County Records Office.
WSM	Numbers prefixed with 'WSM' are the primary reference numbers used by the Worcestershire County Sites and Monuments Record.

Appendix 1 Trench descriptions

Trench 1

Maximum dimensions: Length: 4.80m Width: 0.90m Depth: 2.20m

Orientation: east-west

Main deposit description

Context	Classification	Description	Depth below ground surface
200	Machine cut	Machine cut with unstratified finds	n/a
201	Layer	Modern concrete and hardcore. Shallow to west (0.30m), deeper to east (0.55m).	0.00-0.55m
202	Layer	Fine grey gravel in greyish sand. Compact. Maximum 0.06m thick uniform layer	0.30-0.61m
203	Layer	Orange brick, tile, mortar, ash, coal with frequent stone. Deepest to east.	0.36-0.83m
204	Layer	Dark brown silty clay with frequent charcoal flecks. Diffuse boundary with [105] below.	0.58-0.93m
205	Fill	Pinkish brown sandy silty clay with frequent fine stone fragments, flat roof tile, stone rubble, animal bone. Occasional charcoal. Occasional 2" brick to 1.75m depth.	0.68m +

Feature/deposit description

Deposit [205] is considered to be the fill of the medieval ditch identified in the previous evaluation (Napthan, Ratkai, Pearson, 1996). Neither the sides nor the base of the feature or deposit were identified within the trench, which was excavated to 2.20m depth. The fill was found to contain brick to a substantial depth.

Trench 2

Maximum dimensions: Length: 1.40m Width: 0.80-1m Depth: 1.20m

Orientation: east-west

Main deposit description

Context	Classification	Description	Depth below ground surface
206	Layer	Tarmac. Well-defined boundary with [207] below.	0.00-0.05m
207	Layer	Medium brown silty clay. Frequent large stone fragments. Well-defined boundary with [208] below.	0.05-0.40m
208	Layer	Grey silty clay. Occasional gravel. Former surface. Well-defined boundary with [209] below.	0.40-0.45m
209	Layer	Medium brown silty clay. Moderate charcoal, mortar and tile. Occasional stone. Diffuse boundary with [210] below.	0.45-0.70m
210	Layer	Medium reddish brown silty clay. Occasional charcoal, stone and tile. Well-defined boundary with [211] below. Diffuse boundary with [209] above.	0.70-1.20m
211	Natural	Reddish brown decayed clay.	1.20m +

Feature/deposit description

Dug in an attempt to identify the west side of the medieval ditch identified in Test Pit 1. Modern deposits only were recorded to a depth of 1.20m at which point natural clay was observed. The edge is considered to lie between the two test pits, which was disturbed by an electric cable on a NE/SE alignment, and therefore could not be excavated.

Trench 3

Maximum dimensions: Length: 1.40m Width: 0.80-1m Depth: 1.20m

Orientation: east-west

Main deposit description

Context	Classification	Description	Depth below ground surface
100	Machine cut	Machine cut with unstratified finds.	n/a
101	Layer	Modern gravel and tarmac.	0.00-0.05m
102	Layer	Brick rubble hardcore.	0.05-c0.45m
103	Layer	Greyish brown clay silt. Compact and cohesive. Occasional variable stone and rubble. Seals ditch [105].	c0.45-0.83m
104	Fill	Dark brown black silty sand. Occasional small stone, tile and rubble. Upper fill of ditch [105]. Diffuse boundary with [113] below.	0.38-1.23m
105	Ditch cut	Curvilinear ditch cut. Aligned east-west. North edge well-defined. South side and base not identified. Filled by [104] and [113]. Cuts pit fill [111] and natural [115].	0.38-2.00m +m
106	Fill	Grey-dark brown clayey sand. Occasional medium size stone (more to west). Slopes from east side. Upper north fill of ditch [109]. Well-defined boundary with [107] and [108] below.	0.38-1.14m
107	Fill	Light brown sandy. Occasional medium sized stone. Compact. Fill of ditch [109]. Well-defined boundary with [108] below.	0.91-1.31m
108	Fill	Dark brown loam mixed with uncompact sand. Occasional clay patches. Occasional medium sized stone, tile and broken bone. Secondary fill of ditch [109]. Well-defined boundary with [110] below.	0.87-1.47m
109	Ditch cut.	Linear north-south aligned ditch cut. Well-defined edges. Sharp break of slope. West side near vertical straight to base. East side sloped. Base flat with convex centre. Filled by [106], [107], [108] and [110]. Cuts natural [115]. Cut by pit [114]. Sealed by [103].	0.38-1.63m

110	Fill	Dark brown clayey silt with fine sand. Occasional variable stone. Broken bone to base. Primary fill of [109].	0.77-1.63m
111	Fill	Very dark brown-black fine humic silt with occasional clay. Moderate bone. ?Secondary fill of pit [114]. Diffuse boundary with [112] below.	1.47-2.29m
112	Fill	Very dark brown-black fine very humic clayey silt. Frequent bone. ?Primary fill of pit [114]. Base not identified.	2.29-2.62m +
113	Fill	Demolition debris and dark brown sand. Brick, tile, bone and pottery. Compact. ?Primary fill of ditch [105]. Base not identified. Diffuse boundary with [104] above.	0.64-2.00m +m
114	Pit cut	?Oval pit cut. Near vertical north side. Cuts ditch [109] and natural [115]. Filled by [111], [112] and [113]. Base and south edge not identified.	1.47-2.62m +
115	Natural	Orange decayed rock and gravel. Compact.	0.59m +

Feature/deposit description

Linear ditch [109] aligned north-south is cut by pit [114].

Pit [114] and ditch [109] are cut by east-west aligned ditch [105].

Due to health and safety considerations it was not possible to excavate to the full depth of pit [114] or ditch [105].

The full diameter of pit [114] was not identified within the trench. Only the northern side was revealed which indicated the feature to be ?oval, and at least 3.25m wide.

The full width of ditches [105] and [109] were identified within the trench.