

RESEARCH REPORT SERIES no. 6-2013

WREST PARK, SILSOE, BEDFORDSHIRE LANDSCAPE INVESTIGATIONS

SYNTHETIC REPORT

Magnus Alexander with Andrew Hann, Fiona Small and Paddy O'Hara



This report has been prepared for use on the internet and the images within it have been down-sampled to optimise downloading and printing speeds.

Please note that as a result of this down-sampling the images are not of the highest quality and some of the fine detail may be lost. Any person wishing to obtain a high resolution copy of this report should refer to the ordering information on the following page.

**WREST PARK,
SILSOE,
BEDFORDSHIRE**

LANDSCAPE INVESTIGATIONS

Magnus Alexander
with
Andrew Hann, Fiona Small and Paddy O'Hara

NGR: TL 0911 3539

© English Heritage

ISSN 2046-9799 (Print)
ISSN 2046-9802 (Online)

The Research Report Series incorporates reports by the expert teams within the Investigation & Analysis Division of the Heritage Protection Department of English Heritage, alongside contributions from other parts of the organisation. It replaces the former Centre for Archaeology Reports Series, the Archaeological Investigation Report Series, the Architectural Investigation Report Series, and the Research Department Report Series.

Many of the Research Reports are of an interim nature and serve to make available the results of specialist investigations in advance of full publication. They are not usually subject to external refereeing, and their conclusions may sometimes have to be modified in the light of information not available at the time of the investigation. Where no final project report is available, readers must consult the author before citing these reports in any publication. Opinions expressed in Research Reports are those of the author(s) and are not necessarily those of English Heritage.

Requests for further hard copies, after the initial print run, can be made by emailing:

Res.reports@english-heritage.org.uk

or by writing to:

English Heritage, Fort Cumberland, Fort Cumberland Road, Eastney, Portsmouth PO4 9LD

Please note that a charge will be made to cover printing and postage.

SUMMARY

This report describes the results of a three year, three stage, multi-disciplinary, landscape analysis project 'to support a Heritage Lottery Fund scheme to repair the designed landscape, and present four centuries of garden history to a wider audience' (Cocroft 2009, 3). The project covered a broad study area of 36 km² centred on Wrest Park, Silsoe, Bedfordshire but focussed on the Registered park and garden.

Following an introduction to the project and the study area, this report summarises the known archaeology within the study area and then describes the known historical background and development of the site. It then presents the results of aerial photographic and lidar analysis across the broad study area. This is followed by the results of analytical earthwork survey and a summary of the previously published geophysical survey within the gardens. The results of various sub-surface archaeological investigations are then reported. These are followed by conclusions which summarise the story of Wrest Park as revealed by this work and compares the different methodological approaches.

The appendices discuss the place names of the area, examine evidence from Domesday Book, and present the key figurative sources used in this report, including the 1831 sketchbook of Earl de Grey entitled *Views of Wrest*. The detailed methodologies used in the study are then given followed by the details of new National Record of the Historic Environment database records updated or created during the aerial photographic survey and the results of a coring survey.

CONTRIBUTORS

Magnus Alexander, Assessment Team Cambridge, wrote, collated the work of other contributors and edited this report. Andrew Hann, National Collections London, assisted with research into the historical background. Fiona Small, Remote Sensing (RS) Swindon, carried out and reported on the air photo interpretation and transcription and Simon Crutchley, also RS Swindon, undertook initial processing of the Lidar data. Neil Linford and Andy Payne undertook the geophysical survey that is summarised here. Magnus Alexander also carried out ground based analytical earthwork survey supported by Wayne Cocroft and Rebecca Pullen, Assessment, and former colleagues David McOmish, Al Oswald, and Derwin Gregory (whilst on an EPPIC placement). Paddy O'Hara of Archaeological Projects (AP) Fort Cumberland, led all sub-surface investigations apart from coring undertaken by Matt Canti, Environmental Studies Fort Cumberland. Tom Cromwell, formerly of AP undertook background survey and a team from Albion Archaeology undertook the excavation of the parterres under the direction of Paddy O'Hara. Polydora Baker, Environmental Studies, Fort Cumberland, reported on the animal bone recovered from the parterre. Philip Sinton, Imaging Survey and Graphics (IGS) York and Sharon Soutar, IGS Swindon, prepared many of the maps and plans. Patricia Payne was responsible for most ground and archive photography, and Steve Cole also undertook archive photography, both IGS Cambridge. Brian Kerr, AP, was the Project Executive, and Wayne Cocroft, Assessment Cambridge, the Project Manager.

ACKNOWLEDGEMENTS

We would like to thank: Twigs Way for her valuable research and for providing initial research priorities; John Watkins for his expert advice and assistance throughout the project and Shelley Garland for her assistance; Chris Slatcher and Corinne Price who helped with access and on site information and all the site staff, apprentices and volunteers

who provided support through their help and interest; The English Heritage Archives Record Enquiry and Research Service team for providing the aerial photographs essential for the aerial photograph survey; Cambridge University Collection of Aerial Photography for the kind loan of additional photographs from their Air Photo Library; the staff of the Bedford and Luton Archive and Records Service (BLARS) and at the Historic Environment Record, Central Bedfordshire for their support and information; and Nigel Lutt of BLARS, Lord Lucas and Tim and Anthea Palmer, descendants of Earl de Grey, and The Bodleian Libraries, University of Oxford for permission to use several images.

ARCHIVE LOCATION

The report archive will be deposited in the English Heritage Archive, Swindon.

DATE OF RESEARCH

2008-2013

CONTACT DETAILS

Magnus Alexander, Archaeological Survey and Investigation
English Heritage, Brooklands, 24 Brooklands Avenue, Cambridge, CB2 8BU
01223 582776, magnus.alexander@english-heritage.org.uk

Andrew Hann, National Collections: Curatorial
English Heritage, Waterhouse Square, 138-142 Holborn
0207 973 3560, andrew.hann@english-heritage.org.uk

Paddy O'Hara, Archaeological projects
English Heritage, Fort Cumberland, Eastney, Portsmouth, PO4 9LD
023 9285 6708, paddy.ohara@english-heritage.org.uk

Fiona Small, Remote Sensing
English Heritage, The Engine House, Fire Fly Avenue, Swindon, SN2 2EH
01793 414701, fiona.small@english-heritage.org.uk

Front cover: Wrest Park, the gardens looking south (Patricia Payne © English Heritage DP067728)

CONTENTS

ABBREVIATIONS	7
INTRODUCTION	1
Location and extent	1
Topography	3
Geology and soils	5
Project background	6
Site description	7
Nature of current land-use	11
Designations	13
Public access	14
ARCHAEOLOGICAL BACKGROUND	15
Early prehistoric (to about 6,000 years ago)	15
Later prehistoric	16
Romano-British (AD 43 - 410)	17
Anglo-Saxon (AD 410 - 1066)	20
Medieval (AD 1066 - 1540)	21
Post-medieval (from AD 1540)	31
Wrest Park	34
DOCUMENTARY EVIDENCE FOR THE HISTORY OF THE SITE	38
To the 16th century: the rise of the de Greys	39
Changing fortunes: 1503 to 1651	44
The later 17th century	49
The Duke of Kent; 1702 to 1740	54
Jemima, Marchioness Grey, 1740 to 1797	70
Amabel, Lady Polwarth, 1797 to 1833	74
Thomas, 2nd Earl de Grey, 1833 to 1859	75
Stasis; 1859 to 1917	77
Fragmentation; 1917 to 1946	78
The post-war era; 1946 to present	79
Phased historical summary	81
AERIAL PHOTOGRAPHIC SURVEY	93
Introduction	93
The gardens	93
The wider park	105

Beyond the park	109
ANALYTICAL EARTHWORK SURVEY	117
The upper gardens	117
The Archer Pavilion area	169
The 'bastion' garden	182
SUMMARY OF GEOPHYSICAL SURVEY	188
Introduction	188
Method	188
Results	191
SUB-SURFACE INTERVENTIONS	197
Walled Garden	197
Paths	199
The plinth for the statue of Diana	203
The sundial plinth	203
The Fountain and path	203
The parterre	204
CONCLUSIONS	207
The Story of Wrest Park	207
Methodological approaches	213
Comparing techniques	215
REFERENCES	218
APPENDICES	226
Appendix 1 Place names	226
Appendix 2: Domesday Book	240
Appendix 3: Selected historic images, maps and plans of Wrest Park	242
Appendix 4: <i>Views of Wrest Park 1831</i>	266
Appendix 5: Methodologies	299
Appendix 6: Index of NRHE monument records updated or added as part of the aerial photographic survey	307
Appendix 7: Analytical earthwork survey: reference plans	313
Appendix 8: Coring	321
Appendix 9: Animal bone from the parterre excavations	327
Appendix 10: Geophysics on the excavated parterre	333

ABBREVIATIONS

AHP	Architectural History Practice
AML/HBMC	Ancient Monument Laboratory of the Historic Buildings and Monuments Commission (now EH)
BGG	Bedfordshire Geology Group
BHER	Bedfordshire Historic Environment Record
BLARS	Bedfordshire and Luton Archive and Record Service
CUCAP	Cambridge University Collection of Aerial Photography
DIA	Donald Insall Associates
DNB	Dictionary of National Biography
DTM	Digital Terrain Model
EH	English Heritage
EHA	English Heritage Archive
GIS	Geographical Information System
GPR	Ground Penetrating Radar
GPS	Global Positioning System
HLF	Heritage Lottery Fund
IPM	Inquisition Post Mortem
LUC	Land Use Consultants
MAGIC	Multi-Agency Geographic Information for the Countryside
MoW	Ministry of works
NGR	National Grid Reference (OS)
NRHE	National Record of the Historic Environment
NIAE	National Institute of Agricultural Engineering
NMP	National Mapping Programme
OE	Old English (language)
ON	Old Norse (language)
OS	Ordnance Survey
PAS	Portable Antiquities Scheme
RTK	Real Time Kinetic (GPS survey)
SIC	Sun Insurance Company
SM	Scheduled Monument
SRI	Silsoe Research Institute
TST	Total Station Theodolite
VCH	Victoria County History

INTRODUCTION

Wrest Park, Bedfordshire is an extensive designed landscape Listed Grade I on the English Heritage Register of Parks and Gardens. Situated within this landscape is the 1830s house of Thomas, 2nd Earl de Grey, an important example of early French revival architecture, as well as significant garden buildings, a walled garden, and a statuary collection dating from the 17th to the 19th century. As a historic entity the house, gardens and surrounding parkland constitute a landscape of exceptional significance.

For much of its history the house and gardens have been in the hands of the de Grey family, Earls of Kent and later the Earls de Grey, and more recently the Earls Cowper and Barons Lucas. The lower part of the gardens (the Great Gardens) were laid out from the 17th century onwards, with major phases of development between 1702 and 1740, a period of simplification and de-formalisation in the 1750s to 1770s, and further minor additions around 1800. The upper parts of the gardens were laid out when the new house was rebuilt on a site to the north of the old house in the 1830s. These were created in the French style as a complement to the architecture of the new house designed by the 2nd Earl de Grey (Colvin 2008, 451-2) with James Clephan as the executant architect (Colvin 2008, 257).

The house and gardens were sold in 1917 and much of the surrounding parkland, which had contained views and vistas from the gardens, was turned into agricultural land. In 1947 the house and gardens, and parts of the west and north park were acquired by the state and became a centre for agricultural research. Leases with the agricultural research institute included negotiated responsibilities for the upkeep of the gardens. Restoration work and maintenance of the gardens has been variable, but includes substantial work on the lower gardens in the 1980s. In 2006 the house and gardens came into the ownership of English Heritage.

Taken together, Wrest Park embodies the history of the de Grey family, and their responses over generations to the challenges of caring for and enhancing the highly structured heart of an ancient landed estate. The 'spirit of place' that the early 18th-century Great Garden produced has been respected by each generation and remains the guiding force for future development at Wrest Park.

Location and extent

Wrest Park lies in the county of Bedfordshire, about 14km south of Bedford and 16km north of Luton, to the immediate east of the village of Silsoe (centred on NGR TL 0911 3539, Figure 1).

The registered park covers about 380 ha and is bounded to the west by Silsoe village and the old route of the A6, the Bedford to London road. To the north, east and south it is surrounded by agricultural land. The English Heritage estate covers a more restricted area that encompasses the gardens and house and areas to the immediate north and west (Figure 2).



Figure 1 The Wrest Park region (base map © Crown Copyright. All rights reserved. English Heritage 100019088, 2014. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™)

The study area was significantly larger than this in order to place the landscape in context. It consisted of a 6km by 6km square approximately centred on Wrest Park House. It ran from TL 05 33 in the south-west to TL 11 39 in the north-east (Figure 3).



Figure 2 The Registered park and English Heritage estate (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014)

Topography

About 2km to the north of Wrest Park House the ground rises for a little over a kilometre up the south-facing scarp slope of the greensand ridge, which generally runs east/west and is over 100mOD high in places (Figure 3). The land then falls away more gently to the north towards Bedford. Immediately to the south of the Greensand Ridge, the valley of the River Flit runs along the foot of the scarp slope with its floor at about 50mOD. Five kilometres to the south the land again rises sharply up the north-facing scarp slope of a more broken ridge forming the Sundon and Barton Hills, which reaches 172mOD at Deacon Hill 6km to the south-east of Wrest Park, before dropping away more gently to the south, towards Luton.

Between these two ridges the topography is gentler. Wrest Park House lies at an elevation of about 59mOD. To the west the ground rises gently for 2km or so to broad hills on the far side of Silsoe village at 90mOD, and to the north for about a kilometre to a low hill north-east of Home Farm at about 70mOD. A very shallow dry valley runs away from the house, which sits at its head, to the north-west between these two areas of higher ground. To the east is Cain Hill which forms the abrupt end of a ridge running

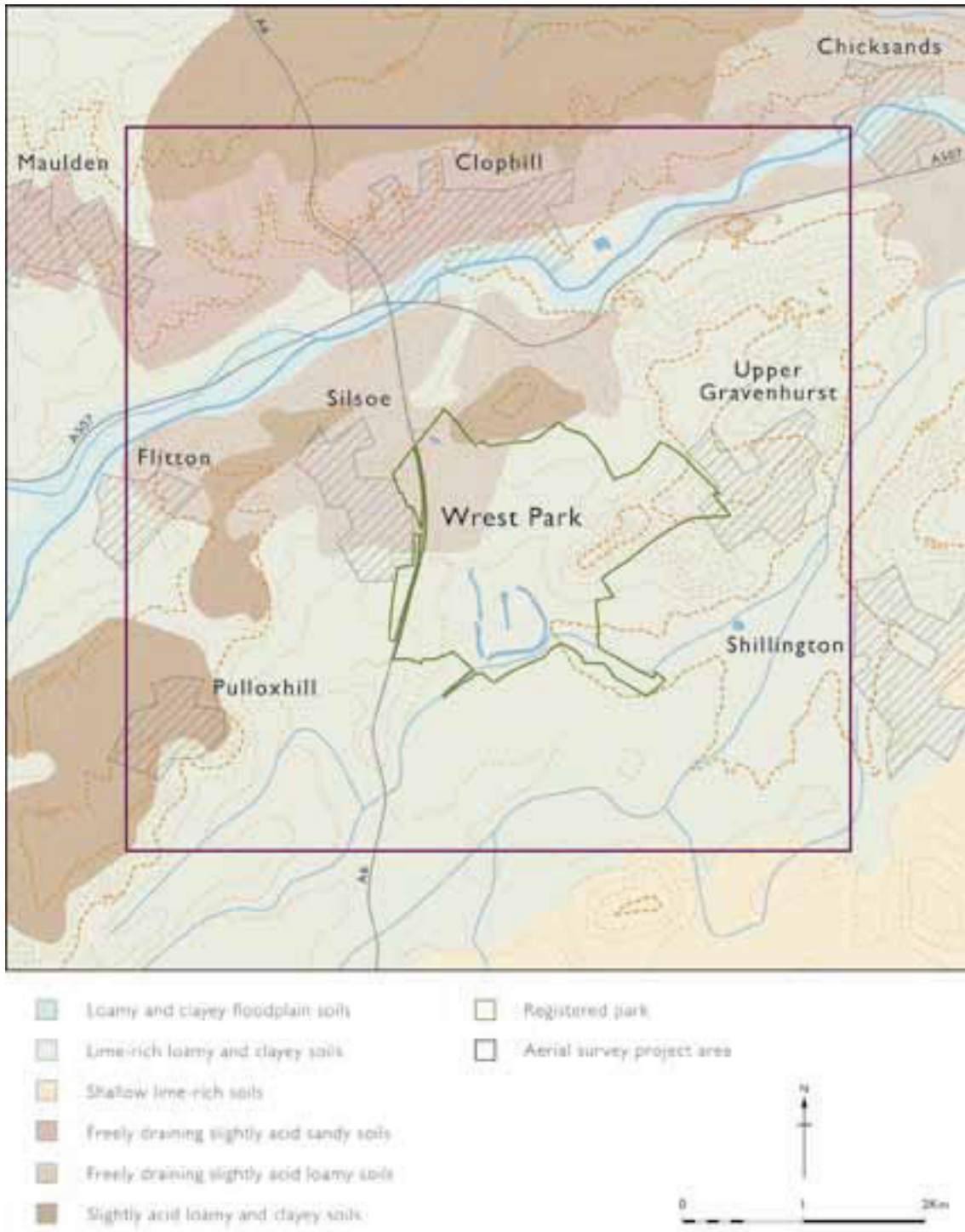


Figure 3 Local topography and soils of the study area (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™)

WSW from Upper Gravenhurst with its high point at a little over 80mOD. Oriented as it is it appears as a prominent symmetrical eminence from the site of the old house and seems to have been a focus for the designed landscape around Wrest Park since at least the late 17th century. A second very shallow dry valley runs from the area of Cainhoe Manor Farm to the north-east of the house, south between the house and Cain Hill and

off to the south-east. The area to the south of the house, as far as the foot of the Barton Hills, is gently undulating with poorly drained levels between low hills.

The immediate site of the house and gardens is level and relatively low-lying. The highest ground is in the area of the walled garden in the north-west of the gardens and the lowest in the south-east near Whitehall. The waterways surrounding the garden illustrate this topography. They are fed by a stream running east from Silsoe village into the north-west corner of the system, near the south-west corner of the walled garden. There is also a small spring behind the bathhouse (Chris Slatcher pers comm). This then flows south along the Upper and then the Lower West Rivers, with conduits and cross-canals carrying water to the north end of the Long Canal and East Broad Water, which also flow south. The River Hit enters the system at its south-west corner and South Broad Water then flows east with water exiting the system via a sluice just north of the south-east corner of the gardens, near Whitehall where there is another spring adding to the stream (Chris Slatcher pers comm). This then runs south-east to join a larger stream flowing north-east. A by-pass channel takes the overflow from the south-west stream off to the south of the gardens and it re-joins the outflow to the south-east. It would have been used to control water levels in Broad Water and reduce the risk of flooding.

Geology and soils

The bedrock beneath Wrest Park House consists of Lower Cretaceous Gault Clay laid down about 60 million years ago. This overlies Lower Cretaceous Woburn Sands (formerly Lower Greensand) laid down about 120 million years ago, which form surface deposits to the north-east of the house, including the Greensand Ridge. To the south-east, around Higham Gobion, Lower Chalk overlies the Gault Clay and further south the scarp of the Barton Hills consists of Middle Chalk, both Upper Cretaceous. Overlying the bedrock are superficial Quaternary deposits, generally less than two million years old. The higher ground to the north and west of Wrest Park House principally consists of glacial tills with occasional patches of glacio-fluvial deposits, both of the Lowestoft Formation. Small patches of the same deposits also occur to the south-west where they appear to form slightly raised areas that have been the focus for settlement. Along the sides of the valley of the River Flit are head deposits and river terrace gravels and on the floodplain alluvium with peat deposits. Alluvium also occurs along the larger streams to the south of the house (BGG 2011).

All of the gardens, and the vast majority of the park, lie on lime-rich loamy and clayey soils (Figure 3). These are typical calcareous pelosols; slowly permeable soils that crack in dry seasons and have a coarse structure (Soil Survey 1983). Found on the Cretaceous Gault Clay, they are subject to some seasonal waterlogging. Where dry they support winter cereals but in wetter areas, grassland with some cereals is more typical (Evesham 3, 411c: Soil Survey 1983, map and key, 4, 7). The quadrant of the park to the north-east of the house and Silsoe village itself, are on freely draining slightly acid loamy soils. These are typical brown earths; non-alluvial loamy soils with non-calcareous sub-soils without significant clay enrichment. They are found on the Cretaceous Woburn Sands and are generally well drained though with some risk of water erosion. They are suitable for a range of arable uses including some horticultural and fruit crops (Bearstead 1 association,

541A; Soil Survey 1983, map and key, 4, 10). The higher ground to the north of Home Farm and to the west and south-west of Silsoe village has slightly acid loamy and clayey soils. These are stagnogleyic argillic brown earths; loamy or loamy over clay soils with a subsurface horizon showing significant clay enrichment. They are located on the glacial till and subject to slight seasonal waterlogging. They typically support winter cereals and short-term grassland (Ashley association, 572q; Soil Survey 1983, map and key, 4, 13). To the north, a band of floodplain soils lies along the River Flit and to the north of this is a belt of freely draining slightly acid sandy soils on the greensand ridge.

The agricultural quality of the land around Wrest Park is a mixture of Grade 2 and Grade 3, not closely related to the soils or geology (MAGIC 2011). From the soil descriptions above it seems likely that local factors, particularly winter waterlogging, may be most important in determining soil quality.

Project background

English Heritage took over full ownership and management of Wrest Park House and the adjacent landscape gardens in 2006, and more recently has acquired fields to the west that once formed part of the Old Park. The English Heritage estate currently covers about 135 hectares.

Following the initial acquisition a Conservation Statement was prepared which was adopted in 2007 (AHP and Way 2007). In 2008, the disposal of the adjacent Biotechnology and Biological Research Council site was announced and it was felt that the acquisition and disposal presented English Heritage with an opportunity to develop Wrest Park to maximise public enjoyment and engagement at the site. With this in mind, a detailed Conservation Management Plan was drawn up together with an Options Appraisal and Master Plan for the site setting out long-term plans for the property to be implemented over 20 years or more (DIA et al 2009a and 2009b).

The early phases of the Master Plan aimed to 'open up the publicly accessible gardens within the Wrest Park Estate both physically and intellectually' (DIA et al 2009b, 1). Phase 0 of the plan consisted of essential remedial conservation works undertaken between 2007 and spring 2009 during the preparation of the plan itself. It was at this time that the planning for this project began. It was clear well before the completion of the plan that its first full stage (Phase 1) would involve extensive work in the gardens and form the basis of a Heritage Lottery Fund application.

The main Stage 1 priority for this project was therefore 'to carry out the most urgent pieces of research to inform and support the HLF bid' (Cocroft 2009, 7). At the end of Stage 1, an interim report was prepared (Alexander & Small 2010) and submitted as part of the HLF application, which was successful. The main priorities for Stage 2 thus became 'to support the HLF funded repair of the garden through archaeological investigation and the collation and provision of available historic plan and other data' (Cocroft 2010, 7). This stage completed the main fieldwork elements of the project and so the Stage 3 priorities were primarily focussed on the dissemination of the results through the final collation of the project GIS and the publication of this synthetic report (Cocroft 2011, 5).

The project formally began in 2009. Stage 1 was completed in March 2010 with the production of an interim report to support the HLF application. Stage 2 was completed during summer 2011 and Stage 3 is completed with the publication of this report, dissemination of the project GIS and deposition of the various project archives.

Site description

The following is based upon the listed building description (UID 37709) and the Wrest Park Conservation Management Plan (DIA et al 2009a).

The main approach today is from Silsoe and access to the park is via the two Louis XV-style Silsoe Lodges and then along a straight avenue through the park which was replanted in the mid-20th century. In the 1980s Silsoe was by-passed and the modern route of the A6 cuts through the western edge of the park, set in a cutting to the north and on a low embankment to the south. The drive crosses the sunken by-pass and then runs past the walled garden to the south with its impressive entrance, passing in front of the house at right angles to its main axis. The drive then continues eastwards to Gravenhurst Lodge, through Kempson's Park, eventually emerging at Upper Gravenhurst Lane. A spur runs south between the east side of the Great Garden and Cain Hill to Whitehall Lodge, and beyond this through Whitehall Plantation to Ion Lodge. A straight spur north passes the two Louis XV style Brabury Lodges, eventually giving access to the A507.

Wrest Park House was designed and built in the 1830s by Thomas, 2nd Earl de Grey, the estate's then owner, on a new site, approximately 250 metres north of the original medieval house, of which slight earthwork traces remain. It is a two-storey double-pile ashlar building, in Louis XV style, with attics under a slated Mansard roof. It has a large projecting central bay with smaller projecting pavilions at each end. The northern entrance front has rusticated quoins and casement windows with glazing bars and simple surrounds, except for carved keystones, but those to the central and pavilion windows are more ornate. The central bay has a slightly projecting pedimented central section with a round-headed doorway and first floor wrought iron balcony. The outer sections of the central bay are curved and it is surmounted by a balustraded parapet and features a substantial and ornate cupola. The south garden front has plain quoins and windows similar to the entrance front. The flat central bay is surmounted by ornate carving in place of the pediment and has a smaller cupola. There are balconies to the central bay and end pavilions, which also have small cupolae, and balconettes to the link blocks, all of wrought iron. Attached to the south front is an ashlar terrace integral to the house and incorporating cellars, with a central flight of steps down to the garden and smaller flights down at each end, with wrought iron balustrading between stone piers. The piers flanking the steps are surmounted by a pair of stone dogs with urns on the others. There is a single storeyed conservatory at the west end, with an impressive walled garden further west again connected by a wall that contains the ornate Stranger's Gate, which allows access from the park directly into the gardens. A service block at the east end of the house, balances the conservatory being the same height, but is of two storeys, possible because of the fall of the ground, and further service buildings and yards lie to the east.



Figure 4 Wrest Park House from the south-west (Patricia Payne © English Heritage DP060204)

The walled garden to the west of Wrest Park House broadly reflect the stables and service areas to the east and replaced earlier productive gardens to the north. They were designed to be an integral part of the new house, for example the alignment of the northern east/west path through the walled garden continues into the Italian Garden (below), following a vista line from the interior of the house out through the conservatory. The size of the walled garden, although large (2 hectares), is not atypical for the period, however, its proximity to, and architectural unity with, the house is very unusual and mark it as a particularly fine example of the 19th century fashion for productive gardens as status symbols. It is surrounded by impressive walls built in yellow brick with ashlar dressings with a major ornamental gate on the north side (Eagle Gate), and another in the south-east corner (Ceres Gate). Those on the north side (including Stranger's Gate) contribute to the imposing frontage seen as the visitor approaches along the driveway from Silsoe. Above Ceres Gate is a plaque bearing the inscription 'These gardens were enlarged and decorated by Thomas Philip Earl de Grey in the year 1836'. In addition, there are several smaller entrances some of which are surmounted by urns, notably the entrance from the Italian Garden. Internally it is sub-divided by walls into five main compartments. All were part of the 1830s design although uses have altered over time. One has been retained as a service yard for the gardeners and one remains private, the others now house visitor parking and other facilities. The internal walls are pierced with doorways, some retaining original decorative iron gates, though others have been enlarged to allow vehicular access. There were several wells within the walled garden; one is known to have been filled but two remain, one in buildings facing the main visitor car park and one in the bothy to the south (Chris Slatcher, pers comm). The walled garden incorporates two cottages, in the north-west and south-west corners. That in the



Figure 5 Aerial view of Wrest Park from the south (EHA TL 09 35/26 (1893/1/1) 25-SEP-2000 © English Heritage)

south-west corner, traditionally known as the Coachman's Cottage, is fairly plain, except for a Dutch gable on its north elevation. The Head Gardener's cottage in the north-west corner is architecturally more ambitious, reflecting its prominent position on the approach to the House. It is a small, square, two-storey block with rusticated quoins and ground and first floor sashes with segmental heads and within a slated mansard roof is an attic lit by oval oculi.

The gardens occupy about 40 hectares to the south of Wrest Park House. They are laid out on a north/south axis, with further east-west axes that incorporated vistas beyond the gardens. Although they appear to form a unified design due to these strong axial lines, much of the garden design to the north of Broadwalk dates from the 1830s onwards, whilst those areas to the south formed the original formal gardens and pre-date the building of the new house.

The terrace across the south front gives views from the garden front of the house across Earl de Grey's French Gardens, with their recently re-laid parterres and four mythological statue groups by John Cheere. No doubt views from the main rooms were also important and they were probably designed and located accordingly. To the immediate west of the house lies the Italian Garden, also formal and set within stone kerbed beds, which, as noted above, forms a direct axial link between the interior of the house, from the Duchess' Room, via the Conservatory, and through a gateway allowing views into the walled garden. This axis makes the Italian Garden of considerable importance, despite being peripheral to the main gardens. Between the Italian Garden and the French Garden lies the reinstated Rose Garden, thought to date from about 1900. To the east of the French Garden lies the Dairy and its garden which also contains the Petit Trianon. These gardens are divided from the lawns to the south by decorative railings. To the south of these, lie the South Lawns, bisected by a wide north/south gravel walk leading to the focal point of The Fountain and surrounding statuary. From this, a cross path leads west, between lawns informally planted with trees and shrubs, to The Orangery. This path also runs for a short distance to the east and once continued further, to the Atlas Pond, but both pond and path are now lost, although the Atlas Statue remains. The surrounding area, to the east of the South Lawns was known as the Old Orchard. Also outside the main north/south axis is the Bath House Grounds, situated to the west of The Orangery. These areas are less formal than the central north/south axis and the pattern of formal axis with independent features located on the periphery is typical of many of the post-1730s features at Wrest Park, including the encircling canals. The current gravelled Broadwalk marks the original south terrace walk of the old house. To the south is a sundial in its original 18th century location, now surrounded by 19th century sculpture. South of Broadwalk, on the main central axis, lie the Horseshoe Lawn, named after former curving paths to east and west. To the east of this is the Victorian arboretum known as the Great Grounds, which continues the informality of the Old Orchard. To the west lies an area of formal garden known as the Evergreen (formerly the American) Garden laid out around a central statue group known as the Hawking Party. For many years this was surrounded by a ring of Atlas cedars but the original layout of four large hedged beds has recently been reinstated. To the south of the Evergreen Garden (although visually separate) lies the 18th century Bowling Green House and Green, with re-planted hedges.

To the south of the Horseshoe Lawn and Bowling Green lies the Great or Woodland Garden, laid out broadly symmetrically either side of Long Canal which continues the primary north/south axis, with the Archer Pavilion the focal point at its south end. The Great Gardens are predominantly mixed deciduous woodland intersected by a series of 'rides', some defined by evergreen hedging. Within the woodlands are a series of openings accessed from the walks and rides. These visually separate 'events' contain features and statuary of 18th century and later date. Although the original layout appears to have contained mirrored features in the west and east parts of the gardens, later developments have lessened this symmetry. The Great Garden is surrounded by encircling waters, which originated as natural streams, later canalised and then de-formalised. A series of sluices control the system. Parts of the waters have been informally dredged in the past, with material being dumped and spread nearby resulting in uneven ground and poor drainage in several areas.

The parklands at Wrest Park surrounded the house and gardens to the west, north and east. The park originated as a deer park dating to at least the early C14, probably situated to the west of the gardens in the area known as Old Park. Expansion appears to have commenced in the 17th century and the parkland reached its fullest extent in the mid-18th century and then again a century later, with some retrenchment in the early 19th century. The park served as both a setting for, and extension of, the formal and great/woodland gardens. From the early 18th century at least, the gardens were linked to the park via a series of key vistas and viewpoints. In particular the Broadwalk within the gardens aligned with Cain Hill to the east, and the Obelisk on the west of the park, strengthening one of the east/west axis noted above. Further east/west axes to the north and south were also linked to the park by avenues and other vistas and avenues ran from the Archer Pavilion out to Cain Hill, and the Obelisk. As the changes to the gardens reflected and incorporated changes in landscape fashions so too did the parkland with variations in the degree of formality and planting styles over time. The breakup of the estate since 1917 has led to an increasing separation between house and gardens, and the parkland around them. There has been a steady decline and deterioration of the historic designed landscape which has been more extreme in the park than within the gardens, exacerbated by the removal of vital monuments such as the obelisk. Reminders of earlier phases do however remain, in the form of field boundaries, ha-has, walls, mature and ancient trees, and lodges. A small area of parkland was detached from Wrest Park proper by the building of the A6. This area is within the registered parkland.

Nature of current land-use

The site consists of extensive pleasure grounds, park and woodland. The rectangular mansion lies near the centre of the site, on the north boundary of the pleasure grounds flanked to the east by the adjacent stables and to the west by the extensive walled kitchen garden, to which it is linked by a screen wall. The main, north, entrance front overlooks informal lawns bounded by the main drive to the north and beyond this the shortened remains of the north avenue (replanted in the 20th century), with a view of a low ridge to the north. The south, garden front is aligned on the central axis of the pleasure grounds. It overlooks the 1830s French Garden with its formal parterres and the site of the old house 250m to the south, to the Long Canal, flanked by the wooded Great Garden. At the end of the Long Canal, 800m to the south, lies the Archer Pavilion, a Baroque, red-brick, domed banqueting house, with a low range of hills closing the view in the far distance. The pleasure grounds are largely enclosed by encircling canals naturalised by Lancelot 'Capability' Brown in 1758-60, flanked by Old Park, the site of the medieval park, to the west and the park leading up to Cain Hill to the east; they contain a variety of garden structures and statuary placed within various formal and informal compartments.

The park, which surrounds the house and pleasure grounds to the west, north and east, has been almost completely denuded of mature trees, except for an area south of the east drive, adjacent to Poorhill Plantation, which retains mature park trees and old pasture. The land is largely open arable, with some pasture, and mown grass along the west avenue and close to the north front. A belt of woodland runs south from Pateman's Wood along the east and south boundaries, parts of which were replanted in the 20th

century. The summit of Cain Hill is the site of Hill House, which was a Baroque cruciform lodge which acted as a focus from the pleasure grounds. As with the Pavilion, each facade was designed to face a different avenue and close a vista. It was replaced in the 1830s by an iron column, the stone base of which survives in the woodland. A considerable development of late 20th century industrial farm buildings and offices associated with

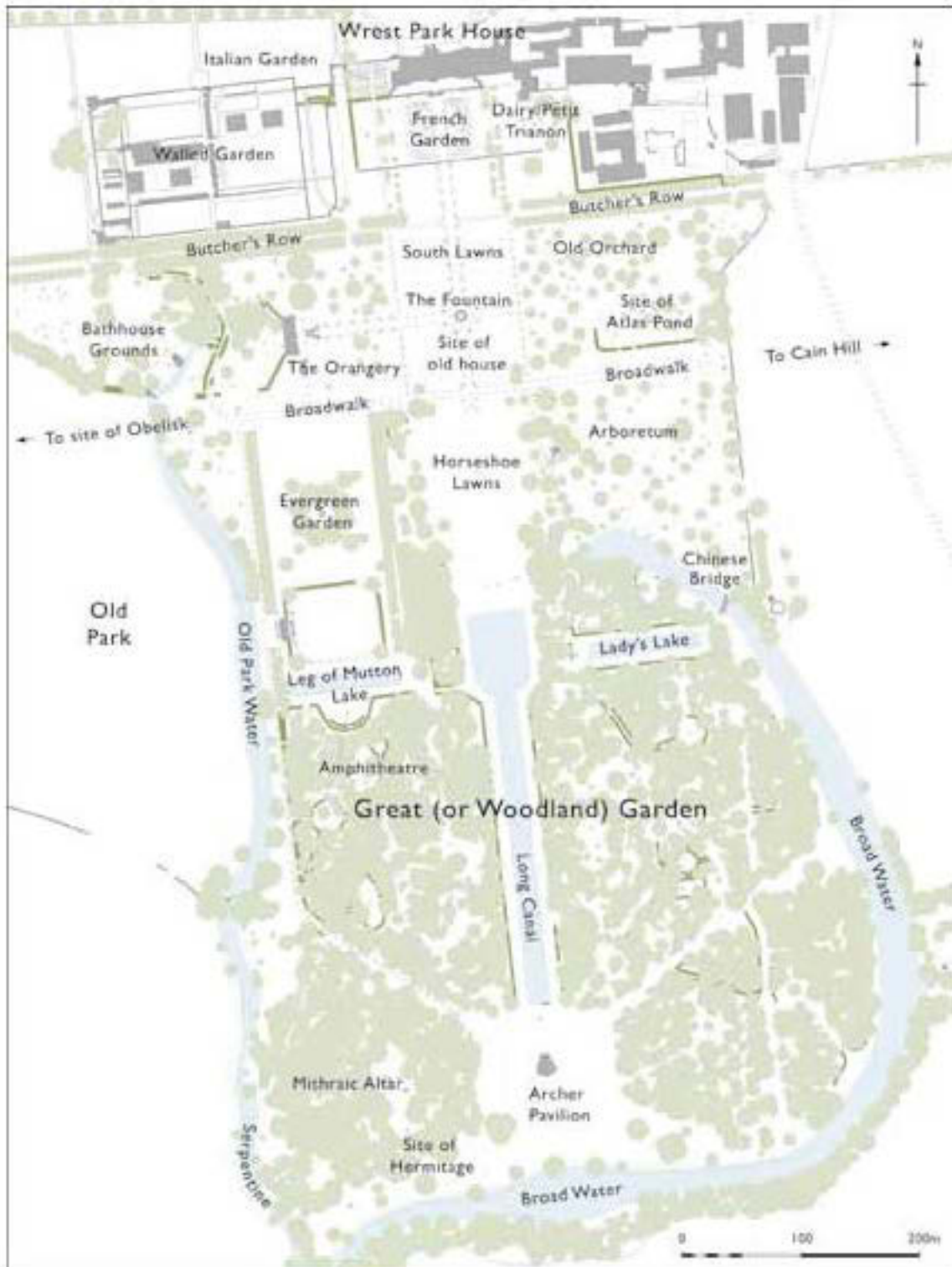


Figure 6 Main garden areas (base map is by Atkins Mapping Solutions 2007 © English Heritage and © Crown Copyright. All rights reserved. English Heritage 100019088. 2014)

the agricultural institute lies in the park close to the east and north-east of the house, dominating this area.

Designations

Many of the individual buildings at Wrest Park are protected by listing. The main house is Grade I (No. 37709), the stables immediately to its east (37711) and the walled garden immediately to its west (37710) are both listed Grade II. In the gardens the Banqueting House (Archer's Pavilion) (37756) is listed Grade I. The Bath House (37719), Bowling Green House (37741) and Orangery (37720) are listed Grade II*. Also listed are many of the statues and monuments, several at Grade II*. Within the park the two lodges at the Silsoe Gate are Listed Grade II (37691/2) as are the two Brabury Lodges (37773/4). The farmhouse at Home Farm is also listed Grade II (37771).

Much of Wrest Park is a Grade I landscape on English Heritage's Register of Parks and Gardens of Special Historic Interest (No. 1007) and is also a Conservation Area. The areas covered are not quite the same as the conservation area excludes the area to the west of the A6 and the registered park and garden excludes Home Farm. Within these



Figure 7 Area designations (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014)

is the Scheduled Monument (35615), which covers the gardens including the encircling canals, the main buildings and an area to the north of the house. The summit of Cain Hill is also included in this designation.

Public access

Prior to English Heritage acquiring control of the house, there was limited access to the gardens. This has increased steadily over the last few years and the property now has car parking and a visitor centre within the walled garden that includes a shop, café and play area, and is open every weekend throughout the year, most school holidays and most days from April to October.

ARCHAEOLOGICAL BACKGROUND

Although it is likely that the history of Wrest Park begins in the 12th century, humans, and possibly their relatives, have been living in the area for many thousands of years. This 'prehistory' of Wrest Park is part of the story of the landscape and provides a context for the house and grounds and some of the broader landscape research, particularly the aerial photography and lidar mapping which has recorded features from the Bronze Age onwards.

The following is based upon the National Record of the Historic Environment (NRHE) database curated by the English Heritage Archive (EHA), and the Bedfordshire Historic Environment Record (BHER), including references therein. It covers the wider project area (above), a 6km by 6km square approximately centred on Wrest Park House with additional information from immediately adjacent areas where relevant. Particularly for later periods, where the number of records is high it is not intended to be exhaustive. The data ranges are based upon those given in the English Heritage thesaurus and are to some extent conventional.

Early prehistoric (to about 6,000 years ago)

The Palaeolithic covers the entirety of human evolution up to the end of the last glaciation about 10,000 years ago. During this period humans and other hominins lived a largely nomadic existence based upon hunting, fishing and gathering. As such they left few structural traces and most finds, particularly from open sites, tend to be isolated and very rarely in situ, most having been redeposited. The Palaeolithic record for the area consists of a single Mousterian hand axe, possibly re-worked, found within TL 05 36, in the valley of the River Flit near Flitton, just outside the study area to the west of Wrest Park (NRHE 360013). Mousterian technology has been associated with Neanderthal communities and dates from the middle Palaeolithic 200,000 to 30,000 years ago.

The Mesolithic in Britain starts with the end of the last Ice Age, so begins with the re-colonisation of the British Isles by modern humans, and ends with the evolution of settled agriculture, a period of about 4,000 years. At this time people continued to live a nomadic or semi-nomadic lifestyle. Mesolithic flints were discovered in 1972 during road widening at Beadlow Manor Farm, Clophill (centred on TL 111 383), less than 3km to the NNE of Wrest Park House. The finds included cores, scrapers, microliths and a microburin and it was thought probable that the finds came from a working floor disturbed by the road works (NRHE 362511, BHER MBD2595). A range of Mesolithic flints including burins and microburins, scrapers, microlithic cores, worked flakes, and a worked saw, as well as additional material recovered earlier, were also found in the same area as the Palaeolithic axe above (NRHE 360013). More Mesolithic flint flakes were found about 2km to the WNW of Wrest Park House (TL 066 368) though there are no details recorded (BHER MBD9809). All three of these sites are in the valley of the River Flit suggesting it was a significant focus of activity, perhaps a communications corridor. In Silsoe, within TL 08 35, a kilometre or so west of Wrest Park House, a stone tool was found in January 2000 and reported to the Portable Antiquities Scheme (PAS). This may have been Late Mesolithic but could have been Neolithic (BHER MBD19884).

Later prehistoric

With the advent of agriculture and more settled communities at the start of the Neolithic, populations rose and structural remains become more common. When they survive as buried remains prehistoric features may show as cropmarks of pits, ditches or banks, both in isolation and forming enclosures or field systems. They are however, often difficult to date without supporting evidence and are usually referred to as 'prehistoric' but more correctly 'later prehistoric' to indicate a Neolithic or later date, or more likely Bronze Age to Romano-British. A few of these undated cropmark sites were known before the aerial photographic mapping for this project. These included a possible later prehistoric settlement at TL 108 333, about 2.5km south-east of Wrest Park House (NRHE 362644 BHER MBD1803), an irregular enclosure at TL 116 329 about 1km further south-east (BHER MBD9412), and a curvilinear ditched feature which could be part of a larger enclosure at TL 060 351 on higher ground 3km to the west (BHER MBD16600). In addition, a watching brief at Yellow House Farm, Silsoe revealed pits ditches, gullies, post holes and an area of burnt loam and pebbles (TL 083 357, BHER MBD16056); although there was no firm dating evidence for most features they were thought to be prehistoric.

Neolithic (about 6000 to 4200 years ago)

A few Neolithic finds have been reported from the area. A polished greenstone axe was found in about 1880 between Shillington and Pegsdown, probably somewhere within TL 12 34, just outside the study area and about 3km east of Wrest Park House (NRHE 362586). More recently, in January 2000, a stone tool was found a kilometre or so west of Wrest Park House in Silsoe and reported to the PAS. This may have been late Mesolithic but could well have been Neolithic (TL 08 35, BHER MBD19884). A leaf shaped arrowhead found in the Anglo-Saxon ditch in St James churchyard, Silsoe from the same area TL 0826 3556 (BHER MBD8965) was residual but must have come from the vicinity. The PAS has also recorded two flints found in 2009 at Cainhoe Castle, within TL 09 37, less than 2km north of Wrest Park House. One was Middle Neolithic to Middle Bronze Age (about 3500-1500 BC, BHER MBD20194) and the other was Middle Neolithic to Early Bronze Age (perhaps 3500- 2100 BC, BHER MBD20193). The area was very probably occupied, or at least visited, in this period.

Bronze Age (about 4200 to 2800 years ago)

The earliest known structural remains in the vicinity are probably from the Bronze Age. A cropmark of a ring ditch on an aerial photograph, possibly the remains of a round barrow, was recorded in Pulloxhill at TL 065 340 (BHER MBD18009), on fairly high ground about 2.5km WSW of Wrest Park House. This suggests a burial site and implies that there was settlement in the vicinity. A few, less informative, isolated finds from the period have also been recorded in the area. These consist of an unlooped palstave or axe of Early to Middle Bronze Age date with a shield pattern on the blade, found in Silsoe (TL 08 35, NRHE 360017), and a probable Late Bronze Age barbed and tanged flint arrowhead, found in 1930 at the north end of Flitton on high ground above the River Flit, just over 2.5km west of Wrest Park House (TL 063 362, BHER MBD4326). It seems

highly likely that there was occupation nearby, which would have been agricultural, but other areas were probably utilised for timber and hunting.

Iron Age (about 2800 years ago to 43CE)

More sites and finds have been recorded in the area from the Iron Age. They include the first direct evidence of occupation and burials. Two kilometres to the south of Wrest Park House on low ground to the west of Higham Gobion, around TL 091 331, cropmarks of a track running NW-SE flanked by ditches with rectilinear enclosures to either side were seen on aerial photographs, apparently from an area where Iron Age pottery had been found during field-walking (BHER MBD7998). About 700m from here at TL 097 333, the HER records that Iron Age pot sherds and occupation evidence have been located by field-walking (BHER MBD9349). It is unclear though if the records are referring to each other but it seems possible. If so then they may be too far apart to be certainly related which leaves the track and enclosures undated, though the other Iron Age material is still indicative of settlement. The excavations at the Ruxox Farm Romano-British site (BHER MBD918), 4km WNW of Wrest Park, also recovered Iron Age material taken to indicate continuity of settlement, a common occurrence.

Human remains dated to the Iron Age were found in a garden in Pulloxhill in the mid-1990s at TL 0676 3396 about 3km south-west of Wrest Park House (BHER MBD15809). It is unclear from the entry if these were the remains of a single individual and deep ploughing had probably disturbed the bones been so nothing is known of their context. However, the site is a small knoll above lower ground to the south-east only a few kilometres from the area described above and is further evidence for settlement nearby.

Isolated Iron Age finds include a stater of Cunobelinus found in about 1863 at Silsoe, probably within TL 08 35 a kilometre or so to the west of Wrest Park House (EHA 360005). There is also a PAS record of a metal detector find in January 2007 of a Late Iron Age (50-20BC) silver coin near Gravenhurst (TL 11 35, BHER MBD20286). In addition, several of the finds recorded below for the Romano-British period have only been given dates in the first century AD (BHER MBD19564, MBD19566, MBD19634, MBD19636, MBD19861, MBD19864, MBD19865, MBD19866, MBD19868, MBD19875). From the information available it is unknown if this is because these were not diagnostic objects that could have been late Iron Age, or if they were in fact Romano-British objects that have not been dated closely.

Romano-British (AD 43 - 410)

The Romano-British period is conventionally defined by archaeologists as beginning in AD43 when a military presence is thought to have spread from the south-east to the north and west of Britain, probably in a complex series of campaigns and movements over several decades but it is likely that Roman influence extended into southern Britain well before this. The end of the Roman period is usually defined as 410AD when the Emperor Honorius told the British cities to look to their own defence effectively putting them beyond the empire, but Roman influence had been declining for some time (de la Bedoyere G 2010).

It has been suggested that a Roman road ran along the valley of the River Flit a little over 2km to the north of Wrest Park House (BHER MBD5342). It is thought to have run from Shefford, along the route of the A507 as far as Beadlow where it crossed river (at TL 105 383) and then continued WSW through Clophill and Water End, north of Ruxox Farm and then through the northern fringes of Flitwick before turning more westwards. Slightly further afield, a more important (and more certain) route, the Icknield Way, lay to the south and east of the study area. It ran south-west/north-east and at its closest point was only about 7-8km south-east of Wrest Park House.

The most substantial Romano-British occupation site known in the vicinity was located on the possible Roman road described above at Ruxox Farm, TL 051 363, immediately outside the study area and just under 4km WNW of Wrest Park House (BHER MBD918). It consisted of an extensive area of Romano-British occupation suggested by stray finds and investigated during the 1950s and 1960s. Traces of walling and a possible bridge were found and finds included a very large quantity of pottery, both local and imported, and coins dating from the 1st to the 4th century AD, as well as numerous items of jewellery. The remains of two cremation vessels were also recovered. Several fragments of 'Venus' pipe clay figurines were found, and it was suggested that there was a temple on the site, as well as a villa. Further archaeological work in the early 1990s uncovered evidence for metalworking, including a complete crucible containing traces of copper alloy. At this time a cemetery was also excavated, with over 30 inhumations, as well as further cremations. This cemetery could have been somewhat larger as the NRHE records a cremation cemetery about 800m to the east (NRHE 360002): 'Lysons says that an amphora was found about 1798 in the peat on Maulden Moor, together with several urns of different forms and sizes containing bones and ashes, and fragments of embossed Samian ware,' (Watkin 1882, 39). Maulden Moor is the name given to the area of level peat to the north of Flitton, centred on TL 059 364, but this is an extensive area and these finds could easily be from the same site. There is also a report of a possible Romano-British cremation cemetery found at Flitton immediately to the south-east (NRHE 359983): 'Lately was discovered in the Parish of Flitton near Silsoe, Bedfordshire, the ashes of a funeral pile; around which ashes were deposited several urns or jars of various sizes containing human bones in a calcined state, etc' (Watkin, 1882, 39). This is less likely; although it was listed by Watkin as Romano-British, the original source (he was quoting the *New Monthly Magazine* 9 1823) was not so specific, and it sounds as though it was located between Flitton and Silsoe, rather further from the other sites. However, given the proximity of all these locations, and the early date of some of the sources, it seems possible that there has been some confusion over location and they all refer to the same site.

Romano-British tile has reportedly been found to the south of Silsoe (TL 081 350, BHER MBD2865) which is indicative of a building nearby but the references are vague. A little over 2km to the WSW of this area, on high ground between Greenfield and Pulloxhill and just outside the study area, Romano-British potsherds from at least five vessels, including Samian and Nene Valley wares, were found during gas pipeline excavations in 1965 (TL 05 34, NRHE 360063). The record does not indicate the depth from which they were recovered but 'pipeline excavations' implies that they were from some depth rather than surface finds which suggests they were from a cut feature of some sort and that there was possibly settlement in the area.

Similar finds were recorded 5km to the east (BHER MBD11291). A drainage trench dug in 1978 at about TL 105 353 cut through a ditch containing ash and sherds of 1st/2nd century Samian ware representing about five bowls, including including two decorated sherds, one possibly from central or eastern Gaul. There was also a coarse red/black, calcite gritted pot. The ditch was probably Romano-British, though if the finds were from the upper fills it could have originated in the late Iron Age. The finds, particularly the presence of ash, suggests that the ditch was close to an occupation site and the site is on the western flank of a hill above the poorly drained levels, an ideal settlement site.

In the 1970s, examination of stream banks and the ploughed field to the NE of Church Panel (below, NRHE 362485) produced a wide range of finds including Romano-British tiles. This must have been in the area of TL 119 351 and is again suggestive of a building.

Romano-British pottery was also found in Higham Gobion in the 19th century, probably within TL 10 32, just outside the study area, about 1.5km south of the above site and about 3.5km south-east of Wrest Park House. It was said to have included a grey Romano-British cinerary urn of about 100AD, a jug and a Samian bowl (NRHE 362596). The nature of the finds reported indicates a cremation burial and is suggestive of settlement in the vicinity. This area is only a kilometre or so from the Iron Age pottery and possible Iron Age field system mentioned above and it is possible that these records are related, which would indicate settlement continuity, not an unusual pattern.

Forty-two Romano-British find spots have been recorded by the PAS and incorporated into the BHER. A very high number of these were from the area to the east and south-east of Wrest Park House. The core of this is OS grid square TL 11 34 where 31 metal finds were found on two farms between September 2005 and May 2008. They included 12 coins covering most of the Romano-British period to 335AD, several items of copper alloy jewellery including 12 brooches, again covering the whole period but mainly earlier; two finger rings, one early and one late, an earlier bracelet and other objects such as an early cosmetics mortar, a pin and tweezers. This number of finds from a relatively restricted area looks very like the result of one person's activity in an area they know to be productive on the land of sympathetic farmers. Nevertheless, the number of finds reported suggests a significant site (or sites) in the area and the presence of low value domestic items suggests occupation rather than a plough scattered hoard. In addition, there is a HER record of a coin of Claudius II (268-270) found in a ploughed field near Moorhen Farm, Shillington, but no reference was given (TL 119 340, BHER MBD9425). The tile fragments from near Church Panel (above) may be related to this area of finds.

Another five similar finds (four coins covering the period 40-400AD and a 1st century Romano-British brooch) from another farm immediately to the north of this area in TL 11 35 were found between November 2006 and January 2007 and reported to the PAS. A further two finds from the area to the east (TL 10 35) were found in January 2007, neither certainly Romano-British (a possible Romano-British coin and 1st century brooch). This is likely to be a different site, or sites, to that suggested by the above finds, as a small river and its flood plain separate the two areas. These finds might however be related to the find of sherds of imported pottery and other wares described above (BHER MBD11291).

Of the more isolated finds, two were recorded from quite close to one another in the Flit valley (TL 0830 3773/TL 08 38), but a lone coin and a pin, near the possible road mentioned above, were probably casual losses. There was also a metal ferrule from TL 10 33 found in June 2006. Finally, sherds from a later Romano-British pottery vessel, from TL 07 36 found in July 2004, do not appear to be related to any other Romano-British evidence although it is just about possible that these finds are related to the second Watkin reference above (NRHE 359983). Multiple sherds from a single vessel does however sound like a disturbed in situ deposit, which is suggestive.

The overall pattern described above indicates several foci of Romano-British activity in the vicinity of Wrest Park. A Roman road appears to have run along the valley of the River Flitt and there was a significant settlement, perhaps with a villa and a temple, as well as a cemetery in the valley to the west near Ruxox Farm, presumably located on this road. There also appears to have been settlement on the higher ground to the south of this between Flitton and Silsoe, and Flitton and Pulloxhill though this was probably less significant. Another significant area of settlement lay to the ESE, perhaps on a small spur projecting into the level marshy ground at Hillfoot End, Shillington where a large amount of metal finds have been recovered. Another area of possible settlement may have been focussed on a hill in Lower Gravenhurst, also adjacent to the levels, but on the other side of the valley. There may also have been another area of settlement a few kilometres further to the south near Higham Gobion, another area of high ground near the levels.

Anglo-Saxon (AD 410 - 1066)

Although perhaps an oversimplification, this period may be divided into three for convenience; the early, middle and late Anglo-Saxon periods (see for example Ulmschneider's (2011) discussion of Anglo-Saxon settlement or Williams', Welch's and Hadley's chapters in the same volume).

The only known archaeological evidence from the early period are the remains of a stable and a wattle structure of about 500AD discovered during trial excavations at Cainhoe Castle, carried out in 1973 on the earthworks to the south and south-east of Castle Hill at about TL 098 374 (NRHE 360008, BHER MBD225, SM 20440). The site is 2km to the NNE of Wrest Park House. Less certainly, a possible early Anglo-Saxon ditch was revealed in St James' churchyard, Silsoe, TL 0826 3556 (BHER MBD8965). During archaeological recording undertaken during construction of footings and drainage runs for a kitchen extension at the north-west corner of the church, a possible boundary ditch of Early to Middle Saxon date was partially revealed in two sections, running east/west, roughly parallel to Church Road. The combination of animal bone fragments and pottery dumped in this ditch suggested settlement in the vicinity.

An earthwork enclosure known as Church Panel in Shillington Parish centred on TL 118 350 (NRHE 362485, SM 20423, BHER MBD384) has been suggested as being from the middle period and associated with the Scandinavian incursions of the mid-9th century. The Victoria County History (VCH) for example noted that the surrounding low ground frequently flooded and when this happened the central knoll stood out giving 'very much the appearance of an old refuge station in the fens, such as Alfred may have made at Athelney' (Doubleday & Page 1904, 276-7). The evidence is circumstantial though and

others have suggested that it was a medieval manorial site. The NRHE entry records that a Mr Freeman, curator of the Luton Museum, was doubtful of the Anglo-Saxon date as in the late 1950s he had only found medieval to 17th-century potsherds. It also notes that in the early 1960s, a Mr Knight, from the Ancient Monuments Branch of the MoW, suggested it was of about 1200, and comparable to a site then recently excavated in Shifnal, Shropshire. The site is a D-shaped enclosure approximately 160m by 120m, situated on the south-west end of a low promontory. The arms of the enclosure curving around the end of the spur follow the natural contours and the interior of the enclosure is 0.5m higher than the ground outside. This ditch is 8m-15m wide and reinforced by an outer bank 0.7m high and up to 8m across with a slight inner bank to the west. The straight north-east arm cuts across the promontory and is deeper, carrying a diverted stream, and there are no banks. This may be later canalisation that could have replaced an original ditch and bank. There appears to be some confusion about the interior of the enclosure in the sources. The BHER describes the eastern half of the island as artificially raised with a rectangular building platform but the NRHE mentions 'a shallow sub-rectangular depression, possibly the site of a building'. A later entry describes the interior as disturbed with several hollows so perhaps different features have been visible at different times.

No sites have been identified as from the late period alone in either the NRHE or the BHER. In part, this is likely to be because large elements of the medieval settlement pattern were already in place and many of these will have had their origins in this period, albeit of a rather different character (Gardiner 2011, 207). It cannot explain the complete absence of records from this period though, perhaps limited modern development is a factor in the area.

Find spots

Only six find spots have been recorded by the PAS and incorporated into the BHER. All are to the south-east of Wrest Park in the area noted as being productive of Romano-British metalwork (above). Most are poorly dated. A coin from Gravenhurst could have been of any date from the Late Iron Age through to the middle Anglo-Saxon and could be related to the Romano-British finds discussed above but could equally be a casual loss. A buckle from Higham Gobion, and a stirrup and harness fitting from Shillington could be late Anglo-Saxon but again are likely to be casual losses and not indicative of settlement. Whilst the strap-end from Barton-Le-Clay is more certainly late Anglo-Saxon it is also likely to be a casual loss. A brooch from Shillington is more interesting. It comes from the same area as the numerous finds of Romano-British metalwork discussed above and is of an early post-Romano-British date. This suggests the possibility of continuity of occupation but isolated as it is it could just be a coincidental casual loss.

Medieval (AD 1066 - 1540)

In contrast to the Anglo-Saxon period above there are numerous archaeological records in the NRHE and BHER for the medieval period. Many of these, particularly those relating to settlement, will represent sites that have their origins in the later Anglo-Saxon period. This is rarely easy to prove without excavation.

In contrast to the preceding sections, the following discussion is structured by ecclesiastical parishes, the local level of church organisation in the medieval period (see Figure 8). Parishes probably have their origin in the later Anglo-Saxon period as the areas paying tithes to the emerging manorial churches that were gradually replacing the minsters of the earlier Anglo-Saxon period and probably reflect the distribution of these manors (Muir 2004, 198). It is likely that in their early days they were vague and fluid, changing as the bounds of the associated manor changed through the normal mechanisms of exchange, inheritance and so on; most stabilised during the 12th century.

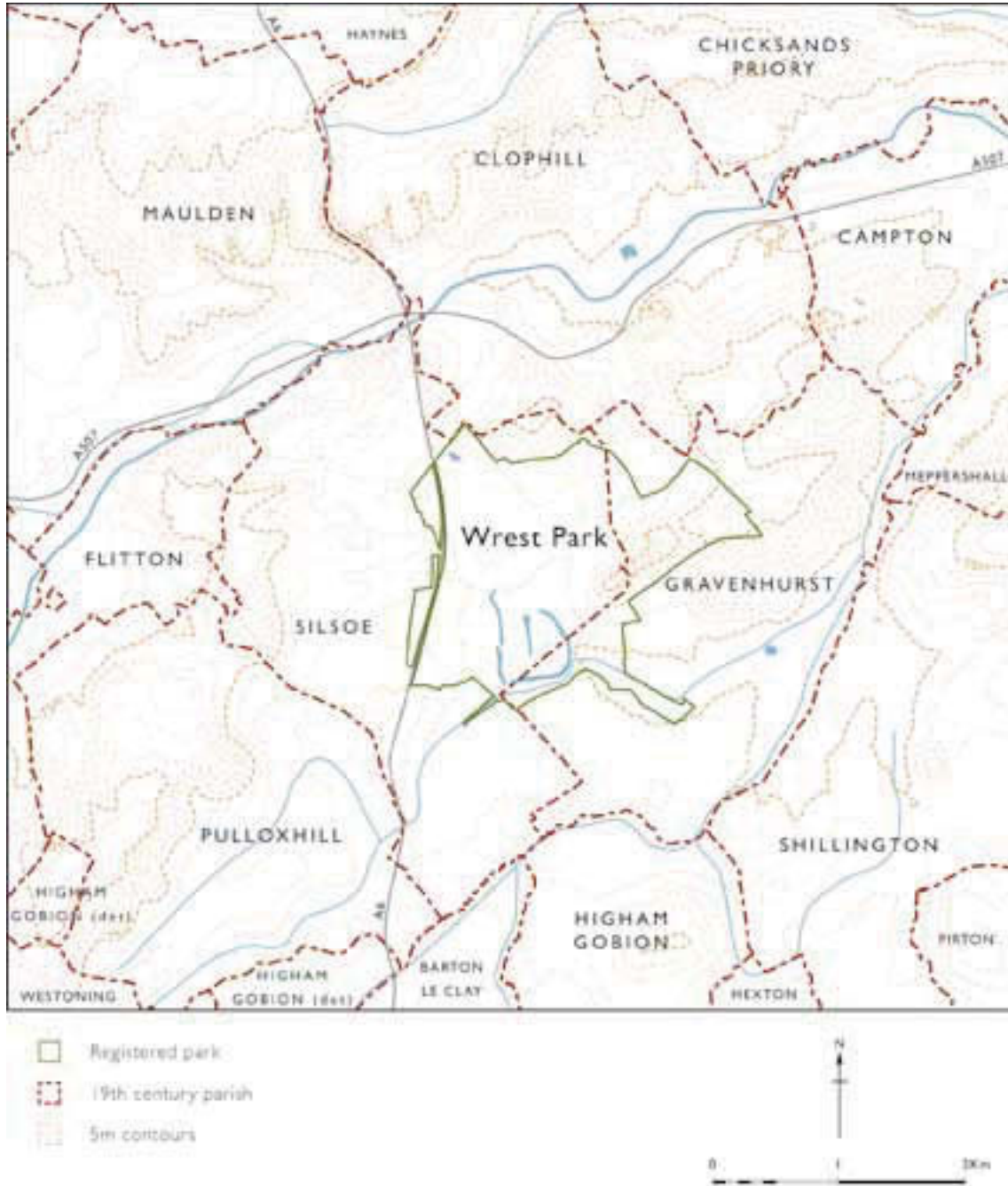


Figure 8 19th century parishes and local topography (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™)

Silsoe

In the 19th century, Silsoe was part of the larger parish of Flitton-cum-Silsoe. Silsoe did not have its own church until about 1830 when the current church, dedicated to St James the Great, was built. This was on the site of a chapel of ease dedicated to St Leonard, which was dependent upon Flitton and first mentioned in the early 13th century (BHER MBD1121, Page 1908, 332), which suggests that the two settlements were closely associated throughout the medieval period and probably earlier. Most of the visible fabric of Flitton church dates from the 15th century, later than the earliest known reference to the chapel dependent upon it (Page 1908, 330), which illustrates how most churches originated earlier than the building visible today; the first known reference to Flitton church is actually from the late 12th century (ibid).

It is clear that there was a medieval manor at Wrest Park though mentions of this in the archaeological records are brief, largely being overshadowed by later developments. Bedfordshire HER states that the old house at Wrest Park had been in existence since at least the 13th century, and the NRHE records that it was first documented during the early 14th century with extensions documented in the 15th century, and that it was moated by 1512 (TL 0912 3534, NRHE 1382211). A park at Wrest Park was first documented in 1344 (NRHE 1117125, BHER MBD8755 though no mention of medieval origins in text). This probably lay to the south-west of Wrest Park House in the area now known as Old Park.

As well as Wrest Park there was a manor at Newbury Farm, about 1.5km to the WNW of Wrest Park (TL 076 361, NRHE 359984, BHER MBD217). The house itself may date from the 17th century but it has been modernised. Around the house though are the water filled but silted remains of a square homestead moat, with arms about 60m long and 12m wide, which has been partially backfilled to allow for the construction of buildings. Three fishponds are associated with the moat and connected by a series of leats, the whole complex fed by a stream from the west. The remains of a smaller moat lie to the north-east (TL 077 362, NRHE 359987 BHER MBD218). This is rectangular feature measuring about 55m by 40m with arms 6m wide. The original entrance causeway survives, facing Newbury Farm, but there is also a modern bridge. There are no indications of buildings on the island, and it is possible that the moat was part of the fishpond complex or a garden feature rather than enclosing any structures. This whole complex is a Scheduled Monument (11548).

To the north-east of this, a warren in Simpsonhill Plantation was mentioned on maps of 1549 (TL 079 371 BHER MBD7653). This is immediately adjacent to the warren mentioned in Cainhoe (below) and it is possible that the two are related. Given this and the early date of the first reference, it seems likely that this also had a medieval origin.

According to the BHER, Silsoe watermill, as mentioned in Domesday Book, was probably sited near the confluence of the two streams on the parish border with Gravenhurst, near Whitehall (TL 095 348, BHER MBD7788). The evidence for this location is not recorded and appears to be circumstantial. It seems likely that there was a mill at Wrest Park by the 17th century ('Millpond' was the name of a garden canal to the south-east of the old house), about 500m to the north-west of Whitehall, and mill sites tended to have

some longevity so perhaps the mill recorded in Domesday Book was also on this site.

On the West side of Silsoe (TL 078 357) there was a medieval (and later) building stone quarry, which produced yellow/brown carstone from the lower greensand (NRHE 1466520). The site is now largely developed. The stone was occasionally used in combination with white Totternhoe chalk, for example at Northill Church, 12km to the north-east.

Clophill

To the north of Wrest Park is the parish of Clophill. Here, the original parish church, dedicated to St Mary the Virgin, was situated on a spur of land to the north of the village and overlooking it (TL 091 388). It was built in the 14th to 15th century with a tower and nave of 15th or early 16th century date (NRHE 360021, BHER MBD2476 (churchyard BHER MBD8876), SM BD83). In 1850, a new church within the village replaced it, and from then it was only used as a mortuary chapel (Page 1908, 324). Several parts were pulled down and only the walls of the tower and nave remain standing. Also in Clophill, the field name Stump Cross Piece, centred on TL 095 387 about 400m to the south-east of St Mary's church on the lower slopes of the hill, suggests the location of a demolished stone cross (BHER MBD9525).

Buildings mapped to the south of St Mary's Church in the 18th century may represent the last remnants of medieval settlement (TL 092 388, BHER MBD9145). This seems reasonable given the location of the church and the place name; Clophill means either 'tree stump hill' or 'lumpy hill' (Mawer & Stenton 1926, 147; Mills 2003, 122) a description that fits this site considerably better than the current village site. This is in the valley below and may have originated as a secondary settlement along a relatively busy road, at a crossroads and bridging point, and possibly near a mill, or a combination of these factors. It is frequently assumed that settlement desertion and shrinkage were the result of the Black Death but numerous projects have shown that this took place at differing times and that a wide range of factors were involved including various climatic and economic downturns throughout the medieval period, and specific local circumstances such as the creation of parkland.

There was a small Benedictine priory at Beaulieu (Beadlow, TL 106 385). It was founded in 1140-46 on the site of a hermitage but it never flourished and poverty forced the monks to leave in 1428, and the site was finally abandoned in 1435. The priory was then adapted to become a manor house, and the priory chapel seems to have survived as it is mentioned in 16th and 17th century documents. No remains are visible above ground but excavations in 1963-5 uncovered building foundations of roughly shaped sandstone blocks, fragments of stone tracery and decorated floor tiles. Two marshy areas shown on 1900 OS 25 inch map at TL 107 384, which may have been associated fishponds, were ploughed out by 1972 (NRHE 362499 BHER MBD813).

Cainhoe

The area of Clophill to the south of the River Flit was, throughout much of the medieval period, a separate manor known as Cainhoe. The centre of this manor was Cainhoe

Castle, 2km north of Wrest Park House (TL 098 374, NRHE 360008, BHER MBD225, SM 20440), which was the centre of the Barony of Cainhoe, held by the d'Aubigny family from before Domesday Book until the later 13th century. It was probably constructed before 1100 by Nigel d'Aubigny but it seems that Nigel acquired his lands later in the Norman take-over than those lords who received their lands directly from Anglo-Saxon antecessors immediately, or very soon after, the Conquest (Lowerre 2005, 217-8; 14).

It consists of a motte standing 11m above the floodplain, which incorporated a natural sandstone outcrop. There were three irregular baileys separated from the motte by a ditch, the whole surrounded by other earthworks. Excavation on the site of the hill to the south of the Motte showed that the defences at this point were entirely natural.

Whilst there is some debate about their exact origin, the vast majority of timber and earthwork castles were built by new Norman overlords consolidating their power in the years following the Conquest. It has been suggested that in order to assert this authority, it was common for Norman castles to be built on the site of an earlier Anglo-Saxon estate centre, the *caput* or *setl* (for example Liddiard 2006, 247-8). Lowerre disputes that this was the case; Cainhoe seems to have been located not at an Anglo-Saxon *caput* but to be geographically central to its builder's lands (Lowerre 2005, Fig 3.3, 58; Fig 4.4, 93), a consideration that took priority over the size or value of the estate, proximity to communications routes, and views over the surrounding landscape (ibid, Chapter 5; Chapter 6).

The earthworks around the motte and baileys were thought to represent a deserted village but trial excavations in 1973 demonstrated that none to the south/south-east were building platforms or enclosures and that the area to the south-east was probably marshy and unsuitable for habitation. A road surface uncovered to the south-east of the hill, although aligned on one of the castle entrances was not necessarily contemporary with the castle. The earthworks to the south of Castle Hill were devoid of features and were probably the result of field drainage or quarrying.

Immediately to the north of the castle earthworks, around TL 098 376, the cropmark and earthwork remains of a number of conjoined bank-defined rectilinear enclosures and a possible associated hollow way have been recorded from aerial photographs (NRHE 1091365). These are more likely to be the remains of medieval settlement and survey has shown that they include a square moated enclosure, 80m across that appears to represent a manorial successor to the castle, associated with four dried-up ponds (TL 096 374, NRHE 1091368).

As well as the castle there are also references to a park in Cainhoe from 1283 when it was mentioned in a legal document (BHER MBD1454). This would be a typical medieval appurtenance to the manor. It was referred to as 'Cainhoe Wood (or Park)' in a grant of 1627 (BLARS H/WS890), which locates it to around TL 109 375. At this time, it was said to cover an area of about 420 acres (about 170 hectares) and was held by the Earl of Kent at Wrest Park. A curvilinear area can still be picked out in surviving boundaries that covers something over 150 hectares. This is considerably larger than Wrest Park Old Park, which only covered about 40 hectares. Much of Cainhoe Park is now farmland, and most of the rest a golf course. A rabbit warren is mentioned in Clophill Parish in

numerous historical documents from 1293 and is thought to have been situated around TL 085 371 (BHER MBD9127) where the name Warren Wood survives. As this lay to the south of the River Flitt it was probably another appurtenance of the manor of Cainhoe. Both park and warren may well have had earlier origins.

Gravenhurst

To the east of Wrest Park is the parish of Gravenhurst, formerly the separate parishes of Upper and Lower Gravenhurst which were united in 1888 (Page 1908, 333). Domesday Book recorded Gravenhurst as a single 3½ hides holding of Hugh of Beauchamp (Morris 1977, [23,21]) which was probably Lower Gravenhurst. The VCH traces the history of Upper Gravenhurst, which was also known as Tewelsbury, back to when it was held by the Tivell family from Ramsey Abbey, a connection going back to at least 1212 (Page 1908, 333). At the time of Domesday Book the only holding in the immediate area belonging to Ramsey Abbey was Shillington, which suggests that Upper Gravenhurst was originally a part of this entry (Morris 1977, [8,2-3] note that the Phillimore edition of Domesday Book references entries by holder and holding rather than page numbers so 8,2 refers to the second holding listed under the 8th land holder; square brackets have been used to make this distinction clear). This is confirmed by the history of St Giles' Church, Upper Gravenhurst, which was originally founded in the late 12th century as a chantry chapel belonging to Shillington, although the current building is mostly 15th century with 19th century renovations (TL 112 360, BHER MBD1065). The former parish church of St Mary The Virgin, Lower Gravenhurst (TL 110 353, NRHE 527135, BHER MBD1064, churchyard BHER MBD8895) has been redundant since the two parishes were united. It was built in the mid-14th century and a tower was added in about 1400, but there had been a rector for Lower Gravenhurst from at least 1247 (NRHE 362502). The apparent association between Upper and Lower Gravenhurst was therefore superficial and late; the original settlement bearing the name Gravenhurst was probably Lower Gravenhurst, 'Tewelsbury' was originally part of Shillington and 'Upper Gravenhurst' was a late name.

Within Lower Gravenhurst it seems probable that there was a significant settlement around the church. Large deposits of medieval tile, brick and pottery have been found in the field centred on TL 1101 3538 to the north of the church (NRHE 362502). Earthwork and cropmark traces of possible medieval settlement, boundary banks and ditches, and possible fishponds have been recorded within the large field to the south of this centred on TL 1092 3507 though these are now largely ploughed out (NRHE 919935). This indicates that the settlement originally extended further to both north and west of the church and there is documentary evidence for a larger settlement than now survives (BHER MBD724).

A little to the north-west, on the floor of the valley between Lower Gravenhurst and Shillington Bury, a moat, possible fishpond and associated leats were clearly shown on the Ordnance Survey 1st and 2nd edition maps (TL 115 354, NRHE 362471, BHER MBD592). The moat was filled in and the site ploughed flat between 1940 and 1945, but the moat is still visible as a soil and cropmark of a broad ditch with an outer bank. The enclosed area shows as lighter than the natural soil and so may have been built-up, while two even lighter areas on the south-east may indicate buildings. Beyond the outer bank on the

south-east side, a dark triangular feature may indicate the site of a fishpond. Also visible to the north-east and south-west of the moat are possible indications of water channels, presumably the water supply for the moat and fishpond.

To the west of Lower Gravenhurst, just in Shillington, is Church Panel which has been discussed above as a possible defensive earthwork from the middle Anglo-Saxon period (TL 118 350, NRHE 362485 BHER MBD384 SM 20423). As has been noted though, it is more likely that this was a medieval manorial site since the evidence for the earlier date is largely circumstantial and all recorded finds are medieval or later (apart from a few Romano-British sherds). It is of rather unusual form though; a 'D' shaped enclosure on the end of a shallow spur projecting south-west into level, formerly marshy ground and the question of date remains open.

To the south of Lower Gravenhurst lay a mill. Land near to 'Sangerel Mill' was mentioned in grant of 1288 and it was recorded in document of 1343 that 'a culture called Sangerelspond lies in the fields of Eye [lon]' (BLARS L399). A document of 1638/9 recorded 'Hanscombe bridge furlong in the south field of lon lies to the north of Sangrell's pond' (BLARS L6/63) and 'Mill door' was mentioned in terrier of 1711 (BLARS L25/25) (TL 10 33, BHER MBD9783). This all suggests that a mill was located close to lon Bridge Farm and had probably occupied the same site from the 13th to the 17th or 18th centuries. lon was part of Lower Gravenhurst.

At Cart's Farm in Upper Gravenhurst (TL 112 362), a moated site was indicated on an early 18th century estate map (BHER MBD3833). This is recorded in the HER as having been damaged by development but two arms are clearly shown on OS maps up to the present. A less certain example lies a little to the north-east of this where a linear pond running parallel to the road is indicated on the 1821 Enclosure Map and later Ordnance Survey maps (TL 116 364, BHER MBD3834). On a site visit in 1980, a shallow parallel depression was noted nearer to the road and it was thought possible that the two together indicated the remains of a moat. The pond appears to have been more irregular in the past and has been extended so this looks rather speculative.

Higham Gobion

Higham Gobion lies to the south of Wrest Park and is centred on a locally significant hill rising above the marshy levels, upon which sits the church and associated hamlet. Immediately north-east of the church there is earthwork evidence for a shrunken village with a possible moat (TL 104 328, BHER MBD773, SM BD90). Aerial photography shows a large square enclosure with traces of a smaller rectangular structure inside. Ploughing has brought a number of large flints, tiles and mortar pieces to the surface and a test pit excavated in 1954 uncovered a short section of wall together with sherds of 12th century pottery.

A few hundred metres to the north-east of this area, across a shallow valley, lies another earthwork complex known as 'The Camp' (NRHE 362575 BHER MBD404 SM 1004500). This probably represents a medieval fishery and comprises a central mound and a roughly triangular outer bank, with a group of three probable fishponds outside the

south-east corner. The flat-topped mound is 30m in diameter and 3.7m high and banks measure up to 12m wide and 2m high, both heights measured from the base of the inner ditch. A broad flat oblong termination at the north corner would be large enough for a building and an opening here was probably for a sluice. It was originally listed as a motte and bailey but the outer bank does not appear defensive, and the area inside seems to be designed to be flooded. The mound, although it resembles a motte, was probably intended as a nesting island. The fishponds, which seem to be later than the bank, are about 35m long and 1m deep.

Pulloxhill

St James Church Pulloxhill, a kilometre or so south-west of Wrest Park, is largely medieval with recorded fabric from the 14th and 15th centuries (TL 061 338, NRHE 360077). Immediately to the east, early 19th century maps show three arms of a possible moat (TL 062 338, BHER MBD7662). All three arms survived to at least 1980 when a site visit also identified earthworks to the north-west and south-west. The moat on the south-east side can be traced as turning north-west at its southern end suggesting that it may once have continued in some form along the south-west side of the churchyard, encompassing church, churchyard and potentially the manor house. The moat could therefore be considerably older than most and potentially be the remains of a later Anglo-Saxon manorial centre.

A little over 1km to the north-east of this site, just to the north of Gagmansbury Farm and about 2km south-west of Wrest Park are the remains of Upbury moats, the site of a former manor house and described as one of the finest examples in the county (TL 073 343, NRHE 360067, BHER MBD244, SM 24416). The remains comprise a central moated enclosure within a complex of ditches defining outer wards and includes a series of fishponds. The central moat is a 55m by 38m rectangle surrounded by a partly water filled ditch averaging 10m wide and 2m deep, with a causeway in the south-east side which is thought to be the original entrance (one to the north-east is modern). The island shows some evidence of building remains and squared sandstone blocks have been recorded from the pond just outside the moat. A larger ditched enclosure, about 200m by 120m, wraps around the north, east and south sides of the central moat, and is shown subdivided into northern and southern parts on a 1768 map. A third enclosure lies to the west and measures 100m by 50m; on the 1768 enclosure it is named 'The Great Orchard'. To the south and south-west of the largest enclosure are several ponds and channels, some of which form a small square enclosure 35m across which is named 'The Little Orchard' on the 1768 map. An early 19th century draft enclosure map records a field named 'Dovehouse Close' to the south-west of the site, which may indicate the presence of a dovecot. The central enclosure is thought to be the earliest part of the site, dating from the 12th century, with the other features developing during the 13th and 14th centuries. It is possible that Upbury can provide an idea of the appearance of Wrest Park prior to the later development of the grounds that wiped out much of the former layout.

Other records

Ridge and furrow has been recorded across most of the parishes around Wrest Park including Maulden (around TL 068 368, BHER MBD4445), Silsoe (TL 085 330, BHER

MBD7365), Shillington (TL 119 338, BHER MBD4485), and Higham Gobion (TL 102 330, BHER MBD6980) where it was noted that open fields covered the whole Parish, except for the flooding meadows.

Cainhoe was the only castle within the study area but there were several other earthwork castles in adjacent areas. At Meppershall 4km to the east of Wrest Park there was a motte and bailey known as The Hills (TL 132 358), and at Flitwick a little over 6km to the WSW of Wrest Park there was another motte (TL 027 344). Flitwick, and Meppershall are thought likely to date to after AD 1100 (Lowerre 2005, 219, 220).

To the south-east, at Pirton, Hertfordshire, there was another motte known as Toot Hill (TL 147 315). The name is potentially Anglo-Saxon however, meaning an eminence with a view (Gelling 1997, 146), so it is just possible that the mound had an earlier origin.

There are also numerous manorial earthworks, with moats, fishponds and so on immediately outside the study area. To the north-west there are two to the north of Maulden (TL 061 380 and TL 053 388) and to the west another at Ruxox Farm in Flitwick (TL 048 359). To the south there are examples at Sharpenhoe (TL 064 308) and Faldo Farm (TL 074 319) both near Barton-le-Clay, and at Bury Farm, Pegsdon (TL 116 303). There are three to the south-east south of Shillington, one at Apsley Bury Farm (TL 118 323) and two in Apsley End (TL 122 329 and TL 122 334) all within 1km of one another. Finally, there are two more to the east in Meppershall, one associated with the motte and bailey mentioned above (TL 134 358) and a second only a few hundred metres further east (TL 137 362).

Find spots

At Hanscombe End, Shillington, medieval finds, including six spurs, six keys, and pottery have been found during ploughing. This density of finds is suggestive of a settlement. A human skeleton was also found in the same field during ploughing in 1940, about 8 inches below the surface, but this sounds rather shallow to be medieval (TL 116 339, BHER MBD9424). A Henry III penny was found in a ploughed field 300m to the east (TL 119 340 BHER MBD9425).

Thirty-three find spots have been recorded by the Portable Antiquities Scheme (PAS) and incorporated into the BHER. The majority are securely dated to the medieval period though a very few could be late Anglo-Saxon. Most are not particularly significant and apparently represent both casual losses and random discoveries. Most clusters of finds were found on the same day and probably result from a collection episode rather than a meaningful distribution in the landscape. They can however often be loosely related to known areas of settlement. A large number of finds from grid square TL 11 34 would appear to be significant but although they are from the same area as the very high number of Romano-British finds mentioned above, they are mostly low value items that could be the result of casual losses or manuring. They were all reported as having been found on the same dates as the Romano-British material was recovered and it seems likely that this is what attracted the metal detectorists.

Summary

There is a wide range of evidence for the medieval period around Wrest Park but it is perhaps surprising that there is so little for Wrest Park itself. This is probably because later developments of the site have overshadowed its origins and earlier history.

By AD 1100 Cainhoe was probably the highest status centre in the area, the seat of a barony important in Bedfordshire and beyond. There were several other earthwork castles in the vicinity but these were probably later and of more local significance. Cainhoe declined during the 13th century and was superseded by a moated site on lower ground to the north.

At some time, perhaps in the later 12th or 13th centuries several moated sites were established in the area. These were generally marginal within their parishes, at some distance from earlier manorial cores suggested by church sites (Pulloxhill being the obvious exception though it has been suggested that this may be rather earlier than the other examples), and in low-lying areas where a water supply was available. Most moated sites were associated with other features such as fishponds and some had secondary moats. It may be that the rise of these sites and the decline of locally significant earthwork castles were linked. Perhaps the locally significant baronies were declining as nationally power became concentrated in fewer hands, or maybe expressions of status at this social level were losing their military aspect and becoming more domestic in character. Initially it seems likely that Wrest Park was just another of these moated manorial sites with little to distinguish it from any of the others. The largest of these complexes surviving was Upbury, 2km to the south-west.

There are no records of settlement expansion or the establishment of new settlements. Some have suggested though that phases of church building suggests periods of relative affluence in the surrounding parish/manor, which might provide a proxy for settlement expansion. It is perhaps notable that there appear to be two distinct phases for this. The first is the later 12th and earlier 13th centuries; The chapel at Upper Gravenhurst was founded in the later 12th century and the first mentions of the chapel in Silsoe was in the earlier 13th century and Lower Gravenhurst church was in 1247 - both could have originated earlier which would narrow this period. It is perhaps significant that this is also likely to be the period when many moated sites were first established. The second period is the later 14th and earlier 15th centuries; the earliest surviving fabric in Lower Gravenhurst church was from the mid-14th century (with the tower added in 1400), in Clophill church it was from the 14th or 15th centuries and at Upper Gravenhurst and Flitton it was from the 15th century.

In contrast, there are several records for areas of deserted settlement, generally on the margins of surviving settlement rather than complete village desertion. Clophill is perhaps the exception to this though the church survives, if in much reduced form. It seems likely that the phases of desertion and shrinkage were from the periods between those of relative affluence suggested by church building, perhaps the later 12th through to the earlier 14th centuries and from the later 15th century onwards.

Post-medieval (from AD 1540)

There are numerous post-medieval records in the NRHE and BHER but these are dominated by standing buildings in the surrounding villages and farms, most listed, that are not relevant here. There are also numerous records for features such as small quarries, sand, gravel and marl pits and so on, as well as other minor landscape features such as milestones that are of minimal significance.

Across the landscape a range of cropmarks have been recorded, most of which are probably post-medieval field boundaries that were ploughed out during the 20th century. For example: south of Russell Farm and Great Farm, Maulden (TL 059 367, BHER MBD3213 and TL 063 368 BHER MBD3214), and north-east of Beadlow where two small enclosures have also been recorded (TL 111 391 BHER MBD3521). North of Cainhoe Castle linear earthworks spread over a wide area fit with the pattern of watercourses shown on early OS maps and are probably post medieval drains and field boundaries (TL 096 376 BHER MBD14642). In a slightly different vein earthworks South of Kitchenend Farm, once thought to be the remains of a deserted settlement appear to have been a water meadow; the field which they are in is called 'Floating Meadow' on the draft Enclosure map of 1809-1826, and has a possible leat along its northern boundary (TL 073 326 BHER MBD1488). In complete contrast, a small scatter of rectangular cropmarks north-west of Clophill represent 16th century cottages shown on a map of 1575 (TL 079 388, BHER MBD9147).

The warren in Simpsonhill Plantation first mentioned in 1549 also appears on a map of 1666, a map of 1757 includes the Warren and Warren Hill, and the same is shown on a map of 1826 (TL 079 371 BHER MBD7653).

Most settlements had mills, typically watermills, often on sites that had been in use since the medieval period. These included Sangerel Mill in Ion, Gravenhurst, which has been mentioned above and which may have survived into this period (TL 10 33, BHER MBD9783). A mill survived, into the 19th century at Hollington Basin, Flitton, which has been identified with a barley mill granted to Dunstable Priory around 1240 and mentioned in 1596 and 1649 deeds (TL 063 364 BHER MBD1850). There was also a mill in Beadlow that survived into the 19th century, which was probably originally associated with the priory there (TL 107 384 BHER MBD9130). Another in Shillington survived into the 1960s, though not as a mill, and may have been a later rebuilding of an earlier mill; a 'broken' mill was recorded In Domesday Book and medieval documents refer to Whatwell Mill, owned by the Abbey of Ramsey (TL 119 355, NRHE 1537121, BHER MBD1120). A few survive as standing buildings such as Mill Farmhouse, Water End Lane, Maulden from about 1700 (TL 0733 3736 NRHE 1537084, BHER MBD2615), the early 19th century Mill House, High Street, Clophill, (TL 0857 3787, BHER MBD1510), and the late 18th century Clophill Mill (TL 0859 3792, NRHE 1536978, BHER MBD2610). There may also have been a watermill to the east of Upper Gravenhurst where two possible rectangular mounds, possibly building platforms, are set in a low lying area defined by a bank to the west which is parallel with the stream (TL 119 362 BHER MBD15586). It has also been suggested that a substantial double ditch and triple bank associated with the stream which forms the parish boundary between Gravenhurst and Shillington may have been constructed to ensure a head of water for Shillington Mill downstream to the

north-east (TL 1169 3511, SMR Number MBD3036), though this sounds rather uncertain. There were also a few windmills on high ground such as to the west of Silsoe where there was a reference to Windmill Furlong in 1540 and a windmill was mentioned in documents from 1596 and 1658. A tower mill was built here in 1881, which was thought to have replaced an earlier post mill (TL 0698 3567, BHER MBD3154). A windmill shown on 1st edition Ordnance Survey maps of the 1880s as Clophill Mill was demolished before 1903 (TL 0814 3763 BHER MBD2963). In addition to the mills an 18th century granary survives at 19 High Street, Clophill (TL 0840 3783 BHER MBD3417), and what was probably once a bake house at 5 Church Road, Pulloxhill (TL 0617 3392, BHER MBD16275). There is also a former slaughterhouse to the rear of 10-12 High Street, Silsoe (TL 0825 3553 BHER MBD15501) reflecting a similar self-reliance.

Most settlements also had smithies, some of which survive (though have been converted) such as 136 Clophill Road, Maulden (TL 074 375 BHER MBD3769), and 20 High Street, Pulloxhill (TL 062 340 BHER MBD4991), both built about 1700. Others have been demolished however, including several in Clophill; two around TL 0825 3781 appear on the 1st edition OS maps of the 1880s (BHER MBD9148) and there was another at TL 0883 3809 (BHER MBD9524).

Almost all villages had public houses that would have brewed their own beer and serviced both travellers and locals. Many survive as pubs. In Silsoe The George Hotel may have very late 17th century elements, but is probably 18th century and largely rebuilt during the early 19th century (TL 0815 3585 BHER MBD3809), and The Star and Garter is an 18th century timber framed structure, reworked in the 19th (TL 0823 3555 BHER MBD3798). In Clophill The Green Man has a brick refronting of about 1800 to an earlier 18th century building, possibly timber framed (TL 0824 3772 BHER MBD3705) and The Flying Horse has an 18th century timber framed block to the rear, with an early 19th century front block (TL 081 376 BHER MBD3701). In Upper Gravenhurst The Green Dragon was known to be in existence by 1807 (TL 1142 3609 BHER MBD4978). The Chequers in Pulloxhill is later 18th (TL 0614 3386 BHER MBD3813) and The Cross Keys is a 17th century timber framed structure (TL 0630 3408 BHER MBD3819). Others survive as houses: 29 High Street, Flitton, dated 1868 was formerly the 'Old White Horse' public house, the name being painted on the front (TL 0601 3584, BHER MBD3614); and there was a public house on Clophill High Street, known as the Red Cow until the 1820s and then The Compasses. It was also used as the rate collection office and magistrates' court, and during the 19th century there was a bakery on the premises (TL 0886 3815 BHER MBD3717).

As well as the courthouse in the pub, there is a surviving early to mid-19th century village lock-up and pound on The Green, Clophill (TL 0824 3766 BHER MBD3703), used for holding minor criminals and stray animals respectively. A village lock up also survives on Church Road, Silsoe (TL 0815 3559 BHER MBD1684), as does another on Clophill Road in Maulden (TL 076 375 BHER MBD16421). There was also a pound in Upper Gravenhurst that was demolished in the 1960s (TL 1118 3585, BHER MBD443). Other civic buildings include 19th century schools in Lower Gravenhurst (TL 1114 3584, NRHE 362455 BHER MBD7161) and Clophill (TL 0893 3813 BHER MBD7452) where there was also a reading room for the improvement of adult minds (TL 0905 3821 BHER

MBD9152). Also in Clophill, a 'Pest House' (an infectious disease hospital) was shown on an 18th century map a kilometre to the east of the main village, isolated in fields to the south of the river (TL 092 377, BHER MBD9153).

Two of the churches in the area are post medieval. St James the Great Church, Silsoe, was built 1829-31, largely financed by Henry de Grey, on the site of medieval chapel of ease belonging to Flitton (TL 082 355, BHER MBD1121). St Mary's Church, Clophill, was built in 1847-49, paid for by public subscription, and replaced the medieval church on the hill above the village (TL 090 382, NRHE 1523530 BHER MBD3721). In 1868, a Wesleyan Chapel was erected in Upper Gravenhurst, which succeeded a smaller chapel (TL 114 360, BHER MBD10505). St James' Churchyard, Pulloxhill, is also of post medieval date and was extended in about 1904 (TL 061 337, BHER MBD8953), as were many churchyards at about this time.

A Quaker burial ground in Flitton was mentioned as a burial place in deeds of 1675, 1657 and 1674 (TL 061 360 SMR Number MBD7661). The VCH records that 'In Flitton there is a piece of ground in the tenure of Mr Elmore, which is called the Quakers' Burying Ground Corner; in digging, several human skeletons have been found, and a coffin handle; but it must have been disused for more than 150 years [that is, before 1758]' (Page 1908 326).

Given the presence of suitable clay there were several brick and tile-works servicing the area. There was a brick kiln at Kiln Farm north of Clophill, which was not on a map of 1716 but appears on maps of the late 18th century and 1826. It may have been in existence by the 1740s and continued operating until at least 1850. Deep, thick brick footings, which are probably the remains of a scotch kiln, have been uncovered at Kiln Farm (TL 083 386 BHER MBD7130). There was another, possibly earlier tile kiln and a possible brick kiln, to north of Kiln Farm. The exact location is unknown though and there may have been more than one site at different times. It was probably in existence by 1619 (TL 085 388 BHER MBD9651). In Lower Gravenhurst a brick and tile works with associated clay pits, is shown on the Ordnance Survey 25 inch map of 1881, when the clay pit immediately to the east of the works was in use. Another clay pit to the north is marked as 'Old Clay Pit' suggesting that it had gone out of use by this date. Kelly's Directories list the brickworks in operation from 1864, producing yellow gault bricks and drain tiles. The works were up for sale in 1919 and seem to have gone out of operation shortly afterwards. The Gravenhurst Women's Institute Scrapbook records that the clay pit was flooded in the 1920s; this refers to the pit east of the factory, which is still water-filled. The northern pit survives as an earthwork but the site of the factory is now under housing (TL 109 348 BHER MBD2916).

Several areas have been identified as ancient woodland in the study area. In general, this is a term used by Natural England for areas that have been continuously wooded since at least 1600 but many are probably medieval or earlier. They include: Buckle Grove (TL 085 343 BHER MBD13237), Thrift Wood (TL 070 352 BHER MBD13233), and Simpsonhill Plantation (TL 079 371 BHER MBD13234), Silsoe; Warren Wood (TL 085 371 BHER MBD18324), and Cainhoe Park Wood (TL 108 374 BHER MBD13181), Clophill; Cainhoe Farm Wood (TL 102 364 BHER MBD13179), and Pateman's Wood (TL

102 360 BHER MBD13178), Gravenhurst. Clearly, not all areas of such woodland survive. North of Hanscombe End, Shillington is the site of the former Hanscombe Wood (TL 117 346 BHER MBD16713). The site shows a very pronounced oval landscape feature, all the boundaries of which survive except the south-west corner which can be seen as a cropmark. The feature is located on the north end of a ridge of high ground between north flowing streams.

There is an unusual record of a goldmine discovered at Pulloxhill in 1680. It was immediately seized as a royal mine but proved to be only 'Gold Quarty', flakes of mica in drifted stones in a bed of gravel, and was soon abandoned (TL 064 341 BHER MBD10809).

Two waterworks have been recorded in the study area, both 20th century in date. Clophill Waterworks were built in 1906, as confirmed by a date stone located over the main entrance and closed in 1984 (TL 0960 3828 NRHE 1463196 BHER MBD13890) and Pulloxhill Waterworks was built over a period from 1945 to 1970 (TL 080 335, BHER MBD16307).

RAF Chicksands was an important wireless station used during the Second World War to intercept German messages that were passed on to Bletchley Park for decoding and action. It later became a US base, and continued intercepting messages during the Cold War (TL 116 394, BHER MBD9275). Also from the Second World War an angle iron type anti-tank obstacle survived on Clophill High Street until the 1990s (TL 0825 3773, NRHE 1422820 BHER MBD17848).

Twenty-nine find spots have been recorded by the PAS and incorporated into the BHER. Several of these finds are only loosely dated and could well be medieval. The clusters from TL 11 34 and TL 11 35 noted above persist but again it is likely these are the result of collection patterns; there is nothing to suggest that the finds are from anything other than manuring or casual losses. Apart from this there are few records of post medieval finds, probably because of their ubiquity. The only significant entry is for an Elizabeth I 6d piece of 1574 and a Charles II penny found where a footpath crosses a field in Hanscombe End, Shillington (TL 116 339, BHER MBD9424).

Wrest Park

English Heritage NRHE and Bedfordshire HER entries

Most of the records held within the NRHE and the BHER relating to Wrest Park itself and the existing buildings and other garden features, add little to the descriptions and discussions elsewhere in this report. The references for the main relevant entries are simply given here as signposts and their content is discussed where relevant elsewhere in the report. There are over 100 entries relating to Wrest Park in the BHER, the majority of which (57) are records for each individually listed minor building, monument, statue or plinth in the grounds. Within the NRHE there are 46 records related to Wrest Park and once again the majority (31) relate to these garden features.

The key records are those for Wrest Park House (TL 0911 3558, NRHE 360019 BHER MBD3775), and the associated Walled Garden to the west (TL 088 354, NRHE 1380935 BHER MBD13291) and the stables and sheds to the east (TL 092 356, NRHE 1380936 BHER MBD13292 and TL 093 356, BHER MBD16098). An interesting minor record is that of a gasometer to the south of the eastern service buildings shown on the 1st edition OS map of 1882 (TL 092 355 BHER MBD6814).

Within the gardens, the key records are those for Long Canal (TL 092 350, BHER MBD15284) and the two cross lakes, Ladies Lake (TL 091 350, BHER MBD15283) and Leg O'Mutton Lake (and amphitheatre) (TL 090 350, BHER MBD15184) that provide the garden's framework, and the key garden buildings: The Orangery (TL 089 353, NRHE 1380946 BHER MBD3831); Bowling Green House (TL 089 351, NRHE 1380928 BHER MBD3781); and The Banqueting House or Archer Pavilion (TL 091 347, NRHE 1380957 BHER MBD3783). Archaeologically the most significant entry in the gardens is that for the site of Old Wrest Park House (TL 091 353, NRHE 1382211 BHER MBD15322).

The key record for the wider landscape is that for Wrest Park (TL 095 357, NRHE 1117125 BHER MBD8755). There were a number of entrance lodges associated with the park; starting to the north of Wrest Park House and running around clockwise these were Brabury Lodges (TL 095 365, NRHE 1164255 BHER MBD13257 and NRHE 1380964 BHER MBD3774), Gravenhurst Lodge (TL 103 358, BHER MBD688), Ion Lodge (TL 104 344, BHER MBD690), and Silsoe Lodges (TL 085 356, NRHE 1380933 BHER MBD13299 and NRHE 1380930 BHER MBD3799). There are also gates to the north beyond Brabury Lodges (TL 098 372, BHER MBD3724) and there was a possible entrance lodge beyond Gravenhurst Lodge to the east (TL 107 359, BHER MBD663) marking the maximum extent of the park in this direction. There are several other significant buildings within the park such as Cain Hill Lodge (TL 0936 3551 BHER MBD13307), Whitehall (TL 095 348, BHER MBD689) and Wrest Park Lodge (TL 083 355, BHER MBD15719). There were also several farms that belonged to the estate, most of which lie beyond the park. These include Home Farm to the north (TL 091 363, BHER MBD3787), which has 'a rather sophisticated' icehouse 200m to the north-west (TL 087 365, NRHE 1539389 BHER MBD7325), and Warren Farm beyond (TL 091 372, BHER MBD16314), Rectory Farm to the East (TL 112 352 BHER MBD16318), Fielden Farm to the south (TL 091 339 BHER MBD16316), and Mander College Farm, formerly 'West End Farm' to the west (TL 078 354 BHER MBD16327).

Prior to the aerial photograph and lidar mapping undertaken as part of this project a few cropmark sites had been identified within the park though not all were correctly interpreted (see below). Not far to the north-west of Wrest Park House, an area of rectilinear cropmarks, shown to be a very close match for features on an estate map of 1814, the 1826 Enclosure Map and Bryant's Map of 1826 have been recorded. They appear to be the kitchen gardens for the old house, which were probably removed when the new house was built in the 1830s (TL 087 357 BHER MBD3552). About 700m due south of these, linear cropmarks, including parallel lines and large rectangular enclosures, thought to represent the remains of field boundaries pre-dating the park, or features belonging to the park but now ploughed out (TL 087 350, BHER MBD582). Almost 1km to the north of Wrest Park House, a little south of Brabury Lodges (around TL 095

363), cropmarks of a post-medieval enclosure and a former area of woodland have been recorded. Linear cropmarks indicate the boundaries of the wood, and tracks or rides through it, and rectangular marks show the position of a smaller enclosure established after the wood was cut down between 1880 and 1900. Overlapping rings centred on TL 094 365 and a ring next to a large rectangle around TL 096 365 have also been identified near here (NRHE 360016 BHER MBD3520). To the south of these cropmarks, the site of possible moat, game hide or other feature has been identified on an aerial photograph (TL 096 359 BHER MBD4443).

Finally, a rifle range, targets and butts are marked on a map of 1880, to the east of Wrest Park House (TL 099 358 BHER MBD7786). The 7th Company (Biggleswade) of the Bedfordshire Rifle Association held their 1865 annual prize meet here. Research in 1976 noted slight earthwork remains of the butts.

Previous archaeological research

A number of archaeological watching briefs have been undertaken prior to previous repairs and dredging works. The following is an edited and expanded extract from the Wrest Park Conservation Management Plan (DIA 2009a, 92-3).

1988: archaeological investigations of the Leg O'Mutton Lake by Bedfordshire County Archaeology Service (now Albion Archaeology).

1989-1991: research led excavations and geophysical survey by Albion Archaeology, concentrating on establishing the materials, widths and locations of several of the path systems in the gardens and other features. This was a substantial piece of work and included trial trenching (by hand) and geophysical survey in association with garden restoration by Land Use Consultants. The report of the archaeological work emphasised the role of the trial trenching in elucidating the colour and type of path material. This led to a re-assessment of the appearance of the early gardens, the role of the field drains in controlling the hydrology of the gardens, and the layout of the old house, which in turn led to a reassessment of the geometric plan underlying the gardens.

1990-1991: geophysical surveys by Geophysical Services (Bradford).

1992: further work on the potential for magnetometer survey by the Ancient Monument Laboratory of the Historic Buildings and Monuments Commission (AML/HBMC) now English Heritage.

1995: further small-scale resistivity study by AML/HBMC, part of alterations to water features.

1997: excavation and recording carried out following a culvert collapse by Ampthill and District Archaeology and Local History Society (Fadden & Turner 1997).

1997: salvage recording undertaken after a cobbled surface and drain were found underneath a 20th century building that had been added to the end of the stable block and was being altered.

2002: investigation by Albion Archaeology of the area immediately around the Capability Brown Monument during its repair/restoration.

2003: brief (one day) reconnaissance of the earthworks of the gardens by Paul Pattison (Pattison 2004).

2004: geophysical survey of the site of the old house by Ampthill and District Archaeology and Local History Society (Fadden & Turner 2004).

2006: watching brief during replacement of water pipe to The Fountain by Albion Archaeology.

2006-7: a detailed topographic survey of the gardens and park was undertaken on behalf of English Heritage by Atkins Mapping Solutions between December 2006 and February 2007 (Atkins Mapping Solutions 2007).

2007: Albion Archaeology; report on the archaeology of Old Park Weir (Albion Archaeology 2007).

2008-9: Albion Archaeology prepared a Desk-Based Assessment prior to the investigation and monitoring of works on the drainage ditches in the woodland panels (Albion Archaeology 2008; Albion Archaeology 2009).

2009: David Andrews of IGS (English Heritage) commissioned topographic and buildings survey based on the current 'Metric Survey Specifications for English Heritage'.

2010: Ampthill and District Archaeology and Local History Society undertook further geophysical surveys at Wrest Park to test a new resistivity meter. This covered parts an area to the south-west of the Atlas statue, a strip within the eastern woodland panel and a pseudo section through the culvert previously examined in 1997 (Fadden & Turner 2010).

2010-11: archaeological investigation and monitoring prior to and during ground works undertaken as part of the restoration programme at Wrest Park (Albion Archaeology 2012).

DOCUMENTARY EVIDENCE FOR THE HISTORY OF THE SITE

Published research relating to Wrest Park has focused on the de Grey family rather than the estate, and on two main periods: the early history of the family, and the 18th century, when the Duke of Kent, and then Jemima, Marchioness Grey held Wrest Park. Much of this research has been published through the journal of the Bedfordshire Historical Record Society. The 37-volume diary of Amabel, Lady Polwarth, is available digitally from the History to Herstory website (<http://historytoherstory.hud.ac.uk/>) and has been surveyed by Way (2012b). Wrest Park has also featured heavily in writings on garden history, with several articles published in the journals *Garden History* and the *Journal of Garden History*, focusing particularly on the development of the Great Garden by Henry, Duke of Kent. There have also been several articles on the house and garden in *Country Life*, and on the gardens in journals such as the *Gardener's Chronicle*. To date, the process of building the current house is only covered by one journal article (Cirket 1980).

English Heritage has recently commissioned several pieces of research. The 2005 review of the 1993 Masterplan, the Conservation Management Plan, and the detailed appendix relating to the landscape, provide a good summary of current knowledge about the gardens and park. These consolidated and updated previous reports on the site, and included a substantial amount of new documentary research and fieldwork. The landscape gazetteer was primarily a scoping document highlighting sources that could be used to address particular research questions, although Way did draw some tentative conclusions from a brief appraisal of the source material. Subsequently, the 2005 Conservation Management Plan was revised and expanded, and reissued in two volumes (DIA et al 2009a; Way 2009). This is the version that has been used here. Statuary in the gardens is well covered by Davis (2007) and a further short chronological survey of the sculpture and garden ornament was commissioned as part of the revision of the Conservation Management Plan, much of which summarised Davis' report (Eustace 2008). More recently Way has produced a report on the 'American [or Evergreen] Garden' (2012a). She has also researched and catalogued references to the gardens in the correspondence of Jemima, Marchioness Grey, the diaries of her daughter, Amabel, Lady Polwarth, and the gardeners and stewards letters (Way 2012b).

Andrew Hann is currently writing an article on the First World War hospital for an English Heritage book and is researching the impact of J G Murray on the house and garden for a planned article in the English Heritage Historical Review. The Wrest Park volunteers have also done a substantial amount of archival research on the hospital, Murray, the Sun Insurance Company, and Silsoe Institute period and have an on-going programme of oral history interviews with former Sun Insurance and Silsoe Institute employees.

Gaps in the literature centre on the economy of the estate, and its integration into the local economy, and on the social history of the estate, both in terms of the working lives of employees, and the social life of the de Grey family. In both these areas there is a substantial literature relating to other estates which could be drawn upon for comparative evidence. More research into the period after 1917 would also aid our understanding of the break-up of the estate.

Overall there is a need to contextualise the site both spatially and temporally. It is important to know more about how developments at Wrest Park fit into underlying trends in garden and landscape design, and changing architectural styles. Similarly it would be of great benefit to be able to trace how the fortunes of Wrest Park tied in with changing socio-economic conditions at a regional and national level, as well as the fortunes of the de Grey family themselves.

To the 16th century: the rise of the de Greys

Although the derivation of the place-name Wrest Park is uncertain it is probably Old English or Old Norse and as such originated in the Middle Anglo-Saxon period or earlier. At this time Wrest Park was probably a component part of a large Anglo-Saxon 'multiple estate' most probably that centred on Flitton to the west, though there were such estates to the east and south as well (Appendix 1).

All of those places mentioned in Domesday Book (see Appendix 2) probably originated in the later Anglo-Saxon period. Around Wrest Park these included Silsoe, Ampthill, Cainhoe, Campton, Chicksands, Clophill, Flitton, Flitwick, Gravenhurst, Higham Gobion, Maulden, Meppershall, Pulloxhill, and Shillington. These places were not settlements in the modern sense. Each entry was a manor, a territorial unit of lordship, and each named place was a vill or township, civil administrative units of Anglo-Saxon origin that can be broadly equated with parishes. Each manor would have had a manorial centre or manor (demesne) farm, typically near the church, but there was not necessarily a village in each vill. Some would have had one or occasionally more. Many would have had none, just a dispersed pattern of farms and hamlets.

At the time of Domesday Book the status of Wrest Park was unclear. It was not mentioned by name, not appearing in any documentary sources until a century later, though it must have existed in some form, since the name is earlier. It seems most likely that it was a small part of the vill of Silsoe but it must have been of subsidiary status. In fact, there is no evidence at all that Wrest Park had any significance before the 13th century, or perhaps the late 12th century; the first mention of it was a personal name in the 1185 Pipe Rolls which implies some significance, at least locally.

John de Grey of Shirland, Derbyshire (about 1205-1266), is the first member of the de Grey family that can be firmly linked to Bedfordshire. He inherited Shirland in Derbyshire, but acquired most of his wealth through royal service and his marriage to Emma de Cauz before 1232 (Vincent 2006). He held many estates in Derbyshire, Essex, Buckinghamshire and Bedfordshire, plus smaller holdings in Kent and Huntingdonshire as well as Wilton Castle, Herefordshire. The VCH states that he gained Wrest Park by marriage (Page 1908, 326) and the DNB suggests that this must have been through Emma who was heir to her mother's lands in Bedfordshire (Vincent 2006).

It may be significant that this was about the time that Barony of Cainhoe began to decline. The male line of the d'Aubigny family ended with the death of Robert in 1233, and the barony was partitioned, though the manor itself descended intact to his eldest sister Isabel (Page 1908, 321). In 1272 the inheritance was divided between

three daughters and the manor became increasingly fragmented over the next century eventually being reunited by John Dakeney in 1373. When John died in 1376 his son was under age and the custody of the lands and heir were apparently granted to the 2nd Baron Grey (below), who held a court there in 1381. The estate passed out of de Grey hands in 1384 but was alienated to them 1415-28 and they eventually sold it during Henry VII's reign (Page 108, 321-2). Cainhoe itself was probably abandoned soon after 1374, when it was described as ruinous, in favour of Cainhoe Manor Farm. By this date though it is likely that the castle had been abandoned in favour of the moated site for some time. By the 16th century there appear to have been no surviving buildings on the original site (BHER MBD225).

In contrast, successive generations of Greys expanded their landownership and increased their status. Reynold (or Reginald) Grey succeeded his father in 1266, married the heiress Maud, daughter of Henry de Longchamp of Wilton, Herefordshire, becoming 1st Lord Grey of Wilton in 1290, and died in 1308. He served as Sheriff of Nottinghamshire and Derbyshire and was granted lands and the castle at Ruthin for leading royal forces during the Welsh revolt of 1282 (Jack 2008). He also leased a major property in London from the Dean and Chapter of St Pauls, which would later become known as Gray's Inn.

His son, John de Grey, 2nd Lord Grey of Wilton (died 1323) inherited in 1308. He endowed the chantry chapel at Silsoe in 1311, and constructed a chapel at Wrest Park itself in 1320. In his will, John split his estates between his two sons Henry and Roger. He appears to have favoured his younger son Roger, later 1st Baron Grey of Ruthin, who, via a complex series of concords between 1307 and 1319, eventually acquired around 75% of the estate's landed value, including the Bedfordshire lands at Wrest Park, half the Buckinghamshire manors, a share of the Huntingdon lands and the castle at Ruthin. Roger was commissioner of the peace, and commissioner of array in Bedfordshire but did not significantly expand his landed wealth. He used his father's manor house at Wrest Park and the castle at Ruthin as his main seats and was buried at St Peter's Church, Ruthin. The elder son, Henry, gained the castle at Wilton and mansion at Portpole, and his descendants became the Barons Wilton.

Reynold de Grey, 2nd Baron Grey of Ruthin, succeeded his father in 1353, and purchased land to expand his Bedfordshire estates. His son, yet another Reynold de Grey, inherited in 1388 becoming the 3rd Baron Grey of Ruthin, and served in parliament and local government in Bedfordshire for over 50 years. As well as his inheritance, he acquired lands in East Anglia, Kent, Leicestershire, and Lincolnshire amongst other places, much of which he later had to sell when he was captured by Owain Glyn Dwr in 1402 who demanded a ransom of 10,000 marks enough of which was paid to satisfy him, fortunately without impoverishing de Grey (Jack 2008). He maintained long running feuds with his near neighbours at Ampthill, Eleanor St Amand, whose chase he occupied from 1404 to 1416 (ibid), and after her death in 1426 with the estate's new owner Sir John Cornwall, Lord Fanhope (Payling 1989, 889). His favourite residences were Wrest Park, Badmondfield in Suffolk, Ruthin Castle and a new town house in East Cheap, London (Jack 2008).

Edmund Grey, 4th Lord Grey of Ruthin and later 1st Earl of Kent, succeeded his grandfather in 1440. He extended the family's Bedfordshire estates by purchase, most

notably Fanhope's new castle at Ampthill and all of his other Bedfordshire properties though this was hardly straightforward. It was only possible after the death of his grandfather's adversary, Fanhope, in 1443 and followed the sale of the property in 1444 to Ralph, Lord Cromwell, and its illegitimate seizure by Henry, Duke of Exeter in 1452. During this period Grey supported Cromwell against Exeter and in 1454, when Cromwell finally regained control of Ampthill, he promptly agreed to sell it to Grey, together with the other Bedfordshire estates, probably in return for his support. The agreed price was 6500 marks to be paid in half-yearly instalments, a sale that was not completed until 1473 (Payling 1989, 884, 889). His primary residences remained Wrest Park, Badmondifield, Ruthin Castle and the house in East Cheap. Ampthill was gaining in significance though: 'the few surviving instruments issued by Edmund in the 1440s were from either Badmondifield or Wrest Park, but entries on the Ruthin court rolls and rentals show how Ampthill usurped these favourite residences in the Yorkist period' (Jack 1965, 46). He died in 1490 (Horrox 2004).

His son George Grey, 2nd Earl of Kent, was given the manors of Harlington, Bucks and Grendon, Beds by Richard III, but also found favour with Henry VII, fighting for him at home and in France. He was an effective property owner, raising the value of his estates to £1300 pa by 1498. His favourite residences remained Ampthill Castle (where he died in 1503), Wrest Park, Badmondifield and Ruthin Castle (Gunn 2011).

The Valor of Ruthin

The family holdings were detailed at what was close to their peak in the 1467-8 'valor' of Edmund, recently (1465) created 1st Earl of Kent (BLARS L26/4, published with an introduction and analysis by Jack 1965). This was towards the end of an unusually long period of stability 'Between 1325 and 1490 there were only four heads of the house and no minorities' (Bernard 1982, 671), thus no hiatus in the governance of the family fortunes. This period actually began in the later 13th century with the award of the Lordship of Ruthin to Reynold de Grey, 1st Lord Grey of Wilton, in 1282. It continued for over 200 years: 'The only real misfortune before the advent of the 3rd Earl, Richard, in 1503, was the famous capture of Lord Reynold, 2nd Lord Grey, by Owen Glendower in 1402' (Jack 1965, 3-4).

The origin of Edmund's holdings lay in the lands held by John, 2nd Lord Grey of Wilton and settled on his favoured younger son Roger, the 1st Lord Grey of Ruthin (Jack 1965, 1-2). Apart from Ruthin, there were 13 estates scattered across Bedfordshire, Buckinghamshire and Huntingdonshire with Wrest Park roughly central relative to them (Jack 1965, 2, 6, 59). Another major inheritance followed the death without heir of the 3rd Earl of Pembroke in 1389, a relative of Elizabeth Hastings, wife of Roger, the 1st Lord Grey of Ruthin, following 'involved and heated proceedings, legal and illegal' (Jack 1965, 4-5). This included further estates in Bedfordshire and Huntingdonshire, as well as Essex, Leicestershire, Northamptonshire, Norfolk and Suffolk (Jack 1965, 6).

Most of the estates around Wrest Park were acquired by purchase (Jack 1965, 6). They included: Ampthill (acquired in 1454; below); Braybury (by 1446-7; Jack 1965, 38); Clophill cum Cainhoe (1415-28; Page 1908, 321); Lower Gravenhurst (by 1428; *ibid*, 336) and Norwood (1360; *ibid*, 327). These were the only estates bought in Bedfordshire, with

only another two purchased elsewhere in the country (Jack 1965, 6), demonstrating that it was family policy to establish Wrest Park as the core of their holdings. The other estate in this block, Campton cum Shefford, probably came to the family by Royal grant sometime between 1404 and 1428 but this is not certain (Jack 1965, 5, n25).

Wrest Park had been the administrative centre of the family estates but this was changing with Ampthill taking an increasing role. The audit of the account of the Valor was held at Ampthill rather than Wrest Park (Jack 1965, 46), and Ampthill was apparently being developed as a lordly seat, by the addition of a park for example (Jack 1965, 107).

As set out in the Valor, Wrest Park was an extensive holding that included in addition Flitton, income from 'Rockingham ward', perhaps rents from burgesses, various other income including the manor of Braybury, worth in total £20 2s, and a dairy that was detailed separately and worth £8 10s (Jack 1965, 98-100).

Wrest Park was clearly the head of this estate. It had the manor court that yielded 9s, and, since 6s 4d was recorded in the court rolls as owed for trespass in Braybury Wood, it also covered Braybury. The estate had some arable land as the cost of threshing was mentioned and there was a receipt of 15s from the sale of grain. Despite this relatively modest income the arable area was probably extensive; most grain would have been consumed by the estate rather than sold. No mill was mentioned but Edmund also held Clophill, which had one on the River Flitt (Page 1908, 322). Two meadows were mentioned, *Holendenmead* rented from Woburn Abbey for 2s a year and John Milleward was paid 3s for 'making' *Langemead*. Given his name it seems possible that *Langemead* may have been near a mill that John managed. Haymaking was also itemised as an expense. The sale of underwood was worth 11s 9d, which suggests a large area of woodland. Listed under the expenses was 14s a year paid to John Bottlere for the 'ferme of the parkeine' probably a fee for managing the park. Places named, all in the decays of rent, included 'a cottage in the south end', half an acre of land 'at the heath', an acre 'at the foxholes', an acre 'at *Fovelleslo* (Faldo?) and an acre at *Berellesburgh*.

Braybury was a manor in its own right, as the £6 11d received for it was described as 'foreign receipts', the usual form of words for income from outside the main manor. This must have been net income from the manor since it appears under 'rent assize'; no doubt there would have been records detailing the gross income, expenditure and decays of rent but since this was a 'foreign' manor and presumably separately managed, these details weren't relevant. Braybury lay to the north-east of Wrest Park House, the name survives in the two Braybury Lodges at TL 095 365.

The dairy at Wrest Park was a large enterprise, treated as a separate manor with an annual value of £8 10s, more than that from the whole of Braybury and about 40% of the value of the rest of the estate. Its value implies an extensive area of pasture but it was also able to raise 71s 3d from the sale of grain so must have had large arable areas.

The house

It is not certain when the first manor house was built but it was described in Reginald, 2nd Lord Grey's *Inquisition Post Mortem* (IPM) of 1308 as a:

Capital messuage with a dovecote worth 4s per annum, 100 acres of arable land at 4d per acre (£1 13s 4d), 6 acres of meadow at 1s 6d per acre (9s), 3 acres of pasture at 1s per acre; a wood with no underwood therefore no profit (£1 9s 8d) in Silsoe (Collett-White 1991a, 322).

A 'capital messuage' was a block of land containing a manor house and outbuildings (Bailey 244, 242); this is therefore the first explicit reference to such a complex. The house can probably be equated with the fee in Flitton and Silsoe held 20 years earlier by Reginald, 1st Lord Grey, from John de Wahull in 1284-6 (Collett-White 1991, 322) and was probably older. Reginald was enobled in 1290 (above) and a suitable dwelling would have been necessary before this to demonstrate his suitability, both to marry a wealthy heiress and for the lordship, though it is not certain to what extent he favoured Wrest Park. As discussed above, it is uncertain what the status of Wrest Park was before this, but no evidence is known for any independent status prior to the 13th century.

As a lordly residence (from 1290 at least), and later the residence of barons and earls, the manor house must have been typical of the higher status houses of the period. In the medieval and Tudor periods, lordship was largely peripatetic; the day to day running of the estate was left in the hands of a steward with the lord's household itself only visiting a few times a year so that the lord could conduct business and settle disputes. In the second half of the 13th century, one of the most common domestic plans was the hall house where a domestic block was attached to one end of a hall. The upper room of this block, the solar, was the key private living space, the hall the public area where the lord's business was carried out. Service buildings such as the kitchen could be separate or attached to the opposite end of the hall creating the 'standard' tripartite domestic plan. From what is known of the old house plan (see for example Figure 101) it seems clear that there was a hall with a domestic block across the eastern end. It is unclear if the service block was attached to the western end at this date, though from the plan this certainly looks possible, or if this was located elsewhere. John, 2nd Lord Grey of Wilton, added a chapel to the house in 1320, which survived until the demolition of the rest of the house (see Figure 123).

In a lease of 1512 the house was recorded as 'the mansion house with the moat' (below). Most moats were first constructed between 1250 and 1350 (Darvill 2008, 285) though the practice appears to have begun around 1150 (Muir 2004, 174) and perhaps continued throughout the 14th century (Adkins et al 2008, 257). This accords well with the probable origin of the manor house by the later 13th century suggested above, and implies that it might have been moated from the outset. A moated manor house at Wrest Park could well have been in existence for over two centuries by the time of the 1512 lease. Initially the moat would probably have contained all the buildings of the manor house complex though as the house developed service buildings were probably constructed outside to leave more space within, possibly in additional enclosures that could have also been moated.

Upbury, 2km to the south-west, could provide a close comparator for the appearance of Wrest Park prior to the developments of the 17th century, which appear to have erased much of the earlier designed elements near the house. This site appears to have originated in the late 12th century and developed through the 13th and 14th centuries.

It featured a homestead moat with a larger outer moat to one side with other ditched enclosures containing orchards and a dovecote, all features known to be at Wrest Park by the 16th or 17th centuries (below) but which probably originated earlier. It would be interesting to compare the development of the sites and the history of the relationships between the owners but limited documentary evidence might make this difficult.

The gardens and park

If little can be said about the house, then less is known of the grounds. Typically a lordly residence would have been associated with a range of other landscape features both indicative of, and maintaining the lord's status. The moated manor house itself and associated functional buildings such as stables, kennels or mills were clearly a part of this display. Other elements typically included small enclosed gardens, orchards and vineyards, dovecotes, parks, warrens and fishponds, all of which had both a productive and a social role and may be seen in terms of designed landscape elements.

A dovecote is mentioned in the 1308 *IPM* (above) but its location is unknown. The first mention of a park was in 1315 and this was probably to the south-west of the house in the area still known as 'Old Park' where an approximately oval area of about 37 hectares (91 acres) can be identified. Enclosure of a warren was underway by mid-14th century (DIA et al 2009a, 65) and it is likely that this was within the park or adjacent to the lord's residence (Williamson 2007, 14).

Although no fishpond is mentioned prior to the 1512 lease (below), it is highly likely ponds were present from early in the estate's history. It is perhaps surprising that there was no watermill identified on the estate but with extensive holdings in the area there were probably better sites elsewhere, such as on the River Flit, or even by this date a windmill on higher ground; a 'Windmill Furlong' was mentioned in Silsoe in 1540 (above).

Changing fortunes: 1503 to 1651

The de Grey's fortunes changed with the accession of Richard, the 3rd Earl, in 1503. He squandered the family fortune through gambling and high living and sold off or mortgaged most of the family's estates. Sir Henry Wyatt bought Wrest Park and several of the other Bedfordshire estates in 1512 'at entirely unrealistic prices' for ready cash. Henry VII seized many of these as they had been sold without reference to the him, perhaps to prevent Richard further squandering the family fortune (Bernard 1982, 671-8).

Without Richard, it seems highly likely that the family would have continued to develop Ampthill. The castle there might have survived and Wrest Park would have simply become another estate, possibly with an abandoned moat as seen today at several other sites in the vicinity. Instead, the de Greys regained Wrest Park and appear to have remained there during much of the ensuing period of relative poverty (below).

Richard's successors (see Figure 9) slowly recovered the family fortunes. Henry, his half-brother, bought back some of the Bedfordshire manors including Wrest Park, Silsoe, Pulloxhill, Flitton, Gravenhurst, Braybury and Cainhoe from Sir Henry Wyatt in 1513 for

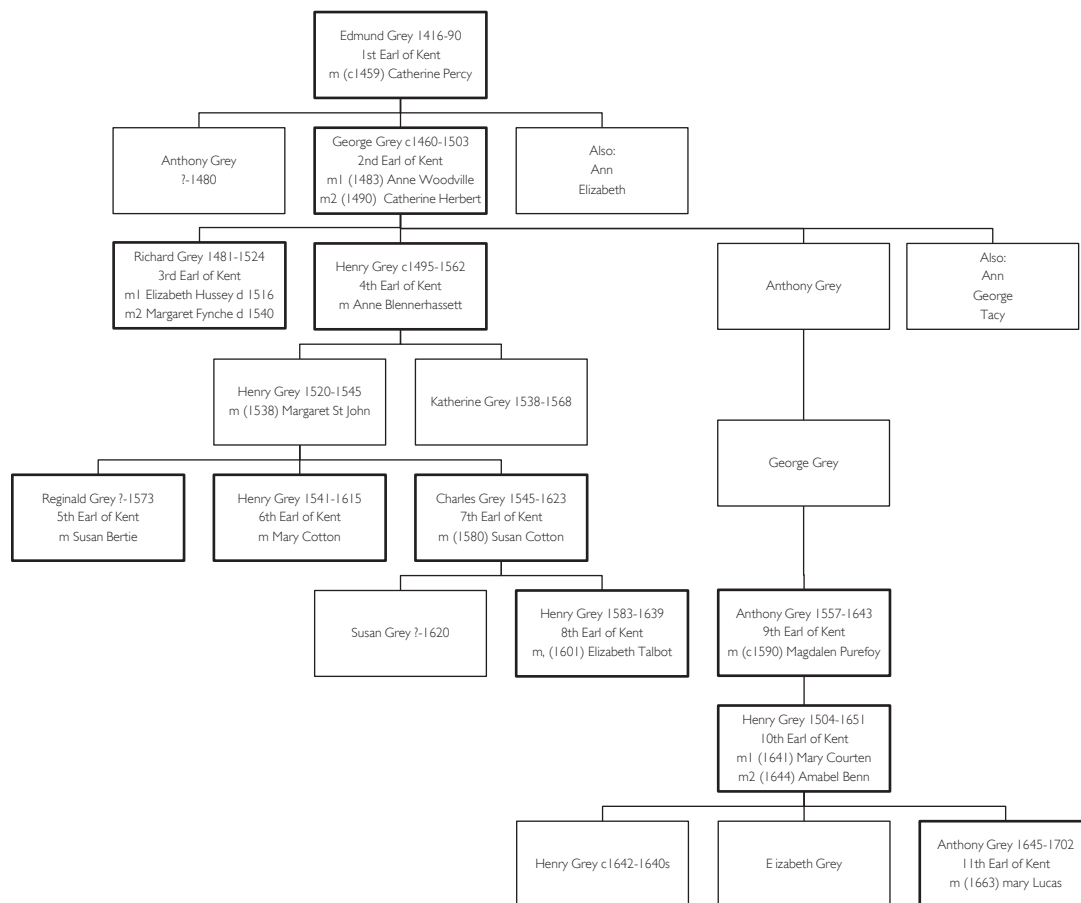


Figure 9 The family tree of the Earls of Kent

450 marks, He had been concerned that Wyatt intended to pull down the manor house at Wrest Park and sell the timber, tile and other building materials (Bernard 1982, 680). Unfortunately he was unable to take up the title of Earl due to his limited landed income, though there may have been more to it than this (Bernard 1982, 684-5). This has led to some confusion in the sources with some counting Henry as the 4th Earl and others not. He will be counted below to give a clear sense of the succession. Henry 'lived on as a minor midlands gentleman' until the 1560s serving in several county commissions (Bernard 1982, 685).

Henry's grandson Reynold (or Reginald) Grey succeeded his grandfather in 1562, and was able to reassume the family titles in 1572 becoming the 5th Earl of Kent. William Camden (1573) noted that Elizabeth I had 'restored him his title and part of his property' but he remained only a moderately wealthy landowner despite having 'greatly recovered his estate' through great frugality (Hasted 1797, 166). By this time though, the Earls of Kent had been eclipsed in Bedfordshire by the rise of the Russells, Earls of Bedford, at Woburn, as the de Greys eclipsed the d'Aubigny family 300 years earlier.

Henry Grey, 6th Earl of Kent, succeeded his childless brother in 1573. He was lord lieutenant of Bedfordshire, and founded the chapel adjoining Flitton church where he was buried in 1615 (Hasted 1797, 167). Henry was also childless and was thus succeeded by his brother Charles, the 7th Earl. He was also lord lieutenant of Bedfordshire at

first alone, and from 1621 jointly with his son, Henry, also buried in the Flitton chapel (Hasted 1797). Henry, the 8th Earl, married Elizabeth and the couple had a reputation as generous hosts, Elizabeth even published a celebrated cookbook (Panich 2001). In 1639, the poet Thomas Carew wrote what was probably his last poem at Wrest Park (below).

Henry and Elizabeth remained childless and on his death in 1639 Henry was succeeded by his nearest male relative, a great-grandson of the 2nd Earl, Anthony Grey, then rector of Aston Flamville, Leicestershire. The 9th Earl of Kent spent little time in Bedfordshire due to his existing Leicestershire connections, and was buried in Burbage. His son, another Henry, the 10th Earl of Kent, was a parliamentarian nobleman, elected to one of the Leicestershire seats in the House of Commons in 1640. On the death of his father in 1643, he acceded to the title and took up his seat in the Lords, and was speaker in 1645 and again from 1647 until its abolition (Kelsey 2008). His second marriage to Amabella Benn, widow of Anthony Fame, third son of the 1st Earl of Westmorland, 'brought a great fortune and restored the lustre of this decayed family' (Hasted, 1797, 159) but although his will mentioned property in Essex and Kent, his estate was not great (Kelsey 2008).

The 1639 Thomas Carew poem

In 1639 Thomas Carew was at Wrest Park, with Henry de Grey, 6th Earl of Kent, and his wife, Elizabeth:

It was from this rural retreat that Carew wrote what was probably his last poem, 'To my friend G N from Wrest Park' ... an epistle to a fellow courtier serving in Charles I's abortive Scottish campaign during the spring of 1639; Carew contrasts the hardships his friend suffers on the bleak northern border with the plenty, peace, and leisure he enjoys with the de Greys. ... In Carew's poem, Wrest Park ... is not so much an expansive emblem of an ideal social order as a terrestrial paradise protected ... from the political chaos that loomed (The Poetry Foundation).

The poem is the first reference to a designed garden at Wrest Park but it is far from clear. It begins by describing the house where he contrasts the lack of pretention in the buildings with the quality of the hospitality found within. He then goes on to the grounds and makes the same point, contrasting the lack of statuary, referencing the nurturing goddess Amalthea, Ceres the goddess of agriculture and Bacchus the god of wine, with the generosity within the house, presumably manifested in the fashions of the gods mentioned. He then continues:

Yet we decline not all the worke of Art;
But where more bounteous Nature bears a part,
And guides her handmaid, if she but dispence
Fit matter, she with care and diligence
Employes her skill for where the neighbour sourse
Powers forth her waters, she directs her course
And entertaines the flowing streames in deepe
And spacious channels, where they slowly creep

In snaky windings, as the shelving ground
Leads them in circles, till they twice surround
This island Mansion, which, i' th' centre plac'd.
Is with a double Crystal heaven embrac'd
In which our watery constellations floate.
[edited from Internet Archive]

This section has been taken to indicate a planned landscape with the manor house enclosed by a double moat. It is rather ambiguous though, and rather depends on who 'she' is in the 3rd and following lines, 'Nature' or 'Art'. The section opens by stating that 'Art', meaning here artifice, is not completely avoided and grammatically, it is perhaps more likely that it is 'Art', who directs the flowing streams in deep and spacious channels, that the channels were built. The 'snaky windings' sound rather more like natural channels though, and the 'shelving ground leads them in circles' suggests they were being directed by the natural topography. The fashion of the period was certainly for imposing order on nature and creating straight rather than winding watercourses (see numerous examples in Strong 1998).

With regard to the supposed double moat, the last four lines seem unambiguous but, the poem goes on:

Our fishes, swans, our waterman and boat,
Envy'd by those above, which wish to slake
Their starre-burnt limbs in our refreshing lake;
But they stick fast, nayled to the barren spheare.
Whilst our encrease in fertile waters here
Disport, and wander freely where they please
Within the circuit of our narrow seas.
With various trees we fringe the water's brinke.
Whose thirsty roots the soaking moysture drinke.
And whose extended boughes in equal rankes
Yield fruit, and shade, and beauty to the banks.

The 5th to 7th lines above refer to being able to disport and wander freely within the area enclosed by water, which would appear to indicate an area rather larger and more open than that likely to be contained within the domestic moat, which would have been full of buildings. Perhaps rather than concentric double moats, there was a single moat around the buildings and a separate garden moat, as at Newbury (above), or an outer area of gardens enclosed by ditches, as at Upbury, or streams. The phrase 'we fringe' in the 8th line suggests tree planting along these watercourses and so some element of design. Note also the references to a waterman, boat and lake in lines one and three above. This gives the impression that the fishponds mentioned in 1512 may have been modified to form a lake which was large enough to accommodate a boat and merit the employment of a waterman, perhaps a pre-cursor to Long Canal.

The house

During the period of relative poverty following the 3rd Earl's profligacy, the de Greys kept Wrest Park as one of their primary residences (above), extending the house in a

rather piecemeal fashion with each generation adding rooms or remodelling those that were already there. The sequence of building and the plan of the house is unclear.

The only surviving part of the old house is a substantial clunch fireplace that has been re-erected within the Orangery. A drawing of this was used as the frontispiece of de Grey's 'Views of Wrest Park, 1831' and entitled 'Chimney-piece in the *old* Banqueting room. Supposed about AD 1570', (Figure 119, italics denote later insertions or corrections). The centrepiece of the overmantel is an ornate coat of arms, apparently that of Edmund Grey, 1st Earl of Kent (quarterly: 1st and 4th: *Barry of six argent and azure in chief three torteaux* (the de Grey arms); 2nd and 3rd: *Or, a maunch gules* (Hastings) quartering *Barry of argent and azure an orle of martlets gules* (Valence)) (see Fox-Davis 1909, fig 122). Below is the motto *foy est tout*, 'faith is all', certainly a family motto by the 17th century; it can be seen in the de Grey mausoleum in Flitton. Stylistically the given date would appear to be correct; a very similar example at Deene Park, Northants has been dated to 1571, and still retains polychrome decoration which suggests that this example might also have been painted (Heward & Taylor 1996, 32). This would be about the time that Reginald de Grey regained the family titles and became the 5th Earl of Kent so it seems reasonable to assume that the fireplace was erected in celebration of this, sometime in 1571-3. It is unusual that he used the arms of the first Earl rather than his own though. Perhaps he was seeking to honour his ancestor and emphasis that his newly regained title was one with some pedigree.

Reginald de Grey's 1573 IPM, listed numerous rooms and outbuildings, the names of several of which make it clear that the household was resident at the house for much of the time, such as Lady Grey's, Edmund Hooke's, Master Peregrine's and Mistress Pigot's chambers. Also listed were the 'Bolberis', dining, inner, corner and clay chambers and several closets and wardrobes. The chapel had a separate chapel chamber, with Master Jenys chamber and a parlour adjacent. The outbuildings included: a store house with chambers adjacent and Master Elme's chamber over; the gate with a chamber over and another 'coming upon' it; the porter's lodge; the kitchen and a buttery with chamber over; a chamber 'next the mew'; and the clock chamber (Collett-White 1991a, 323). The house had clearly become quite complex by this point and several of the buildings mentioned may well have been located outside the moated area. Apparently, there was 'no major development' of the house after the 1573 inventory until the 1660s (Collett-White 1991a, 324).

The gardens

Some sense of the house's situation can be gained from the 1512 lease mentioned above:

Lease for 10 years by Sir Henry Wiatt, Knt. to Thomas Hill of Syvelesho [Silsoe], yeoman of the manor of Wrest Park, except the mansion house with the moat, the moat water, fishponds and free passage and the orchard without the moat which the said Sir Henry holds from Earl of Kent; rent 12. Dated 10 Aug 4 Hen. VIII (BLARS LJeayes899)

The moat must have been served by inlet and outlet leats no evidence for which survives. Topographically, the inlet would have run in from the north-west but this area

has been obscured by later activity associated with the old house's service yards. The outlet could have been to the south-east or south-west, or even perhaps both. The area to the south-east was also obscured by later activity, this time related to formal gardens though these certainly used water. One of the ponds shown in later prints was called Mill Pond which suggests a precursor and previous use; if there was an outlet leat here it could have served a mill, though no mill is mentioned in the 1467/8 Valor, the 1512 lease, or any other known documents apart from the Domesday Book entry for Silsoe. An outlet leat could have also run out from the south-west and the Laurence map of about 1720 appears to show an open drain running away to the west from this area.

The fishponds probably formed the basis of Long Canal (Way 2009, 153). These would also have been a common feature of a medieval manorial complex, so they could have been of some age by this time.

The 'orchard without the moat' suggests expansion beyond the moated core and may well have been as much a garden in the modern sense, for leisure, as for the production of fruit (Landsberg nd, 16). Once again Upbury provides a clear parallel.

The later 17th century

Following the death of Henry in 1651 his son Anthony Grey, the 11th Earl, inherited. He was only six at the time and his mother Amabel, the Dowager Countess, brought him up. Even after Anthony reached his majority Amabel was a dominant force in the development of the estate for most of the rest of the century. Anthony married Mary Lucas in 1663 who became Baroness of Crudwell in her own right and in July 1671 inherited a considerable estate on the death of her father. This wealth, and the birth of an heir later that year, probably prompted much of the redevelopments at this time (Collet-White 1991a, 325). Amabel died in 1698 followed by both Anthony and Mary in 1702.

The house

According to Collett-White, there was 'no major development' of the house after 1573 until the 1660s (1991a, 324). On-going repairs were necessary though; the 1658 agreement that outlined the works for the first walled garden (below) also specified work to 'strip off and renew the old tile and lath on the E side of Wrest Park House, and new ridge it, and work the gutters' (BLARS L28/12).

In 1672 the chapel chamber was significantly remodelled, Lord Lucas' apartments of 12 rooms were pulled down and rebuilt, the 'red chamber' was boarded, the staircase was raised to the height of the drawing room and 'my Lady Hart's chamber' had new windows added (Collet-White 1991a, 325).

In 1676, the house was significantly aggrandised with a classical north wing. An undated agreement that gives an outline of the proposed works survives:

Building 212' long, 20' wide, 30' high; covered with lead, and a rail and balusters round it, a turret or cupola in the middle; first floor oak,

next floor deal, garret deal and elm; all to be glazed with new glass, except the kitchen court of old glass; all to be finished by 31 July 1676: 2,500, and all the old materials belonging to the old house; old rails and balusters of bridge; little oven to be made in the Hill House, and stairs out of the old building to the new. (BLARS L31/230)

This was the grand wing shown on the early 18th century prints. It consisted of a substantial classical central block surmounted by a cupola, with an archway through to the older buildings behind. To either side were symmetrical wings of two storeys plus an attic floor with gabled dormer windows. These terminated in salient blocks with niched single storey walls continuing the façade to east and west. The print shows low railings to either side of the central block and possibly light wells, which in turn suggest cellars. The whole façade is shown to have a low terrace running across it with steps down to the north at the centre and at either end. Since the grand front of the house dates to the 1670s it seems likely that the northern court does too. The Kip and Knyff view of the house, of about 1704 (Figure 16), shows a sundial in the centre of the court purchased in 1682 or 1690-94 (Eustace 2008, 1).

It seems likely that 'all to be glazed with new glass' referred to the whole house and was intended to give the rather motley structure a more unified appearance. The kitchen court that was to be excepted from this was probably the area west of the house but east of the canal pond, no doubt a service area little visited by the great and good and so a sensible money saving measure.

To the east, a north/south wing ran between the north front and the chapel. It was shown on an anonymous early 19th century plan (Figure 101) where it was called 'Queen Anne's Wing' which suggests it was built 1702-14. It also appears on the 1735/7 Rocque maps, probably on the 1719 Laurence map and its roofline seems to be visible on the Kip and Knyff view, apparently narrowing the date to 1702-4. However, the name could have been applied sometime after its construction and there are no references to it in the account books which suggests that it was actually earlier. Records of the erection of a statue to Queen Anne in 1709-12 (Eustace 2008, 2) support a late naming. In this case it is possible that this wing contained Lord Lucas' apartments rebuilt in 1672 (above).

The area to the west of the house and court is shown on the Kip and Knyff prints with several buildings arranged around yards, with other buildings and a walled garden slightly further to the west again, with an open area between. These were probably the other service buildings for the house such as stables. There are no records of the construction of most of these buildings, yards or the walled garden in the early 18th century so it seems reasonable to assume that many were constructed at various times prior to this.

The 1701-6 account book (below, BLARS L31/289) also recorded the demolition of some features that must have been from this period including 'the woodyard wall', 'the stable', and 'the wall and house in Chapel garden'. It also mentioned 'mending old pales, tooky yard', and though it is not known what the 'tooky yard' was it must also have been present.

The gardens

From 1654 onwards, records of land exchanges have been taken to suggest the inception of a designed landscape around the house. It is clear though that some elements of design in the immediate vicinity of the house already existed (above).

An agreement of March 1658 described works to be undertaken in the 'new' garden (BLARS L28/12) which appears to have already been laid out by this date. In it Christopher Bishop was to 'build a brick wall, 7 ft high, 18 or 19 p. long, ... for £28 5s, with a pair of well-wrought stairs of red stone and of 12 steps, at each end'. He was 'to finish in 7 weeks or forfeit 40s'. This was probably to the south of the house on the same site as the garden set out in the 1680s since those records refer to extensive levelling work.

Accounts for the purchase of fruit trees and so on indicate considerable planting in gardens (DIA et al 2009a, 47) but it is not known where or what form these took. The walled garden would seem a likely location for fruit trees but others could have been anywhere in the grounds.

Way (2009, 152) has suggested, largely from a lack of references in the 1685-1701 account book (BLARS L31/288), that Long Canal was created before 1685, perhaps 1676-1684, and as such owes its influence to the French style, as seen in Charles II's Long Canal at Hampton Court of about 1670 and many other places. This is not certain and Cabe Halpern has suggested dates in the later 17th and very early 18th centuries (1995, 2002), though there seems to be little direct evidence to support these.

From 1686, Amabel and Anthony began work on a new formal garden to the south of the house with fountains, two wildernesses, and two terrace walks, one of which was probably the precursor to Broadwalk, the other ran along the east side of the garden. Expenditure on this work is recorded in an account book running until 1701 (BLARS 31/288). Unlike the later accounts (below) this was specifically for work on the gardens, the household accounts were being kept separately. The total cost of the work was over £3,000, mainly for labour, though this included work elsewhere; trees were removed from the warren (presumably that discussed below) and a pond filled for example. Over 70 trees were bought from Warden and Wilstead for £86, and a payment was made for 'a way through Haynes grounds to cart them home'. Four cart-horses were bought for £40, with four new carts but these were used for much of the construction. Digging and carting stones for the foundation for the wall required 2,261 loads and cost £164. The bricklayers' labour cost was £150 with over 500,000 bricks used costing £460 and lime more than £100. There was also much brewing of beer for the workers. Mr Grumbold was paid £69 for stone piers with wyverns on them and £20 for the two stone basins in the garden. This was Robert Grumbold of the famous masons who mainly practiced in Northamptonshire and Cambridgeshire (Colvin 2008 455). Mr Biggs the smith charged about £580 for iron gates and 'palasados', including those on the garden terrace and in the great garden. An iron roller cost £10.

The decorated piers can be seen at the south end of the garden in the Kip and Knyff view of the house, which implies that the central walk was a part of the garden design

at this date. The presence of the wildernesses and the construction of the two fountains also suggest that the layout of the panels either side of the central walk was a part of this late 17th century design. It therefore seems that the layout of the walled garden shown in the Kip and Knyff views is mainly from this period. Between the larger northern panels and the 'wildernesses' was an east-west path. There were gates in the walls to both east and west and the paths continued out into adjacent areas. In fact this alignment was marked by avenues that extended from the western margin of the park, through the gardens and out to the east, around the back of Cain Hill and then returned to the west picking up the alignment of the avenue to the immediate north of the Great Court.

Also present were the Chapel Garden and the Orange Garden which were first mentioned in the 1690s (Cabe Halpern 2002, 134). The Chapel Garden lay to the immediate east of the house where it was overlooked by the chapel itself and the Orange Garden probably lay to the north, east of the Great Court.

The warren, hunting stand and bowling green

In April 1656, Amabel signed a lease with 'Ric[hard] Ravensden of Clophill, warrener' for: 'Cainhoe warren and new close now impaled into the said warren and made part thereof near Wrest Park House together with the game [rabbits]'(BLARS L4/299). Note that there is some confusion about this warren in the archives; it has been treated by BLARS as being the same as Clophill Warren but these leases (L4/296-8, 301) make it clear that this was near Castle Hill (Cainhoe Castle), hardly 'near Wrest Park House'.

The lease referred to the repair of a building called the Stand for the 'benefit and pleasure of the countess and friends' for the 'better hunting, watching and catching' of the rabbits. An anonymous and undated sketch of the 'Stand in Wrest Parke' survives (Figure 10). This shows a small polygonal tower with a lantern/cupola with a leaded ogee roof and ball finial, surrounded by a balcony. This is almost certainly the hunting stand mentioned in the lease. The lease also mentioned the impaling (fencing) of 'so much of the said warren as hath been heretofore used ... as a bowling green and to use ... for a bowling green for the pleasure of the said countess'. Although the warren was clearly part of a leisure complex it was also an economic asset; the rabbits were to be supplied to Wrest Park House.

A re-examination of Angelis' view of the gardens from the south noted a small tower sketched in on the ridge to the east of Cain Hill House, which would appear to be the hunting stand (Andrew Hann, pers comm, Figure 11). This



Figure 10 The hunting stand (The Bodleian Libraries, University of Oxford, Gough Maps 1, folio 17r, top)

prompted a re-examination of the Laurence map of 1719 (Figure 90), which shows an octagonal building in this location, confirming both the site of the complex and the survival of the stand until the 1720s at least. It is notable that the stand is shown on the Laurence map at the east end of the avenue from Silsoe. This ran at a slightly oblique angle to the main north/south axis of the house and gardens, an alignment that persists to this day, but which apparently pre-dated the expansion of the park in this direction. It is also shown in the Tillemans view of the Archer Pavilion from the south-west, which has been dated to about 1729. It is highly unlikely that this warren was the same as that recorded as being enclosed by the mid-14th century as it was on land not thought to have been a part of the manorial complex at this date.



Figure 11 Detail from Angelis' view of the gardens from the south (© English Heritage Archive, e85034116).



Figure 12 Detail from Tillemans' view of the Archer Pavilion from the south-west (© English Heritage Archive, e850328a).

The rest of the park

Land exchanges and leases recorded from 1651 onwards suggest the consolidation of the estate around Wrest Park and in the 1670s more land to the north and west of the house was acquired, as well as parts of the Cainhoe estate (DIA et al 2009a, 22), presumably to the north-east, allowing expansion of the park in these directions. This probably took it roughly to the extent shown in the Kip and Knyff view (Figure 87).

It is interesting to note that the building details given for the new 1670s north wing mentions a 'little oven to be made in the Hill House', presumably for warming food, but Hill House was not built until 1709-11 (below). It is unlikely that this was an alternative name for the Stand as this name seems to have persisted into the 1720s; the sketch above appears to have formed part of a group of very similar sketches of buildings constructed in the 18th century demonstrating the survival of the name. The later Hill House seems to have had a precursor. This might explain the references to 'levelling the

hill' in the 1701-6 account book (BLARS L31/289 page 204 and following) as Cain Hill is shown as completely featureless in the Kip and Knyff view.

The Duke of Kent; 1702 to 1740

Following his father's death in August 1702 Henry Grey became the 12th Earl of Kent and, following the death of his mother in November 1702, 2nd Baron Lucas of Crudwell. In 1704 he was appointed Lord Chamberlain, an office he held for six years until he 'traded it in' for the title of Duke of Kent in 1710 (Figure 13). From then he held a series of minor court offices, but he was never highly regarded; Lord Hervey described him as 'a yes and no hireling to the Court for forty years'. He also suffered from 'the pejorative nickname Bug, denoting a proclivity to body odour'. Some have seen the 'odious' and 'disagreeable' duke as epitomising 'the indolent and self-seeking courtier'. Others though have suggested that his 'lack of talent and ambition ... served successive ministries well as they sought ... to deflect party tensions' and it might be fairer to see him as 'the right

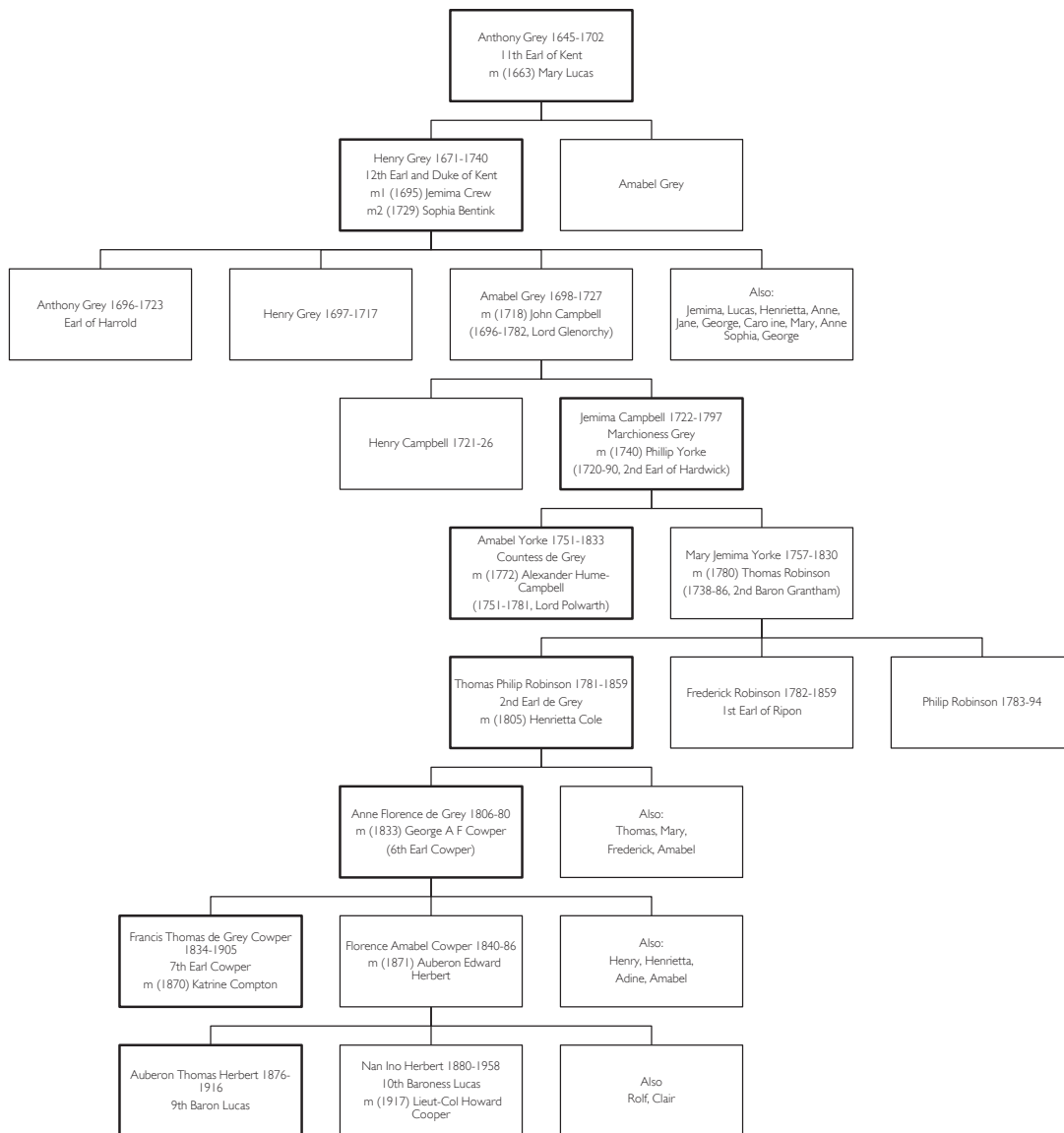


Figure 13 The descent of Wrest from 1645

man - albeit with the wrong smell - in the right place for his time'. He died in 1740 and his dukedom became extinct (Carter 2006).

Despite his reputation, or perhaps because of it, the Duke engaged in an almost continuous programme of improvements to the gardens, park and wider estate at Wrest Park (Cabe-Halpern 1995, 151). He had absorbed from the courts of William and Mary, his father, and his Grand Tour, the desire for a fashionable garden and improved landscape. His letters back from his Grand Tour (held by BLARS), particularly from the Netherlands, mention the tree lined canals and show a strong interest in garden design even in his youth. In addition, a prudent marriage to a wealthy heiress, and the early death of his mother left him financially secure, setting the scene for major work. Contacts at court and his own and his son's Grand Tours encouraged the Duke to consult a wide range of designers including Thomas Archer, Thomas Ackres, Giacomo Leoni, Filippo Juvarra, Lord Burlington, and William Kent. Charles Bridgeman and Nicholas Hawksmoor were also involved and AJ Dezallier d'Argenville and John Rae were influences through their books (DIA et al 2009a, 47-8).

Records include accounts, letters, views and maps that combine to give a reasonably clear picture of the development of the extensive formal gardens. It is possible however, that the quality of these records has led to an over emphasis on this period and the works under Henry should be seen as part of a continuum. His father and grandmother had certainly been developing the gardens for almost half a century by the time he began his works, and his granddaughter Jemima was to continue developing the house and grounds.

The Conservation Management Plan, and subsequent management documents, divided this duke's tenure into three phases; from 1702 to 1720, from 1720 to 1730 and from 1730 to 1740 (DIA et al 2009a, 47-9). The middle phase was thought to have seen a pause in the development of Wrest Park following financial losses when the South Sea Company collapsed in 1721, the death of the Duke's sons in 1717 and 1723, and a fire at his London house in 1725. In fact, whilst this apparently led to the abandonment of plans to rebuild the house, development in the gardens seems to have continued. This phasing is therefore rather artificial, at least when applied to the grounds.

The account books

From 1701 to 1730 payments were recorded in a series of household account books. These included regular payments such as weekly household and garden bills as well as special items such as particular works in the grounds rather than on-going maintenance. The first entry by Henry, dated December 1702, is on page 65 of the account book for 1701-06 (BLARS L31/289) and reads 'The house account which Mr Wm Nevile began to pay from Dec 12 1702 by my order. Kent'. William Nevile, the Duke's steward, kept much more detailed records than his predecessor, which paint a vivid, if broad-brush, picture of the extent of the works at this time.

Works in the chapel gardens to the east of the house appear throughout the book. They include: 'making a place to lay the pipes from the canal in the chapel garden to the millpond' (page 79, early 1703); 'laying pipes and levelling by millpond' (80, 82-3, 87, 92,

113, 115-6, 118, 122); 'felling bushes and trees by millpond' (88); 'taking up roots out of Chapel Garden' (122); 'work at the canal in Chapel Garden' (124, 132, 135); 'work at the little canal in Chapel Garden' (127); 'work in drains in Chapel Garden' (161, 171); 'making tunnel in Chapel Garden' (164); 'work in Chapel Garden' (172, 200, 301, 303, 305, 319, 322); 'work in the new ground by the millpond' (185, 188, 190, 193, 195); 'brick wall by millpond' (221); and 'work in new garden' (316).

The accounts mention 'the new orchard' several times: 'carrying dung to the new orchard' (138, 140); 'cutting the ditch to the new orchard pale' (164); 'making a ditch by the new orchard pale' (167); 'draining orchard pale' (179); and 'carrying earth from new ditch to new orchard' (258). This was probably between Mill Pond and the canal in Chapel Garden.

Works on 'the spring' began soon after he inherited but this may have been beyond the park; the first reference was to 'cleaning spring at Cainho' (90). Then 'draying to let out the spring' (125), 'draying in spring' (144, 145), 'labourers in the spring and carrying and digging gault clay to ram about the walls' (155), 'filling up spring' (156), 'work in spring' (162), and 'brick wall about spring' (221). Perhaps most intriguing is '2 millwrights laying the great pipe to the spring, ramming it down, and stopping the water, and his lodging 6d a night, 8 days' (172). This all sounds rather as though a spring-fed pond was being created and there is a pond near Cainhoe Manor Farm but it is uncertain if all these references were to the same spring; there were several around Wrest Park, but the uniform use of 'the spring' suggests a single project. Though it is clear that plenty of other similar works were underway in the gardens these are all named more specifically.

There are several references to the filling of the moat including 'carrying from the hill to the moat', presumably soil (153, 154, 163, 166, 168, 174, 177, 180, 183) and 'filling up moat' (156, 157). The rather terse entry 'earth to pond' (171) also suggests infilling, though where is uncertain. There are references to 'covering the great drain' later in the accounts (320, 326) but there is no obvious 'great drain' lost between the Kip and Knyff views and the Laurence map and the page numbers suggest a date late in 1704 or early 1705 so it would be expected to appear on the former. It maybe that both the pond and the great drain lay elsewhere.

There were regular mentions of works on walks from this early date, but it is not certain if these were in the gardens or park, though both seem likely. They include: 'levelling the beech walk' (79); 'work in Melancholy Walk' (117); 'levelling Lime-tree Walk' (121, 124, 128-9, 131, 134, 140, 142, 150); 'planting trees in the walks and bushing them' (142, 145); 'turning the arch over Limetree Walk' (172); 'levelling the walks towards Cainho' (239); 'levelling the bowling-green walks' (252); 'levelling in the walks' (256-7, 263, 265); planting Cross Walk (419); and planting High-pasture walk (422). There are hints of moving out into the parkland in this list, early entries seem to be part of the gardens, the 'walk towards Cainho' was probably in the park and the 'High-pasture walk' sounds as though it was on higher ground on the edge of the park somewhere.

Several areas of regularly planted trees were shown in the park one of which was probably the 'nursery' mentioned several times: 'taking up oaks and planting them in

nursery' (138, 140); perhaps 'fences for the young trees' (159); 'taking in the nursery in West Close' (251); and 'planting elm plants in new nursery' (263). A tree nursery would have been vital as purchasing trees was expensive (see above) and the planned work would have required hundreds so bringing this in-house makes financial sense. Tree planting on Cain (Cainho) Hill was mentioned often: 'cutting bushes and stakes for planting walks, Cainho hill' (156); 'planting walks in Cainho hill' (158, 160-1); 'digging up trees and bushes going to Cainho hill' (164); and 'planting Cainho hill' (419). There are numerous other mentions of planting trees, most without any indication of type or location (268, 270, 272, 275, 277, 279, 287, 289, 377, 382, 385, 388, 390, 392, 400), though oaks (136), hornbeam and whitethorn (411), firs (427) and alder (429) all appear.

Old Park was mentioned occasionally: 'draying in old park' (144, 145); possibly 'mending old pales' (178) and '6 drains in old park' (285). There are also mentions of 'stocking up ash trees in park' (150) and 'planting trees in park' (164), but these could have been anywhere. References to the park pale are common and appear to have included the maintenance of existing pale, removal of pale no longer required and construction of new pale: 'carpenter mending copse and park pales' (83); 'levelling by the park pale by Cainho' (121, 124, 128, 130, 132), 'levelling by park pale' (153); 'making a new ditch without the park pale, and setting quick' (155); 'levelling...cutting ditch and setting quick by Cainho pale' (167, 169); and 'cutting ditch by the park pale and quicking it and levelling' (172).

Other interesting references were to 'building brick-kiln' (125) and 'setting up the house at the brick kiln' (181) presumably preparatory to on-site production, signs of advanced planning as suggested by the tree nursery. Their site is unknown. Other works mentioned included; 'sowing stuff for the pheasant house' (178), 'setting up the pheasant house' (181); and 'mending old pales, tooky yard' (178). Also mentioned was 'planking the vault in the great court' (178), which supports the suggestion above that the house had cellars, but how one went about 'making vaults in the canal' (220) is far from obvious. Some references were rather brief but presumably recorded construction, such as 'summerhouse' (221, 229).

There was also some demolition including: 'pulling down the woodyard wall' (172); 'taking down the stable' (178); and 'pulling down the wall and house in Chapel garden and the foundations in the old stable' (181).

The account book for 1707-09 (BLARS L31/290) initially continued in much the same vein. Thos Bishop made the town gates (7, 13, 16, 20, 39), presumably those at the Silsoe entrance to the park. 'Little canals for my lady's ducks' were constructed (7, 10, 12, 16, 19, 23, 27), apparently by the new orchard (79). Sluices for the new canals were mentioned (29, 31) as well as bridges over them (33). There were various references to drains; in the new orchard (118), in Lime Walk (149), 'the great drain' mentioned above, and brick drains across the walks (137, 139, 143). Troughs at the spring, horsepond, millpond and great canal were recorded (171) and 'the brook' was scoured (216, 220) but it is not known which brook this was. The 'new orchard' itself was mentioned several times (69, 79, 80) and there was extensive work here over winter 1706/7 (103-51, 207). There were also references to 'the wilderness by the millpond' (68, 72, 151) and other work in this area (75, 83, 154, 161, 164, 167). The summerhouse was mentioned (171) and

was wainscotted (174). 'The melonry for orange trees' and 'the waterhouse' were also mentioned (181-223) but it is not known where these were.

There was a record of 'the piers' being pulled down (13) though it is not known where these were, which was followed by a record of a foundation being laid for 'the stone piers in the great garden' (20). A foundation was laid for 'the pedestals' (156) and the plain entry of 'wall' (191) also suggests construction but it isn't clear where. A wall was pulled down in Chapel Garden (163).

General work on 'the walks' continued. Gravel was carried (61) and laid (7, 12, 23, 154, 156, 159), there was levelling (156) and palisades in the front walk were noted (46). 'Levelling from the hill' continued (9, 12, 15, 19, 31, 34, 37) and work in 'Highpasture walk' (154). Other entries mentioned 'rails planed for the terrace' (69), perhaps Broadwalk and payments for 'posts, rails, palisades' (69, 79). There were also some mentions of the warren (53, 55, 63), and the walks to it were planted with 'quick', usually hawthorn or similar planted to form a living hedge (140). Old Park was also mentioned (160). Work in 'the nursery' continued (38, 41, 45, 61) as did the planting of trees (99, 103, 111, 123, 130, 134, 137, 139), though a location, Cainho hill, is only given once (108). Trees were bushed (68, 72, 75), fenced (123, 134) and watered (183), perhaps using the watercarts mentioned (167).

Demolition of the brew house was recorded several times (76-81) as was 'setting up frames for the brewing vessels' (80). A new brew house was also mentioned (84-106), presumably its construction. This was probably in the kitchen court or service area west of the house.

Detailed recording ended with the entry 'Jn Allen took the house account' that appeared in August 1707. Although Allen's approach to the accounts was broadly the same he only recorded wages with brief notes of what the men were doing such as 'these with the teams', 'a-mowing', 'haymaking', and more vaguely 'several matters'. As a result, from this point on it is more difficult to get a sense of developments. Following this was a section entitled 'Money paid as followeth' and this is where items of interest usually appeared.

The next account book covered the years 1709-17 (BLARS L31/291). There was little mention of work on the waterways except 'cutting & filling up brook' (324) though since some entries mention other parts of the estate (such as Clophill River, 186) this could be anywhere. There were however mentions of fishermen from Bedford fishing the millpond (147), and the canal (179). There was no mention of work on the walks but this was probably subsumed within some of the rather generic entries. Tuffnaile of Elstow was paid £20 for 'grass seed for park' (24). A 'palisade round the new plantation' was mentioned (73) and 'plantation' appeared several times (273, 324, 326) as well as purchases of 100 beech trees and 100 'wild services' (247) and two loads of trees (324), probably all in the park. Also presumably in the park 'the tenants' men gave His Grace a day's work at pale cart' (164), although a little later 'the women pulled down pales' (284).

Construction work continued and probably stepped up a gear. A large payment to W Bishop the bricklayer was recorded (158) and several large sums were paid to the

brickmaker (73, 447). Brickmaking at the brick kiln features regularly (36, 59, 85, 142) and appears to have required large quantities of faggots (4,000 mentioned on 225; 8,000, 265; 5,000, 85). Digging clay for the next summer's brickmaking (253) was also mentioned. Stone was being brought in from Ketton (188; 314). Other large payments to workmen included the carpenters T Bishop and Turney (130, 447), the smith W Carter of Ampthill (101, 182) and 'smith's work' by W Crawley (217, 234). Buildings mentioned include Hill House (154), the 'house below the plantation' (154) which may have been the Pavilion, and the icehouse (91, 159). In April 1716 there was a note of £3 for 'mats for new bldg below the gardens' (465) followed by 'double deals for closets of new bldg below' (472) and 'mat for gt room of new bldg' and 'circular closets' (475). This sounds like work on the interior of the Archer Pavilion.

The 1717-25 account book (BLARS L31/292) recorded that there were usually 12 men, three boys and three women employed in the great garden and mentioned 'pulling down cottages at the town gates' (54) presumably to open up the approach.

In the final account book, for 1725-30 (BLARS L31/294), references remain rather vague. Work on the walks probably continued with mentions of 'teams at gravel cart' (76) and 'level cart to the white bridge' (94-5). The octagon, probably the Neptune Basin at the west end of Broadwalk, was filled in between August 1726 and June 1727: a team was 'at level cart with 6 carts to the octagon'; '6 carts to fill in the octagon & men to peck & fill'; 'a-filling up the octagon'; and 'carrying said from the sand-hill to fill up the octagon' (96-135). The accounts also noted that the tenants' cows were being pastured in the park in 1725 (5) and they were feeding their sheep on turnips and sending them to Woburn in 1726. There was also another reference to 'bushing trees' (212-3).

The house

No major changes are thought to have been made to the house during this period. Although the Duke commissioned two plans from the architect Giacomo Leoni in 1715, he abandoned the scheme following financial losses, the death of his sons and the fire at his London house. It is unlikely that the house was completely untouched and the Duke probably continued to make incremental improvements; Batty Langley designed and built a new dining room in 1735 (Colvin 2008, 631).

An inventory of the house drawn up at his death in 1740 gives a good idea of the ground plan at this time (Collett-White 1991b, 23). On the ground floor, in the south-west part of the house, lay the Great Parlour and Little Drawing Room. Behind these were the kitchens and west of the kitchens was the Great Hall, connected by a corridor leading into a screens passage. At the east end of the South Front was the Chapel. The Servant's Hall and Steward's Room connected the North and South Fronts. On the ground floor of the North Front were domestic offices.

On the first floor over the Great Parlour and Little Drawing Room were the Lady Duchess' Room, Lady Sophia's Closet and Mrs Perkins' Room. Over the screens-passage was a gallery overlooking the Great Hall. Over the passage between the Great Hall and the kitchen was Lord Ashburnham's Room. Between the North and South Fronts over

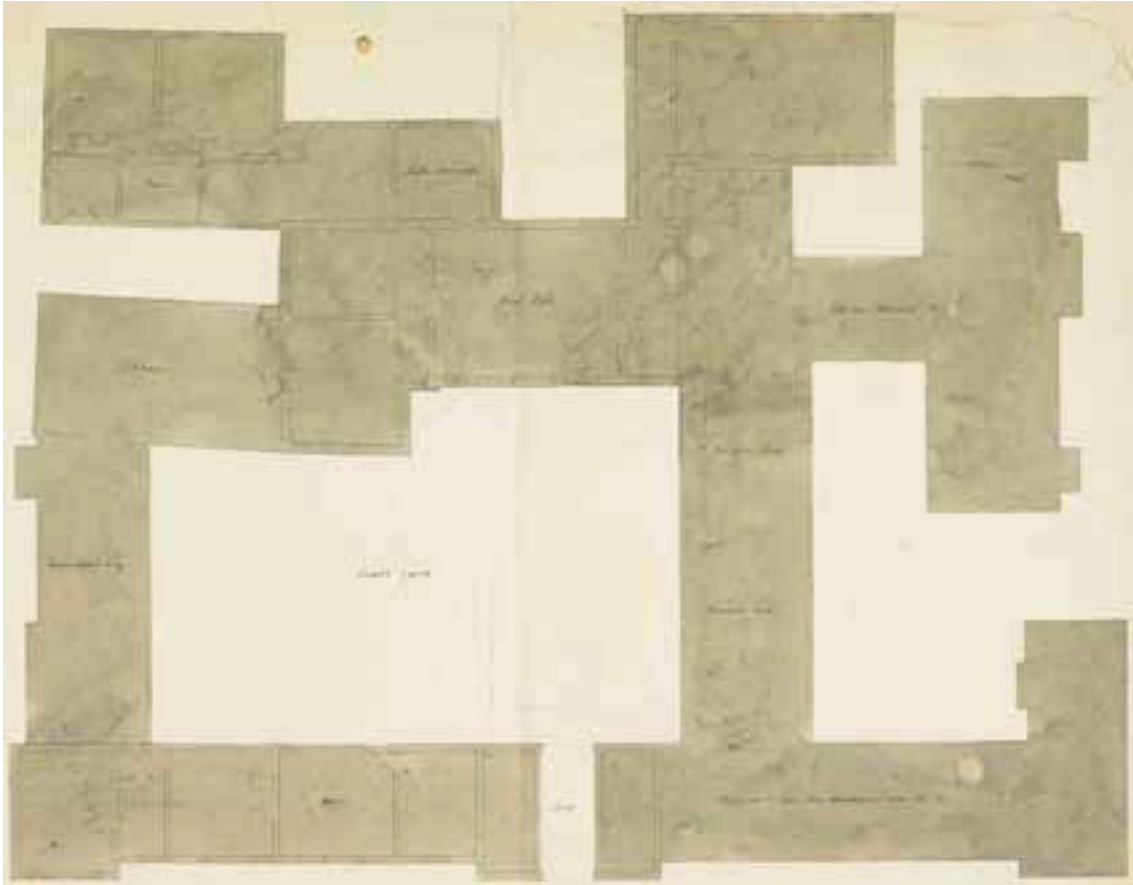


Figure 14 'The House at WREST as it is supposed to have appeared in The Duke of KENT's time', north at the bottom (BLARS L33/148, Patricia Payne © English Heritage DPI 10947)

the Servants' Hall and Steward's Room were the Duke's rooms. In the south-east of the house, the first floor was approached from the South Staircase, built on the south-east corner of the Great Hall. There seem to have been two passages called 'the Long Gallery', meeting at right angles near the South Staircase. Along the south-east corner of the house were the Great Dining Room, the Drawing Room, the Crimson Velvet Room, its dressing room (near the back stairs) and the Crimson, White and Velvet Room. The other part of the Long Gallery went the width of the Great Hall. Off it led the Spangle Room, Mr Bartlett's Room and the Little Spangle Room. In the north wing of the house on the first floor were the Green Room, the library, the billiards room, Lady Portland's Room, Closet to Lady Portland's Room, Mr Skinner's room and Mr Cornaby's Room. Over the first-floor rooms was a second floor of garret bedrooms.

Service areas

Whilst the formal gardens lay to the south and east of the house, the Kip and Knyff views clearly show that the service area was to the west. The western parts of the house included the kitchens and servants' hall and, based on the 1740 inventory (above), it was probably this area that was the kitchen court, which failed to receive new windows in the 1670s. Although lacking in evidence it seems unlikely that there was much development of this area prior to the Duke's accession and as far as can be seen from comparing the Kip and Knyff views with the Rocque maps, it remained much the same throughout. The

accounts do mention the demolition of the stables and the wood yard wall in 1703 and the demolition and rebuilding of the brew house in 1707 though.

At the time of the Kip and Knyff views the kitchen court was defined to the west by a short canal/pond, probably the last vestige of the medieval moat, and access to the area to the west was via a rather ornate bridge, possibly through a gatehouse, recorded on the 1735 Rocque map as the Porter's Lodge. Immediately across the canal was a substantial rectangular building of two storeys plus an attic floor with gabled dormer windows. This was identified as a laundry on the 1735 map, probably with a wash-house on the ground floor (where the washing itself was done) and laundry over (where the washed items were pressed and ironed), and adjacent open areas may have been used as a drying ground. In about 1704 there was also an irregular group of buildings and gardens to the north of this, immediately west of the Great Court, but the function of these is not known. It seems possible that the brew house and stables mentioned above were here (though in 1735 'Horse Pond Ground' lay to the east, in 1704 this was part of the park with no buildings shown). To the west was an open strip of land that would have allowed access from the front of the house to the grounds to the south, presumably for servants and supplies. At this time the main approach to the house was directly from the north so this would have been to the side and not immediately obvious to most visitors. West of this was a regular north/south row of buildings attached to a rectangular but slightly irregular walled garden. This was probably the main productive garden and the attached buildings presumably gardeners houses, sheds and stores. There were also a few more buildings to the immediate south and what appears to be an orchard.

Fifteen years later the Laurence map showed the service area to have been rather different. The canal/pond had been filled in and the bridge demolished, replaced with a north/south wall continuing the line of the western wall of the Great Court. As far as can be seen at the small scale of the map the surrounding buildings including the porter's lodge and laundry remained, though there was a small new building to the south of the laundry. The irregular group of buildings and yards to the north of this had gone. Instead, there was a rectangular service area defined by new walls to the west, roughly parallel with the western court wall and the new extension south, the north aligned on the north wall of the court and to the south immediately north of Broadwalk. The western boundary persisted for some time; a wall on a very similar alignment is shown on early 19th century maps. This had been divided internally into three. To the north was a square laid out as a garden that was identified as 'The ?Million Ground' on the 1735 map and which may have contained a pond. In the centre was a smaller featureless rectangular enclosure. To the south was a large enclosure containing the laundry, which had an entrance in the centre of its west wall and hints of access into the kitchen court to the east. There were buildings running along both the divisions between these areas that appear more clearly on the 1735 map.

The service area appears to have been accessed from the east-west avenue to the north via a track that ran along the outside of the west wall as far as the entrance. This was defined by a row of trees to the west that curved outwards creating a small open area outside the entrance, perhaps to allow room to manoeuvre wagons and so on. There was no longer any obvious route from here into the gardens to the south, access had been blocked off by the extension of Broadwalk to the west, which implies

that the recreational use of the gardens had come to dominate any productive aspect. The walled garden to the west had also been removed and the area taken into the park.

The 1735 Rocque map showed the service area to be largely unchanged from the 1719 Laurence map with all the main elements still in place; the buildings, the tripartite division and the approach from the north

along the outside of the western wall. The only significant change was the removal of the wall running south from the Porter's Lodge. The buildings were more clearly represented and it was much more obvious that there were sheds or some such along the two internal divisions. The 1737 map shows the layout here to be almost identical but the buildings along the southern internal division had been removed and a new building constructed to the north of the laundry. This may have been the brew house designed and built by Batty Langley in 1735 (Colvin 2008, 631).

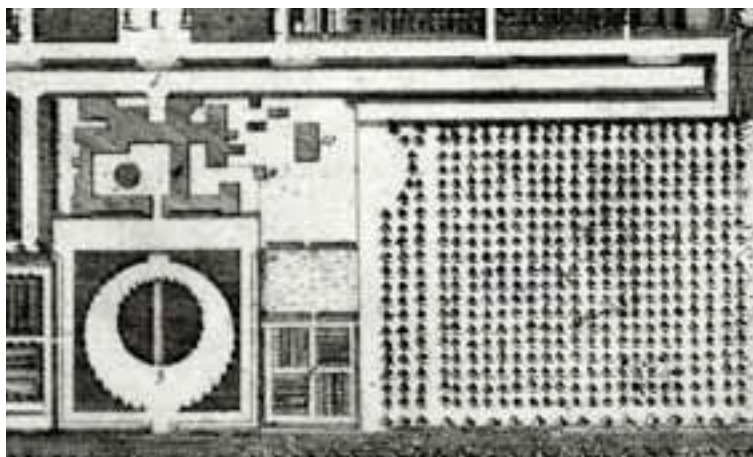


Figure 15 Detail of 1735 Rocque map showing the service areas west of the house (*The Bodleian Libraries, University of Oxford, Gough Maps I, folio 16b*)

The gardens

The formal gardens directly associated with the house are first shown in the Kip and Knyff view of about 1704 (Figure 86). This view was carefully composed, excluding the service area to the west for example, and probably defines that part of the grounds seen as the formal leisure gardens of the house at the time. These comprised the Great Court, the house itself, the walled garden and Long Canal, with further areas to the east of the court, house and walled garden that included the Chapel Garden, 'new orchard' and Millpond. The central block, the house and walled garden, were largely the creation of Amabel, Anthony and Mary during the latter part of the 17th century and there is little that was certainly the Duke's creation.

There are numerous references to filling the moat in the account books, all quite close together and probably in the latter part of 1703. By the time of the Kip and Knyff view of the house only a canal/pond to the west of the house remained and it is not clear where the in-filled section of moat lay. Since the Great Court formed a unified whole with the 1670s north wing it was probably laid out at the same time (above) and the northern arm filled by then. The terrace to the south of the house (Broadwalk) was probably laid out when the new walled garden was set out in the 1680s and would have necessitated the filling of this arm, and the chapel garden was established by 1690 suggesting that the moat had also already been filled on the eastern side. Perhaps what was being filled was a relatively minor part of the main moat or even the second garden moat suggested by the 1639 Carew poem (above).

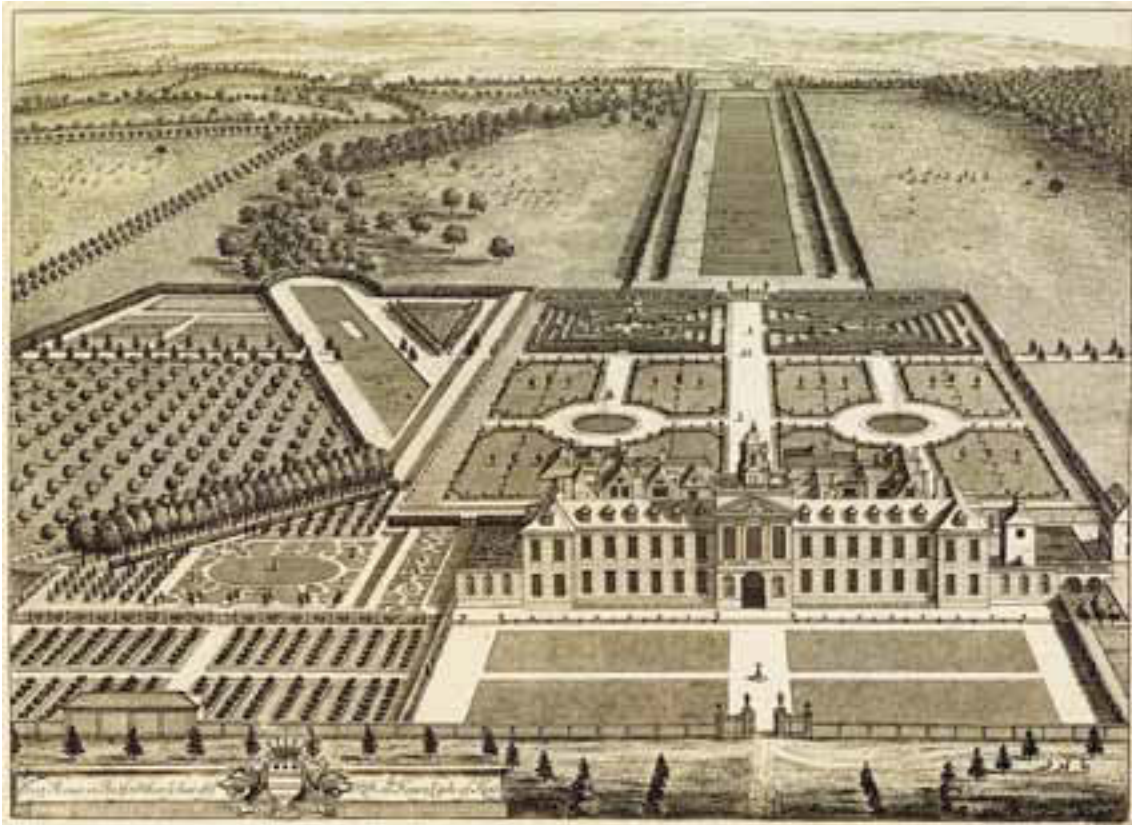


Figure 16 Kip and Knyff view of the house and gardens, 1703-4 (Patricia Payne © English Heritage DP029357)

Within the Great Court one of the Kip and Knyff views shows a square of outer paths and the other a circular drive, perhaps to allow coaches to turn more easily; a coach is shown doing this on the 1735 Rocque map. The circular arrangement must have been the later as it appears on both the Laurence map of 1719 and the Rocque maps of 1735/7. The square plan must have been replaced in about 1703/4, between the two Kip and Knyff views.

It is uncertain when Long Canal was first created. Cabe Halpern (2002, 136), referring to the 1701-6 account book (above), reported that it was cleaned, surrounded with two rows of hedges and a wall with iron gates was erected at the far end. This sounds rather more like development than creation though and Long Canal was probably a formal feature before this. There doesn't seem to be any unambiguous mention of it in the first garden account book of 1686-1701 and the assumption must be that it was first created before 1686 (above). The work described would have resulted in the arrangement shown in the Kip and Knyff view, which would have visually connected Long Canal with the formal gardens, in effect however it still lay within the park, though fenced off from it.

The Duke's first major works lay to the east of the house and there are numerous references in the account books to works in the 'Chapel Garden', the 'canal in the Chapel Garden', the 'Millpond' and the 'new orchard' which was between the two (above). The Chapel Garden already existed and the name and the topography suggest that the Millpond was a reworking of an existing feature but the other canal was later known as Mr Aker's Canal so was probably completely new. The building on the north wall of

the garden to the east of the Great Court was called the Green House in 1735 and it is possible that this was the 'melonery for orange trees' mentioned in the accounts for 1707.

Over the next fifteen years developments continued apace. The most significant changes were the introduction of two strong east-west axes to the layout, the construction of the Archer Pavilion at the south end of Long Canal and the extension of the gardens out into the park along either side of Long Canal in the form of two woodland areas, as well as to the west of the walled garden.

The Great Court, house and walled garden do not appear to have changed markedly. Within the Great Court the east-west cross path was removed and within the walled garden the two 'wildernesses' to the south were replaced with circular features reflecting more closely the fountains to the north. The Angelis view of about 1720 (Figure 91) however, makes it clear that by this time the fountains had been filled and replaced with statues. The gardens to the east had also not changed markedly though an area to the north-east had been taken into the gardens and the eastern margins moved eastwards and straightened creating a more regular layout. The internal arrangement of some areas was also remodelled. The straight watercourse along this edge may have been the new canal 'for My Lady's ducks' mentioned in 1707 since the accounts record the building of bridges over the new canal and this was the only new waterway shown to have been bridged.

The terrace along the north side of the walled garden, immediately south of the house, was extended to east and west which necessitated the removal of Mr Aker's canal. It appears on the 1719 Laurence map, and in the same form on the 1735 Rocque map. These show two main walks with two further walks to the north, one to either side of the house complex. The central of these three alignments would appear to be on the line of the existing Broadwalk as it ran immediately to the south of the house. The second walk ran to the south of this on a lower level and there are indications of what may be broad stairs connecting the two centrally, with narrower stairs to the east and west. This is confirmed by the Angelis view of about 1720. The northern walk to the east was integrated with the gardens there. The walk to the west seems rather isolated though and at its east end it apparently ran to a niche in the service yard wall that may have contained a decorative feature of some sort. To the west, the terrace walks ran to an octagonal basin, the 'Neptune basin', that was integrated with other water channels in this area. The line of the terrace was continued out into the park, both to east and west, by avenues and rides to Cain Hill and the western park boundary.

The canal/pond west of the house was filled in at some point prior to 1719 but there is no obvious reference to this in the accounts. The Laurence map shows a faint blue line along the southern side of the walk to the south of Broadwalk that starts near the south-west of the site of the canal and it is possible that this was a drain from the site of the canal which must have retained the potential to hold water and be damp. The construction of drains for this purpose is mentioned in BLARS records (Fadden and Turner 2004, 2-3). Topographically this drain would flow west where it is shown connecting with a much more obvious channel that in turn connects with a larger channel that was the precursor to Old Park Water.

The second new east-west axis was formed by cross canals added towards the north end of Long Canal, which was also expanded to east and west to create a roughly rectangular pool. The new canals did not extend as far east-west as the terrace, nor were their lines continued into the park, but they served to delimit clearly the formal gardens to the north from the new woodland panels to the south.

As noted above, in the central and eastern areas of the formal gardens the changes were minor, but the walled gardens were extended southwards by the addition of two rectangular areas to either side of the pool and to the north of the new cross canals. Their outer extents were defined by extending the east and west walls of the walled gardens southwards. To the west, the Bowling Green was laid out, and may have replaced a bowling green in the park to the north of the house visible on the Kip and Knyff view of the park. To the north, the area that later became the Evergreen Garden was laid out with a regular grid of trees that extended along the east and west sides of the Bowling Green in the form of avenues. To the west, a ride was shown on a very similar line to the modern track here.

The Banqueting House or Pavilion was constructed 1709-11 at the southern end of Long Canal by Thomas Archer (Colvin 2008, 72). The interior paintings are signed by Louis Hauduroy and dated 1712 (Colvin 2008, 495). At about this time, perhaps after construction finished if Figure 17 is accurate, the woodland panels to either side of the canal were laid out, complete with formal walks and rides and hidden garden 'rooms'. This effectively extended the gardens all the way to the southern boundary of the estate.

By this time the gardens were heavily populated with lead statuary, of which only the lead figure of William III at the head of the Long Canal, the figure of a woman reading in Duchess's Square, and the recently reinstated statue of Diana with a

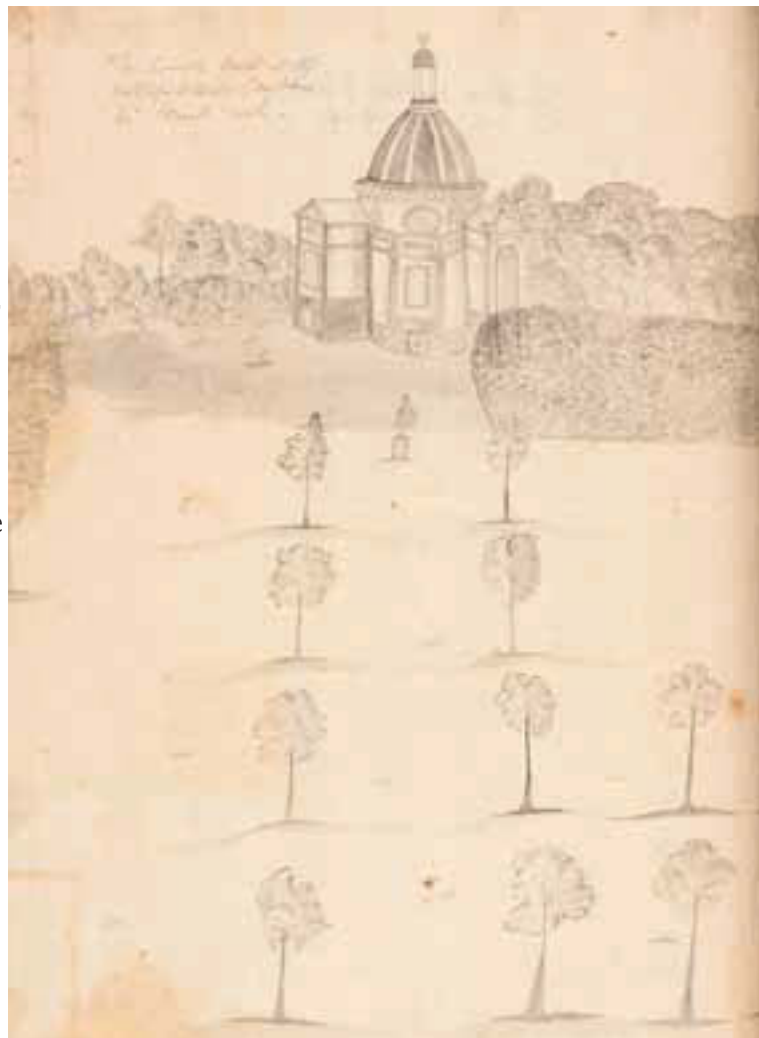


Figure 17 Anonymous sketch of the pavilion from the north-east (The Bodleian Libraries, University of Oxford, Gough Maps I, folio 17b, top right).

greyhound by Ladies Lake now remain (the statuary is discussed in detail in Davis 2007 and Eustace 2008).

Elements of the garden design introduced after 1715 may have been making a political statement, emphasising Henry's Whig politics and allegiance to the Williamite cause. The short-lived octagonal Neptune Basin created in 1716 at the west end of the Terrace Walk, now Broadwalk, is the most obvious example – William III was often associated with the sea god Neptune. The lead statues of William III and Queen Anne also had obvious political references (Cabe-Halpern 2002).

During the 1720s, following the problems noted above, development focussed on the gardens instead of rebuilding the house. The account books (above) often refer to 'new work' rather than just maintenance. There are numerous references to tree planting, moving of statues, and payments to masons, bricklayers and carpenters for the erection of garden buildings. In November 1724 the Duke of Kent's daughter, Lady Glenorchy, wrote to him from Stockholm about the garden noting that 'Your Grace takes the best way of making it always seem new to you, which is by making so many alteration' (BLARS L30/8/8/37). Note that this is contrary to previous thinking (DIA et al 2009a, 48).

The Tillemans views of about 1729 show the gardens towards the end of this period. These concentrate on the lower gardens and include four views of the Archer Pavilion (Figure 95 to Figure 98) and several of garden 'rooms'. The views of the pavilion make it clear that the gardens had been extended to the south with many of the elements shown on the Rocque maps already in place. These included large circular features with central columns to the south-east and south-west of the pavilion and between them a substantial east-west canal with a central octagonal basin which was constructed in 1725-6 (Eustace 2008, 3). The rides and walks were extended to connect with these features and the areas between laid to lawns with complex planting along the margins and numerous statues dotted about. Also created was the Obelisk Canal, which ran north from the south-west circle to a third circular basin filled with water containing the obelisk. There are similar examples at Claremont and Chiswick, also constructed in the 1720s. In the archives there is a drawing of an obelisk entitled '1725, Draught of the obelisk in Rest Gardens' (BLARS L33/111) and Sophia, the Duke's new wife, mentioned the obelisk canal in a letter to him of 1729-30 (BLARS L30/8/39/2). Although not shown in any of these views, it seems likely that the watercourses to the east and west of the house and upper gardens had also been canalised by this time as they would have looked rather incongruous left in their previous state. It also seems likely that the long ride north from the south-east circle dates from this time as it would have balanced the Obelisk Canal, and perhaps the canal to the north of it.

The 'octagon', presumably the Neptune basin, was filled between August 1726 and June 1727, perhaps a sign the Duke had lost interest in politics. Instead, many of the monuments of the 1720s and 30s had family associations probably reflecting his personal tragedies; the death of his two sons, eldest daughter and wife between 1717 and 1728.

By 1735 the Bowling Green House had been added to the bowling green, but it is likely that this was the remodelling of an existing building (Way 2009, 105), a building here is

first shown on the Angelis view of the early 1720s, and probably dates from this period (*contra* Way). Although there are references in the accounts to windows being repointed in a 'bowling green house' as early as 1705, with its walls being plastered in 1706 (Way 2009, 105), it seems unlikely that this was a building here as this is not shown on the 1719 Laurence map. The Kip and Knyff view of the park shows what may be a bowling green with a building to the north of the house and it seems more likely that it was this that was being referred to, than that Laurence completely omitted such a significant feature when he showed the bowling green itself. It has been suggested that the first bowling green house was probably designed by Nicholas Hawksmoor and built in about 1721 and that Batty Langley was employed to remodel it in the 1730s adding an extravagant classical portico (Way 2009, 105).

Following publication of Batty Langley's *New Principles of Gardening* in 1728 the trend was towards informality: formal gardens such as Wrest Park were suddenly unfashionable. Charles Bridgeman and Thomas Wright, tutor to the duke's wife and children, were also probably important influences.

Keen to keep abreast of these fashions (the Lucas family still have a copy of Langley's book with the Duke of Kent's bookplate, Andrew Hann pers comm), the Duke remodelled the Obelisk Canal and replaced it with a sinuous waterway known as The Serpentine. Later, in 1735, he re-erected the obelisk in the park, re-dedicating it to his recently deceased son Anthony. Other changes in the gardens before 1735 appear to have been minor. The basic structure shown on the Laurence map remained in place, and most changes that can be identified may date to the 1720s rather than the 1730s. Much of the formal garden south of the house had been swept away. Although the east and west walls, the central north/south walk, and the east/west walk that had run to the north of the former wilderness areas remained, plain lawns had replaced the other features with new north/south paths set further away from the central walk added. A path had also been added running north from the Bowling Green. To the north of this, the area west of the service yard had been planted with a regular array of trees. To the south of the bowling green an amphitheatre had been added to the south of the cross canal, plans for which survive in BLARS. Whilst the framework of paths around the Archer Pavilion remained, the panels appear to be simple lawns, each with a central statue; there was no sign of the planting along the paths seen in Tillemans' views.

The changes between the 1735 and 1737 Rocque maps were more pronounced. To the west of the house the trees remained but in the south of this area the Green House had been built on a raised terrace by Batty Langley for the Duke's orange trees in 1735 (Colvin 2008, 631). It was oriented east/west and the area in front of it terraced to form a sort of amphitheatre with substantial mounds supporting statues to either side, perhaps intended to reflect the slightly earlier amphitheatre to the south. It is shown in one of the small illustrations surrounding the 1737 map (Figure 18). This was demolished in the 19th century and replaced by the Orangery (below), but traces of its footings remain visible in the undercroft (Chris Slatcher pers comm).

To the east of the house the gardens retained their existing layout but appear to have been simplified as was the area around the Millpond. Broadwalk was perhaps



Figure 18 Detail of 1735 Rocque map showing the Green House (*The Bodleian Libraries, University of Oxford, Gough Maps I, folio 16b*)

approaching its modern form; the central east/west walk remained, though it is possible that it had been widened somewhat, but the east-west walk immediately to the south had gone, apart from immediately to the south of the house between the two north/south walks, as had the two northern walks. This simplification appears to have extended to the areas south of Broadwalk. The east-west path on the lawns south of the house had been lost as had the central path and the layout to either side had been changed with strips of rectangular beds replacing more linear features, though this could just have been a change to the planting.

The north end of Long Canal was modified with the first short sections of the cross canals filled in and planted with trees to create continuous narrow woodland strips from either side of the lawns south of the house to the main woodland panels. The woodland panels themselves had been extensively remodelled. Although the main elements remained, the longest rides and many of the smaller straight paths had been replaced with many more sinuous walks. The start of this process can be seen on the 1735 map but the majority of the new works first appear in 1737. In keeping with the general simplification of much of the gardens, several of the paths to the south of the Archer Pavilion had been removed, and the triangular panels to the east and west had been planted with trees, bringing the woodland right up to the pavilion.

The park

The Kip and Knyff view of the park shows almost its entire extent as it was in about 1704. The house lay roughly in the centre and the park extended as far south as Long Canal, just north of the site of the later Archer Pavilion. To the east it encompassed Old Park and to the west the summit of Cain Hill though it does not appear to have extended as far east along this ridge as the site of the warren and hunting stand. The majority of the park lay to the north of the house but it did not extend as far north as Home Farm, the pale running about a kilometre to the north of the old house. A rapid GIS assessment indicates that the area of the park at this date was just under 200 ha.

The main approach to the house was via ornate gates and along a broad double avenue from the north. There were cross-avenues about two thirds of the way along the avenue and immediately north of the Great Court with circular (to the north) or semi-circular (at the court entrance) open areas at their junctions. The northern cross avenue extended

the full width of the park and had gates at both ends. The southern avenue ran from the western edge of the park, though no gate is shown here, east across the front of the court, then on around Cain Hill and back west on a more southerly line. As noted above, within the gardens this alignment was continued by paths and picked up again on the other side as an avenue that ran to the edge of the park although again no gate is shown. A ride ran around the inside of the most of the parks west and north boundary and there were several other shorter alignments of trees and avenues. In the south-west, within Old Park were two large blocks of what look to be semi-natural woodland. Elsewhere in the park numerous trees were dotted about creating a mixture of open and more densely wooded areas and there were a few well defined stands of trees to the north. It is notable that Cain Hill was completely open and featureless at this time, presumably the result of the 'levelling' mentioned in the accounts.

Within the large area to the north-west was a rectangular fenced enclosure containing rows of small trees, perhaps the tree nursery mentioned in the accounts. There was a similar, smaller area to the north-east. Close to the junction of the north/south and the northern of the east-west avenues was a small rectangular enclosure with a building in the centre of its long southern side. Small figures are shown within this and it looks like a bowling green, perhaps intermediate between the earlier one on the ridge to the east of Cain Hill and the one soon to be laid out within the gardens, though they might have had several; there were three on the Apethorpe estate (Kathryn Morrison, pers comm). To the south of this, just north of the more southerly east-west avenue was a mound with a single tree upon it. This may have been high enough to allow views across much of the park and gardens. To the south of the walled garden (above) was a sub-rectangular feature that appeared to be defined by small streams or ditches with trees growing along them. It is possible that this might be the remnants of the second area enclosed by water suggested by the 1639 Carew poem (above), or even the medieval warren. To the west of this, was a small building in an isolated position in the park, and a larger building is shown to the south, on what was probably formerly the eastern boundary of Old Park.

By the 1719 Laurence map the park had roughly doubled in size to a little over 380 ha. Apart from a small area to the south of the pavilion and a strip to the south and west of Old Park, the vast majority of this expansion was to the north and north-east. There are scattered references to land exchanges recording this expansion of the park, together with some rearrangement of the pasture rights of the inhabitants of Clophill to compensate them for the land enclosed and emparked (for example L4/150, February 1714). Although the Laurence map does not appear to be very accurate in detail the same broad patterns remained with the main approach being from the north along an extended north/south avenue (shown incorrectly as triple), the two cross avenues north of the house and the third to the south. The lines of several of the other existing avenues were extended into the new areas of parkland, most notable that of the northern cross avenue which ran as far as the hunting stand on the ridge east of Cain Hill, which is shown to be octagonal. The possible tree nursery in the north-west remained, though its planting had been laid out differently, and most of the trees were much as shown in the 1704 view. The possible bowling green had gone, perhaps replaced by the new one in the expanded gardens south of the house, but to the south-east of its former site was a new group of buildings of unknown function. As noted above the walled garden had

gone and the area taken into the park. The waterways here had also been remodelled to accommodate the Neptune basin. Old Park appears to have remained much the same although the building to the north of it and on its eastern boundary had been removed.

The most significant changes in the park were on and around Cain Hill. Hill House, also designed by Thomas Archer, was constructed after the Archer Pavilion in 1712-15 (Colvin 2008, 72). This was surrounded by seven new avenues with circular planting between. Existing woodland on the ridge and lower slopes was also cut back to extend these avenues. There was also planting in the area between the hill and the gardens. The Rocque maps concentrated on the gardens but the small areas of park shown were as on the Laurence map. It is likely that the park remained much the same size; the later Silsoe and Braybury lodges were on the boundary of the park as shown at this time. Some areas of the park were probably modified, but there is no evidence for this.



Figure 19 Detail from an anonymous sketch of Hill House (The Bodleian Libraries, University of Oxford, Gough Maps I, folio 17b, top left)

Jemima, Marchioness Grey, 1740 to 1797

After inheriting the estate in 1740, aged only 17 and newly married (Figure 13), Jemima, Marchioness Grey, continued her grandfather's gradual de-formalisation of the gardens at Wrest Park. She was influenced by Thomas Wright her tutor, who did much of the early landscaping at Shugborough for her sister-in-law Elizabeth Anson, as well as William Chambers and others.

An abundant archive of Jemima's letters survives (assessed in Way 2012b). Descriptions of the gardens and work being undertaken give a clear impression of the attachment felt by Jemima to the gardens apparent from her earliest surviving letters from the 1740s. Although the influence of the prevailing fashion for the 'intellectual Shepherdess' is apparent in Jemima's letters (she actually referred to herself as a shepherdess, and recorded watching haymaking etc) it is obvious that she cared deeply for Wrest Park, and recorded in Nov 1744 that she was 'always sorry' to leave Wrest Park for the town. She described Wrest Park constantly as 'delightful', 'charming', and of the 'greatest beauty', identified with the 'old oaks', and compared the verdure and shade created by the dense tree planting at Wrest Park favourably against other gardens which lacked this (Way 2012b, 18). Despite the letters, a lack of graphical sources makes it difficult to be precise about changes during this period.

Given the dislike expressed by Jemima for fashionable gardens of the period, it is perhaps surprising that either she or her husband Phillip twice commissioned Lancelot 'Capability' Brown to carry out work on the site. Perhaps Philip was the prime mover in this as he

also commissioned extensive work from Brown at Wimpole. Brown concentrated on de-formalising the surrounding canals, clearing trees and planting clumps with meandering paths, to make the gardens appear more 'natural'. However, Brown was either inspired or restrained by his client, and left the majority of the gardens as they were.

Jemima introduced informal areas on the fringes of the Great Garden including the Mithraic Glade with its Altar and Rustic Hermitage or Root House (1748); the Chinese Temple (designed in about 1766 by Sir William Chambers; Colvin 2008, 243) and Bridge (about 1758-61) and later the Bath House Garden with its rustic bridge, cold bath and column dedicated to Lancelot 'Capability' Brown (1770-72). Jemima also made further alterations to the house to provide a modern suite of reception rooms and improve the balance of the south front.

Her attitude to the gardens underwent a subtle shift perhaps best characterised as passing from an initial period of intellectual playfulness, recreation and contribution, when Jemima and Philip were setting their own stamp on the gardens, to one of more 'mature' appreciation and maintenance, although changes and improvement were still requiring the services of 'Capability' Brown as late as 1779/80.

The house, approaches and service area

In 1760 Jemima built a new bay-fronted Great Dining Room south of the Great Hall and in 1763 altered the old Great Parlour to form a new South Drawing Room. More substantial changes were made in 1791, towards the end of Jemima's life at a total cost of £4,888. Both the north and south fronts were refaced and given matching sash windows, and the south front extended to the west to conceal the kitchen range. The north front was re-designed by John Woolfe in about 1790 (Colvin 2008, 1150). The interconnecting block between north and south fronts was extended to form a large Chinese Drawing Room, and the whole of the building re-roofed. These were the last significant alterations to the house before its demolition in 1834-8 (Collett-White 1991b, 23).

The east-west avenue immediately north of Great Court became the dominant approach by the end of the 18th century. The north avenue was adapted to create square blocks or 'platoons' of trees, providing a visual rather than an actual route northwards. The court itself was replaced by a sweeping drive curving south from this drive, along the front of the house and back north, within which was an open lawn. This was separated from the park to the north by a ha-ha, shown on a copied map of about 1829 as the 'sunken fence' (Figure 106) and clearly seen in the pen and ink drawing of this area in the 1831 sketchbook (Figure 20). The ha-ha would have controlled stock but allowed uninterrupted views from the front of the house out into the park and given the impression of a single sweep of lawn running up towards the horizon. These developments were very probably associated with Brown's work of the late 1750s.

The opening out of the front necessitated the redesign of the service area. The western wall of the court was replaced by a curving wall that ran to the west of and parallel with the sweeping approach drive, from the former midpoint of the north wall of the service yards to the north-west corner of the north front of the house. This must have been contemporary with the creation of the drive. The western part of the north wall,



Figure 20 Sketch of the north front of the old house from the 1831 sketchbook (Steve Cole © English Heritage DPI 10020, by permission of a descendant of Thomas, Earl de Grey).

and the west wall of the service yard remained as did the northern of the two internal divisions mentioned above. By the early 1800s the southern division had been removed and replaced by one to the south on the same line as the front of the north wing. This seemed to be associated with the building north of the laundry first shown on the 1737 Rocque map (above) which apparently extended west, with a new wing running north creating an 'L-shaped plan. This was named 'Brewhouse' on later plans. The laundry and some of the other service buildings had gone by 1800. The southern wall of the service yard had been removed and replaced by one to the north running ESE/WNW and the triangular area previously within the yard taken into the garden. Since this would have improved the outlook from the 1760 dining room or the 1791 extension this change was probably related to these improvements. By about 1800 the line of this new boundary continued to the WNW beyond the line of the former west wall of the service yard, and another new boundary was shown parallel to and some way further to the west of the service yard enclosing a broad strip of ground named 'Road from the Park' on a later map. This was picking up and defining the earlier approach here noted above. A building was shown at the southern end of this strip, which was probably a gatehouse allowing entrance to the gardens as the track is shown continuing to the south of it. This was also likely to be of about the same date as the other modifications in this area.

The gardens

As one would expect with a garden of this size and status, Wrest Park was continually undergoing 'improvement' although agricultural depression meant there was less money to fund this. No plans survive but some of the changes to the gardens can be outlined

from Jemima's extensive correspondence (see above and Way 2012).

The first indication of changes in Jemima's letters is a reference to new walks in November 1744. In 1748 The Serpentine was being improved with new meanders, the Mithraic Altar constructed and the Roothouse discussed. Within the Great Garden Jemima added colour by introducing flowering shrubs along the walks and rides and in amongst the trees, including roses, honeysuckle, sweet briar and hawthorn. Flowerbeds were also laid out close to the house and beside the greenhouse. The period 1758 to 1760 saw major alterations to the canals (especially the encircling canals), opening up of views, and planting under 'Capability' Brown. The canals feature both as landscape features, activities (boating), and for their need to be dredged and cleaned. The evidence of the letters suggests that this messy and expensive business was tackled about every 12-15 years (although there is a gap in the record when we might expect this event in the late 1780s). The Pavilion was re-fitted in 1754 and again in 1761 and re-papered in 1773. The Chinese Seat was painted in 1761. The period 1770-1771 contains few letters, which is unfortunate because it is believed work was carried on in the Bathhouse and adjoining grounds at this time, as well as the Bridge and possibly the monument to Brown. The bridge and bathhouse were designed by Edward Stevens in 1770 (Colvin 2008, 985). The latter first appears in the household records in 1772, and the 'Bath Room' was painted in 1775. In 1774 more new walks were created and new statues installed in the Bowling Green whilst a new border of annuals was planned closer to the house. Further walks and a rustic seat (of elm trunks) were being planned in 1775. Brown was again involved in alterations proposed in 1778/9 although he arrived late and appears to have had little taste for the job. The Grove was altered (perhaps in response to Brown's visit) in the winter of 1780. New paths were again being created in the mid 1780s, this time in the direction of the fields around Cain Hill - early indications of the extension of walks into surrounding landscape that would continue under her daughter, Amabel, Lady Polwarth (Way 2012b).

At some point prior to the pre-enclosure maps of the early 1800s the straight north/south paths on the Rocque maps were replaced by curved Horseshoe Paths, though to the south these used the former path lines. The de-formalisation of this area that they represent would be typical of Brown's work, though their symmetry might be the result of the steady hand of Jemima. It is possible though that these were the walks being worked on in the 1740s; Jemima may have been continuing the work begun by her grandfather in the previous decade and shown on the Rocque maps.

Changes to the service areas to the west of the house have been described above but there were also changes to the gardens to the east of the house. The eastern boundary was moved further east, mirroring that to the west and encroaching on the gardens. By the early 1800s the gardens to the north of Broadwalk had been opened out, but elements of the former layout remained as late as 1831. In the sketchbook a square of paths still remained around most of the square area shown as 'the menagerie' on the 1735 Rocque map, which was labelled 'Queens Anne's Garden' on a copy of a map of about 1828 (Figure 106). This map also shows the square compartment to the north of this, though much changed, with the 'gardener's house along its northern side (which was shown on the 1735 map as the 'Green House' so must have been modified). The area to

the west was much more open by the early 1800s with less formal diagonal paths. Much of this work must have taken place in the 18th century; one of the main features shown here in 1831 was the 'White Seat', erected in, or soon after, 1795 (Figure 137). To the south of Broadwalk, the Millpond was naturalised and incorporated into Broad Water, almost certainly at the same time as Brown was working on the other encircling canals. The surrounding area was deformalized and planted with loose clumps of trees and the boundary to the east removed integrating it more closely with the Horseshoe Lawns.

Amabel, Lady Polwarth, 1797 to 1833

Following Jemima's death in 1797 the estate passed to her widowed daughter, Amabel, Lady Polwarth. She, too, left extensive correspondence, in addition to a 37-volume diary covering the years 1769-1827, also assessed by Way (2012b). This reveals a less enthusiastic view of the gardens at Wrest Park, perceived more as a financial burden, and the emotional attachment shown by Jemima is less clear with Amabel, perhaps as the responsibilities of the estate weighed heavily. For much of her stewardship Amabel was preoccupied with balancing the books and made few alterations to the gardens and parkland, though they were well maintained. Despite this, in one of her letters to Amabel, her sister Mary states that like her mother, Amabel was happiest at Wrest Park (Way 2012b, 18). As Amabel's eyesight began to fail in the mid-1820s management of the estate was gradually taken over by her nephew and heir, Thomas Weddell, later Earl de Grey.

The house

There were no obvious changes to the house by Amabel, partly perhaps because the works under Jemima in the 1790s had resulted in as satisfactory a layout as was possible within the existing structures. Various plans and sketches also make it clear that Thomas, Earl de Grey, was making plans for a completely new house well before he inherited in 1833 which would have been a disincentive to work. For example in 1826 he rebuilt the main gate and lodges at Silsoe in the French manner, perhaps a 'trial run' for the main house (with Thomas Smith, who also worked on Silsoe Church, as the executant architect; Colvin 2008, 958), and in 1831 he compiled a sketchbook of the old house and grounds that appears to have been a conscious effort to record the grounds at this time and which also included design sketches for the new house (see Appendix 4).

The gardens

Few changes can be identified in the garden under Amabel. It is possible that the Horseshoe Paths were laid out very early in this period though it seems much more likely that Jemima was responsible. To the west, the area to the north of the Bowling Green initially remained laid out with regular rows of trees. An enclosure map of about 1809 (Figure 105) appears to show this area as less densely wooded and another map, probably slightly later (Figure 115), shows it as open. According to Thomas, Amabel also added the Graeco-Roman style altars to a compartment within the Great Garden in 1817, though they are not mentioned in her diary. One unwelcome change was the removal of most of the lead statuary from the gardens in 1809, melted down to repair the roof of the house,

and other statuary was sold off, which Amabel recorded with regret as it seemed to depopulate the gardens. This may be a sign of financial hardship at this time.

The park

The extent of the wider parkland appears to have stabilised at roughly that of the currently registered area by the 1780s. Fluctuations in agricultural markets and the de Grey finances (hinted at above) led to parts being leased out for grazing from time to time. To the north of the house, the immediate approaches remained largely the same although by the beginning of this period the more southerly cross avenue appears to have declined in significance and the avenue to the north, which led directly to the centre of Silsoe, had become the primary access route. Probably as a result of this the western arm of the main drive running to the front of the house was extended northwards to meet it. The pre-enclosure maps of about 1800 (BLARS L33/7 and 21) show several enclosures and buildings in the park between these two avenues but by the time of the maps of about 1809 or a little later (BLARS MA56/1/2, MA56, L33/9) most, if not all, had gone. A series of lodges were constructed at the various entrances into the park, and a new park wall built in 1826. More generally though, little more than essential repairs appear to have been done and several buildings including Cain Hill House had to be pulled down (Collett-white 1991b, 11). In 1832 an iron column was erected on the top of Cain Hill in place of the decayed Hill House.

Beyond the park, Amabel oversaw the enclosure of most of the neighbouring parishes, and the rationalisation of many farms to increase productivity.

Thomas, 2nd Earl de Grey, 1833 to 1859

Thomas, 2nd Earl de Grey (1781–1859), changed his name twice; born Thomas Philip Robinson, he changed it first to Thomas Weddell in 1803, then to Thomas de Grey when he inherited Wrest Park on the death of his aunt Amabel in 1833 (Figure 13). Thomas went up to Cambridge in 1799 and undertook a 'Grand Tour' a year later, during which he visited Paris for the first time; subsequent visits followed in 1822 and 1825. He became an aide-de-camp to William IV in 1831 and enjoyed a brief political career, becoming first Lord of the Admiralty and, reluctantly, in 1841 Lord Lieutenant of Ireland.

His most enduring memorial is probably the building of Wrest Park House. He had an interest in architecture that had developed over many years. He was involved in the rebuilding of the United Services Club on Pall Mall by John Nash in about 1827 where he was intermittently chairman, and was active in the formation of what became the Royal Institute of British Architects, becoming its first president in 1835 (a position he held until his death in 1859). He was also on the House of Lords subcommittee that considered plans for the new Palace of Westminster and advised on the rebuilding of Buckingham Palace that followed. That he adopted a style of architecture for the house that he designed quite out of step with its time, and on such a large and bold scale, confirms that he was a person of exceptional confidence, but at the same time sensitive to the needs of the site and its unique and important baroque landscape.

The house

On inheriting the estate in 1833, he embarked almost immediately upon replacing the old house with a new building in a Louis XV style 200 metres to the north. This was not a single event but a process that took up much of the 1830s. The Buckler watercolours (Figure 113 and Figure 114) show that parts of the old house were still standing as late as 1838. He also built the extensive service buildings to the east and the large walled garden to the west and set about improving the gardens.

The new house was built *de novo* and is essentially of a single phase. It was closely integrated with its immediate surroundings; the vistas from it were carefully incorporated into its design and vice versa. For example, the broad terrace that runs along the full width of the south front of the house has a broad central staircase south down into the low central part of the formal French Garden, which houses the parterres, and smaller staircases at each end that ran south onto higher ground to either side. The long vista from the central staircase down Long Canal to the Archer Pavilion is obvious but it appears that the views from the two side stairs were also carefully calculated – urns on the balustrade wall to the south frame the pavilion when viewed from their foot. Similarly, the Italian Garden was designed to be approached through the conservatory and was laid out symmetrically either side of this axis, which runs on to a gate into the walled garden to the west.

The gardens

Thomas de Grey also laid out formal gardens south of the house in the area that had formerly been parkland. It is notable that old trees formerly in the park were used in the new layout, presumably to add a sense of maturity to the new house and its grounds. The new gardens included the French Garden with parterres and as well as My Lady's Garden (now the Italian Garden) to the west. Further west were the new walled productive gardens. There was another garden to the east, around the dairy, which included the Petit Trianon and its garden, which would have been rather more intimate and secluded in nature.

To the south of these formal gardens a low brick wall with square piers supporting a cast iron balustrade, separated them from the less formal areas beyond. Here Thomas laid out the South Lawns across the site of the old house and court, originally with a diagonal pattern of paths focussed on the northern junction of Butcher's Row and the central avenue. Later, he built the Orangery, assisted again by James Clephan as executant architect who had worked on the main house. This formed the western terminal of an east-west axis located to the north of the site of the old house moving the focus of this area to the south, and at the junction between this axis and the central path a large circular fountain was installed at some time. It was presumably at this time that the diagonal paths were removed, since they were focussed on the path crossing to the north. Although not strictly formal, the northern parts of the South Lawns, and the areas immediately east and west, were clearly quite tightly linked to the formal gardens north of the balustrade wall and formed a transitional zone between the formal and less formal areas.

The Evergreen Garden (later known as the American Garden) south of the Orangery probably dates to the late 1850s when Earl de Grey recorded laying out an 'evergreen

garden with dwarf yew hedges' (Way 2009, 93) and must have been one of his last works. Alterations were also made to the Bath House Gardens but details are scant.

The park

Plantations created around the perimeter of the parkland (often hugging the upper contours) reflected a move towards 'enclosure' of the park which concentrated on inward views rather than distant vistas. Any remaining avenues cutting through the parkland were largely de-formalised, other than the main access routes. The use and extent of parkland fluctuated as leases were granted for grazing and some cultivation. The areas to the immediate north, west and east were maintained as pasture.

Stasis; 1859 to 1917

At his death in 1859 de Grey had no male heirs and the estate passed to his daughter, Anne Florence, widow of George Cowper, 6th Earl Cowper, who continued to maintain Wrest Park as her principal residence until her death in 1880 (Figure 13). The estate passed to her son, Francis, the 7th Earl Cowper, who was already living in the family's seat at Panshanger, Hertfordshire, which he chose to keep this as his primary residence. Wrest Park became only an occasional retreat for house parties and entertainment (Abdy & Gere 1984, 170).

In 1905, the estate passed to his nephew Auberon 'Bron' Thomas Herbert, then resident at Pickets Post in the New Forest, Hampshire. As a minister in Asquith's government from 1907-14 he spent much of his time in London, at 33 Grosvenor Road, Pimlico, with his sister Nan and the young writer Maurice Baring, who may have been in a relationship with him (Boase, forthcoming). He had little use for Wrest Park, so from 1906 to 1911 it was leased out to Whitelaw Reid, the American Ambassador. In the early years of the First World War the house was used as a military hospital. About 1,600 men passed through the wards, but the hospital closed in September 1916 after the house was badly damaged by fire (Hann 2013). Burnt timbers are still visible in the roof. Two months later Bron was killed in action over the Western Front whilst serving with the Royal Flying Corps and his sister 'Nan' put into action plans, which had already been mooted, to sell the estate.

The gardens

Few alterations were made to the gardens during this period but Wrest Park was used for country parties. Since gardens were an essential part of these, the grounds were maintained by a full-time staff of gardeners even when the indoor staff were absent. The style in the upper gardens and around the Long Canal continued to be predominantly formal, with clipped hedges, raked sand and gravel walks and closely mown grass. However within the Great (Woodland) Garden the walks and glades were allowed to become more informal as planting matured. The only notable additions were the Rose Garden, Atlas Pond, and possibly the circular fountain, perhaps by Lady Cowper and all in the upper parts of the garden. Several large arboreta and specimen trees were also planted at this time and it is likely that the Bath House Garden was replanted with Acers and rhododendrons after 1900 when it was still described as a 'fern area'. Pictures and

letters record the American ambassador and his guests in the gardens and the King was also pictured at a garden party to celebrate his visit. It was Whitelaw Reid who planted the shrubs either side of the north front of the house in around 1906.

From 1854 to 1908 the gardens were frequently reported in the national press including *Gardeners' Chronicle* and *Country Life*. By 1893 the opening of gardens to the public appears to have become an established tradition, their appearance on open days was regularly reported in the *Bedfordshire Mercury* (DIA et al 2009a, 51). In 1904 a longer *Country Life* article (Anon) described the gardens noting that they were in immaculate condition with all walks sanded and raked, hedges clipped and noted that over 5,000 bedding plants were grown on site for use each year, but also that it was probable that some of the woodland areas were over mature in design terms. It also noted that the exit into the park from the formal gardens was called 'Strangers Gate'.

In 1900 the walled garden was described in *The Gardener's Chronicle* as being divided into two main parts, each enclosed with walls with wall fruits, a third area contained bush fruits as standards. There were 21 glasshouses including three peach-houses and five vineries, as well as melon pits. The 1904 *Country Life* article (Anon) noted the walled gardens' 'lofty' entrance gates. A little later, in 1908, *The Gardener's Chronicle* noted the decorative nature of the walled gardens. Sweet Briar lined the main walks, whilst a large (surviving) wisteria was 'chained' to the walls. Fruit trees still lined the walls, and pears were grown as standards. In the same year *The Gardener's Magazine* gave a more functional account. Onions, Brussel sprouts, peas, lettuce, carrots, turnips, strawberries, and the walled fruit were produced and thousands of bedding plants were raised, also presumably in the walled garden (DIA et al 2009a, 52).

Fragmentation; 1917 to 1946

The core of the estate (2,130 acres) was acquired in September 1917 by Mr John George Murray, an industrialist from the north-east with interests in brewing, mining and shipbuilding, though some of the farms were sold off separately. Murray also bought some of the contents of the mansion, which were disposed of at a separate sale in 1917. An annotated copy of the sales catalogue in the Victoria and Albert Museum indicates which items Mr Murray purchased (National Art Library, V&A, 23W).

Initially Murray embraced the role of a county squire, becoming a JP for Bedfordshire and President of the Bedford Chamber of Agriculture, and establishing a private pack, the Wrest Park Bassett Hounds. Murray built a village hall in Silsoe in 1926 (Bradshaw 2011, 294), and his wife gave the reredos and oak altar to the parish church (Harris 2012, 32). By the early 1930s, however, Murray's attentions appear to have been elsewhere. His brewing business, North Eastern Breweries Ltd, had embarked on an aggressive policy of acquisitions in the 1920s and 30s, and his business interests had come under pressure during the Depression (Bennison 1992, 243-8). Keen to dispose of the now neglected Wrest Park estate, Murray purchased the more modest Coles Park in Hertfordshire in 1932, and put Wrest Park up for sale. Unable to find a quick buyer he began to asset-strip the estate to raise capital, for example the village hall was sold to the parish council for £1,800 (Bradshaw 2011, 294).

In 1939 the Sun Insurance Company purchased the house and about 260 acres of garden and parkland from Murray for use as their wartime headquarters. They converted the stable block into dormitories and built two rows of timber dormitory huts on either side of the avenue to the south of the service wing. Murray sold off the estate farms separately, along with much of the parkland.

The gardens

The decade or so after Murray's purchase of the estate was thought to mark a decline but a re-assessment indicates that most of the gardens continued to be kept up and the house and gardens used for entertaining (pers comm Andrew Hann). In the early years of his ownership he made several minor changes to the garden such as moving the sundial from behind the pavilion to Ladies Lake, moving Diana from the head of ladies lake to the niche on the south side. Nevertheless he removed the Evergreen Garden and planted it with atlas cedars, simplified the planting in the Italian Garden, and replanted the Rose Garden with annuals and the 1926 tax assessment suggests that the lower garden including Long Water was neglected possibly due to smaller garden workforce.

Following Murray's purchase of Coles Park in 1932 several monuments were sold and removed from the grounds including the obelisk in Old Park and columns in Duke's and Duchess's Squares, which went to Trent Park, Middlesex, in 1934, and the statuary and stone borders from the Italian Garden which were bought by Mr Ronald Tree of Ditchley Park, Oxfordshire. Murray himself removed a considerable quantity of the best statuary and garden ornaments to Coles Park.

During the Second World War, Wrest Park was the headquarters of the Sun Insurance Company and records indicate some maintenance and re-planting by SIC staff as a 'hobby'. Pigs were apparently kept in the area to the north-west of the bathhouse (Chris Slatcher pers comm). Later from 1944 to 1948, parts of the site were utilised by the Women's Land Army for small scale farming; ploughing took place on the South Lawns (DIA et al 2009a, 51-2).

The park

During the war, arable production intensified leading to an expansion of field sizes, with the further loss of trees and the remnants of old avenues. The Essex Timber Company took over management of the woods, which led to extensive felling to support the war effort, but also some replanting (Harris 2012, 32). Lumber Jills worked in the park and other woodland areas.

The post-war era; 1946 to present

The SIC left Wrest Park towards the end of the war, and sold the estate to the Ministry of Public Buildings and Works, later the Ministry of Works (MoW), in 1946, to ensure the survival of the heritage features of the site. In 1947 the National Institute of Agricultural Engineering (NIAE, later Silsoe Research Institute; SRI) relocated to Wrest Park and the gardens were then managed by the NIAE/SRI under the guidance of the MoW and later

English Heritage (DIA et al 2009, 52). Substantial repairs to the Pavilion and Bowling Green House took place in the 1940s and 50s (see for example Figure 72). There is some evidence of conflict between the Ancient Monuments Division of the MoW and the SRI in early days with complaints of damage to the floor of Orangery and statues in the Bowling Green House, which was used to store fertiliser etc (EHA Registry file AA046293/2/PTI *Wrest Park - Silsoe - Bedfordshire –Works, 1946-53*).

In the late 1940s and 1950s the Institute conducted ploughing experiments in the gardens. Photographs from the time clearly show ploughing of the Horseshoe Lawns. A Pathé newsreel of 1948 shows King George VI inspecting the site at this time (<http://www.britishpathe.com/video/king-visits-agriculture-institute>). As well as the park to the north of the house and the walled garden this film shows this ploughing and several other areas of the gardens including, briefly, the Evergreen Garden.

In 1954, the MoW photographed many of the items taken to Coles Park from Wrest Park, prior to the demolition of the house there. Some of these items were then acquired from Murray's family by the Ministry and restored to Wrest Park including the lead urns outside the Bowling Green House, the statue of Jemima reading and the Henry Wynne sundial. The edging of the Italian Garden was also bought back from the Earl of Wilton and reinstated.

The SRI steadily expanded in the post-war decades, with the addition of numerous laboratories, offices and other buildings to the east and north-east of the House. The walled garden was also developed with new glasshouses, plant growing areas, offices and car parking.

In 1981, the A6 was diverted through the parkland to bypass the village of Silsoe, thereby divorcing some of the western parkland and the Silsoe lodges from their historic context. The road was set in a cutting to minimise its visual and noise effect on the house and its setting.

The grounds were opened to the public and became a focus for local and regional recreation with an important emphasis on their heritage. Financial input was generally limited and certain areas became 'institutionalised' with low maintenance planting (eg The Italian Garden); others were neglected or suffered inappropriate planting due to a lack of appreciation of heritage values. Deteriorating hydrology resulted in the 'destruction' of the Bath House Gardens. After 1983, some areas were 'restored' in 18th century style and some features reinstated.

Since 1947, many of the garden buildings and items of statuary have been conserved and repaired but the overall approach to the gardens has been rather ad hoc, characterised by basic maintenance and the occasional introduction of new features, such as the Berceaux Walk and some non-historical planting, such as in the Italian Garden. No explicit statement of philosophy for the conservation or restoration of the gardens appeared until 1983, when the first in a series of historical surveys and management plans was commissioned. Following Land Use Consultants' Masterplan for Restoration and Management (LUC 1993), work was carried out with the aim of returning the site to an

18th century layout and appearance. In 2006, after the closure of the SRI English Heritage took full control of the house, its outbuildings, and the parkland. Since that date English Heritage has begun an extensive programme of backlog maintenance on the house, attached conservatory, associated ironwork, and in the garden.

The parkland beyond the garden core was not acquired by the Government in 1946, and has subsequently been absorbed into the modern agricultural landscape that encircles the historic garden. This is now mostly owned and farmed by one private owner at Home Farm. The area to the west of the gardens, 'Old Park', has recently been acquired and a programme of woodland planting begun.

Phased historical summary

The following is a brief outline of the development of the estate summarising the above. In order to avoid confusion with existing management documents it slightly adapts the phasing in Way (2009).

Medieval

- The name Wrest Park is likely to have originated in the middle Anglo-Saxon period, perhaps in the 8th or 9th centuries. Wrest Park appears to have been marginal within one of several surrounding estates at this time.
- 1086: Wrest Park was not mentioned in Domesday Book; must have been included within another entry and subsidiary, a half-hide unit in Silsoe seems most likely.
- 1185: first known reference to Wrest Park in a personal name in the Pipe Rolls.
- Before 1220: John de Grey first member of family known to hold estates in Bedfordshire.
- 1276 Wrest Park mentioned in the Hundred rolls.
- 1307-8: Wrest Park described in the IPM of Reginald de Grey, 1st Lord Wilton, as a capital messuage (a manor house). Probably moated by this time but no direct evidence.
- 1315: a park existed by this date. Exact location and extent uncertain, but probably 'Old Park' west of current gardens.
- 1320: chapel built by John de Grey, 2nd Lord Wilton.
- By mid-14th century: enclosure of a warren was underway.
- 1455-73: Edmund Grey, 1st Earl of Kent, acquired Ampthill Castle and several other estates by purchase, appears to have become a favoured residence and began to be developed.
- 1467-8: Valor of Ruthin detailed Edmund's holdings. Wrest Park was an extensive estate that included Silsoe, Flitton, and Braybury.

Changing fortunes

- 1503: Richard, 3rd Earl of Kent acceded and rapidly squandered the estate selling most to Sir Henry Wyatt in 1512. Possible plans to develop Ampthill abandoned.
- 1512: Wrest Park recorded as a mansion house with a moat, fishponds, and orchard.
- 1513: Henry de Grey, Richard's half-brother, bought back Wrest Park, Silsoe, Flitton Braybury, Cainhoe, Gravenhurst and Pulloxhill. This was the beginning of a long period of rebuilding during which the house developed in a piecemeal fashion.
- 1572: Reynold Grey, Henry's grandson was able to reassume the family titles.
- 1573: Reynold died childless and his brother Henry acceded. The IPM detailed the house but there was no major development from this date until the 1660s.

The 17th century to 1686

Tenure and the house

- 1614: Henry also died childless and was succeeded by his brother Charles who became the 7th Earl of Kent.
- 1623-39: Charles' son Henry, 8th Earl of Kent and his wife Mary held Wrest Park.
- 1639: Henry also died childless; succeeded by a distant cousin, Anthony, who had little interest in Wrest Park.
- 1643: Henry Grey, 10th Earl of Kent acceded.
- 1644: Henry married Amabel Benn a wealthy heiress, and long-lived dowager.
- 1651: Henry died, Anthony, the 11th Earl, was only six so the estate was managed by Amabel who was enormously influential at Wrest Park.
- 1658: repairs to the house recorded.
- 1663: Anthony's marriage to the heiress Mary Lucas brought a significant new income.
- 1670s: the old house was enhanced with a new classically fronted north wing.
- 1680: at about this time Queen Anne's Wing north of the chapel was probably built. It was demolished in 1795.

The Formal and Great Gardens

- 1639: first reference to a designed garden in Thomas Carew poem; has been taken to indicate a double moat but it is more likely that there were encircling semi-natural waterways or perhaps a second garden moat.
- 1658: Amabel created the first known formal walled garden south of the house.

- 1676-85: Long Canal may have been created and accounts indicate considerable planting of fruit trees etc in the gardens.
- The later 18th century previously identified as the period when the woodland gardens were commenced but the accounts suggest that this was an on-going process started during this period (Carew mentions planted trees).

Parkland

- 1650s: under Amabel, the parkland was extended by purchases of land.
- 1656: Cainhoe Warren leased; complex also included a bowling green and hunting stand. Now known to have been on the ridge east of Cain Hill.
- 1670s: expansion of the estate, and considerable planting in the park and warren.
- Mention of an oven to be built in the Hill House but the known Hill House built 1712-15 so it probably had a precursor; levelling on the hill mentioned in 1701-6 accounts.

The late 17th century, 1686-1702

Tenure and the house

- 1691: Henry, the future Duke of Kent, returned from his Grand Tour.
- 1698: death of the dowager Amabel.
- 1702: death of Anthony, the 11th Earl.

The Formal and Great Gardens

- 1686 onwards: Anthony and Amabel began work on a new walled garden on the site of the old garden to south of the house.
- 1690s: yew and blackthorn 'wildernesses' created in the walled garden, references to Chapel Garden and Orange Garden east of the house.
- Amabel and Henry continued the development of the woodland gardens.

Parkland

- There was major planting in 'The Warren' and elm and sweet chestnut avenues were planted in the north park.

The Duke of Kent, 1702-40

Tenure and house

- 1702: Henry, 12th Earl of Kent, inherited.
- 1703/4: the two Kip and Knyff views (published in 1707) were probably based upon surveys at this time.

- Between these surveys, a circular carriage drive replaced the square paths within Great Court.
- 1710: Henry created Duke of Kent
- 1715-16: Henry commissioned Giacomo Leoni to produce designs for a new house.
- About 1719: the Laurence map.
- About 1721: the Angelis views.
- 1720s: a series of personal problems meant Henry's project to totally rebuild Wrest Park House was abandoned.
- 1729: the Duke's second marriage, to Sophia Bentinck, brought him £20,000 and the possibility of a male heir.
- The house and immediate surroundings were recorded by John Rocque in maps of 1735 and 1737.

The Formal and Great Gardens

- 1703: Henry embarked on new garden work; created the Mill Pond (a name suggestive of an earlier functional precursor) and 'Mr Ackers Canal' within the Chapel Garden.
- There are references to the moat being filled but it is uncertain where this work was taking place.
- Long Canal was cleaned and extended, bounded by hedges and a set of iron gates erected at the far end.
- A new orchard is mentioned in the accounts; regularly planted trees are shown between the Millpond and Mr Aker's Canal.
- 1704: summerhouse was erected at end of Mill Pond, and an island created within it
- 1706: the square basin and cross wings, now My Lady Duchess' Canal and Bowling Green Canal, were added to the north end of Long Canal
- The walled gardens may have been extended to the south at about this time, or perhaps when this garden was opened out in about 1715.
- 1709-11: the Pavilion constructed; designed by Thomas Archer
- 1710-13: plantations with walks and rides were added either side of Long Canal.
- 1715: some of the walls of the garden were demolished and the fountains filled in to be replaced by statues.
- 1716: the terrace walk (later Broadwalk) was extended to the east (requiring Mr Ackers Canal to be filled) and west, and the Neptune Basin constructed here. The basin probably had political significance; William III was often associated with Neptune.

- By 1719: the Bowling Green was laid out. Expansion of the formal and great/woodland gardens had resulted in encroachment on either side of the Long Canal, taking in parts of the original park.
- 1721: Bowling Green House (by Hawksmoor) was finished.
- 1723: the Duke embarked on new work in the garden. This phase featured monuments memorialising family rather than marking political allegiance.
- 1725-6: new land was taken into the great gardens and the boundary canals were re-configured including the creation of the short-lived obelisk canal.
- 1726: the East and West Half-houses were built.
- 1726-7: the octagon, presumably the Neptune Basin, was filled. It seems likely that the waterways here were also modified at this time.
- 1728-9: monuments were erected in Duke's and Duchess's Squares commemorating the late Duchess (who died in 1728).
- About 1729: Pieter Tillemans produced a series of watercolours showing views of the garden.
- The Temple of Diana (by Juvarra) may date from the late 1720s.
- 1728: Batty Langley published *New Principles of Gardening* in which he outlined his proposals for less formal gardens, with serpentine paths, irregular features, and shady woodland walks. Wrest Park now unfashionable.
- Henry's second marriage led him to recommence works with a subtle remodelling of the gardens to incorporate the new fashions.
- Boundary canals modified; Obelisk Canal replaced by Serpentine.
- The amphitheatre south of the western canal was constructed at about this time.
- It is not known when most of the formal gardens south of the house were removed but it had taken place by 1735.
- 1735-7: Batty Langley re-fronted Bowling Green House and built the Green House. Serpentine paths were added to lower parts of the woodland garden.

Parkland

- 1703: a tree nursery is mentioned in the accounts. Several plantations of young trees are visible in the Kip and Knyff view.
- 1703/4: the first of the Kip and Knyff views shows the park.
- 1712-15: Cain Hill House erected; design by Thomas Archer. Cain Hill soon planted with circles of trees, cut by avenues centred on Cain Hill House.
- 1719: the Laurence map shows the park had been expanded mainly to the east and

north. Avenues were also extended in the direction of Gravenhurst, Silsoe, Shillington and to the north. By this time avenues extended the alignment of the terrace walk (Broadwalk) from Cain Hill House in the east to the western edge of the park.

- 1735: The obelisk was re-erected as a memorial to the Duke's son on the west side of Old Park positioned so as to align with Broadwalk and Cain Hill House.
- The parkland had an economic value in addition to its aesthetic qualities. The grazing in the park was let intermittently, with cattle, sheep and deer frequently recorded as well as hay crops.

Jemima, Marchioness Grey, 1740-97

Tenure

- 1740: Jemima, Marchioness Grey, inherited on the death of her grandfather.
- 1760: the Great Dining Room was added in centre of southern façade.
- 1763: the old parlour was modified to create the new South Drawing Room.
- 1791: extensive works; south front extended to west to hide kitchen court, north and south fronts refaced and given new windows, central block (formerly servant's hall) extended to form the Chinese Drawing Room, whole house reroofed.

The Formal and Great Gardens

- Under Jemima there was initial retrenchment, followed by a period of intellectualisation and romanticisation of the gardens.
- Thomas Wright, Jemima's tutor, was influential in advising on garden design.
- Others involved or influencing the gardens include Lord Lyttleton, Thomas Edwards, and William Chambers.
- Areas and features created, or altered, included: the Bath House and its gardens; the Mithraic Altar; the Root House (no longer in existence); the Chinese Temple and Chinese Bridge (then in wood); the Conch Shell/Lion Head Mask, and alterations within the Duchess' Square.
- The Rusticated Column monument, now known as 'Brown's Column', was placed in the Bath House Grounds area – subsequently moved.
- The overall feel of the gardens was subtly altered with the planting of a shrub 'understorey' of flowering plants. Increased numbers of domestic and decorative wildfowl and deer were introduced.

Parkland

- Many of the rides and avenues in the parkland were allowed to lapse in keeping with the de-formalising of the gardens, although the main east/west vistas connecting Cain

Hill and the Obelisk were retained, along with the avenues to Silsoe (west) and Brabury (north).

- Cain Hill and Cain Hill meadows were frequently referred to in letters; seen as integral to the grounds.

Amabel, Lady Polwarth, 1797-1833

Tenure and the house

- 1797: Amabel, Lady Polwarth, widowed daughter of Jemima, inherited the estate.
- Mid-1820s: Thomas took over estate management due to Amabel's failing eyesight
- 1831: Thomas' sketchbook recorded much of the estate at this time.

The Formal and Great Gardens

- 1809: Amabel sold or melted down of much of the original century statuary for roof repairs, an event she recorded with regret, as it seemed to depopulate the gardens.
- 1817: Amabel purchased and erected the five Greco-Roman style altars.

Parkland

- Early 19th century: an agricultural depression resulted in parts of the park being leased for tenants grazing, and some retrenchment on the south-west. The park become predominantly economic, though the shift to the 'pastoral ideal' allowed this within its own aesthetic.
- From about 1826: construction of the lodges at the Silsoe and Brabury entrances; the Silsoe entrance became established as the main approach.
- About 1830: Cain Hill House demolished and replaced by an iron column, perhaps views and walks towards Cain Hill were less significant.

Thomas, 2nd Earl de Grey, 1833-59

Tenure and the house

- 1833: Thomas, 2nd Earl de Grey, inherited.
- 1834-8: the new house built and the old demolished; new service buildings to the east and walled kitchen garden to the west created.
- 1854: the *Cottage Gardener* (July 27th), described the Walled Garden as containing pineries, vineries, peach and plant houses as well as decorative plants, and cacti.

The Formal and Great Gardens

- 1834-8: Thomas' re-building of the house was accompanied by the creation of new

formal gardens close to the house He was personally involved in the garden design.

- Main formal gardens were My Lady's Garden (Italian Garden) to the west, French Garden to the south and the Petit Trianon (or Swiss Cottage) with an associated garden to the south-east.
- The South Lawns (originally with a diagonal pattern of paths) were laid out across the site of the old house and court.
- Horseshoe Paths laid out.
- demolition of Diana's Temple and the old Orangery, latter replaced with a new one on the same site, though aligned differently.
- Considerable statuary was purchased including The Hawking Party and the groups in the French Garden and around the sundial.
- 1854: gardens were noted as being open to the public every Monday.
- 1857: Creation of the Evergreen Garden the centrepiece of which was the Hawking Party statue group.

Parkland

- 1830s: the new house and other buildings encroached on the park to the north of the old house site but the east/west vistas to Cain Hill and the Obelisk, and those to the north, were retained.
- New plantations on the edges of the park served to disassociate it from the wider landscape; became more inward looking.

Stasis, 1859-1916

Tenure

- 1859: Wrest Park became part of the Cowper estate, serving as dower house for Anne Florence de Grey Cowper, widow of 6th Earl Cowper.
- 1880: death of Anne; Wrest Park only served as a secondary residence for the new owner, Francis, 7th Earl Cowper, who was based at Panshanger (Hertfordshire).
- 1900: the walled garden was described in *The Gardener's Chronicle*.
- 1905: death of Francis; the estate passed to his nephew, Auberon, 9th Baron Lucas, who lived in the New Forest and had little use for Wrest Park which was leased.
- 1906-1911: Wrest Park became the country home of Whitelaw Reid, the American Ambassador.
- 1908: *The Gardener's Chronicle* noted the decorative nature of the walled gardens. *The Gardener's Magazine* gave a more functional account.

- 1914-16: Wrest Park used as a military hospital but was closed following a serious fire.

The Formal and Great Gardens

- Areas created or re-planted included: the Bath House, the Atlas Pond and The Fountain; and the Rose Garden (post 1860, pre 1904). Several of the large specimen trees would also have been planted.
- 1854 to 1908: the formal and great/woodland gardens were frequently reported in the national press including *The Gardeners' Chronicle* and *Country Life*.
- 1876: the Chinese Bridge was rebuilt
- 1880 onwards: Wrest Park was used for parties and the gardens were maintained by a full-time staff of gardeners.
- By 1893: the opening of the gardens to the public appears to have become an established tradition, regularly reported in the *Bedfordshire Mercury*.
- 1904: a *Country Life* article recorded the gardens as being in immaculate condition.
- 1906-1911: records of the American Ambassador and his guests included photographs of Edward VII in the gardens.

Parkland

- Records indicated an increased appreciation of the maturity of the parkland planting.
- Deer recorded in the park, remain well into the 20th century, noted as coming 'almost up to the house doors' by visitors.

Fragmentation, 1917-46

Tenure

- 1917: death of the 9th Baron Lucas; Wrest Park sold and the estate broken up, most went to J G Murray an industrialist from the North-east.
- 1932: Murray moved to Coles Park, Hertfordshire, put Wrest Park up for sale, and began to asset strip the estate.
- 1939: the SIC bought the house and about 260a of land for its wartime headquarters, stayed until 1946.
- 1944-8: parts of the site utilised by the Women's Land Army.

The Walled Garden

- 1917: at sale the Walled Garden was described as comprising five enclosures with all kinds of wall fruit, two wells and large storage tanks, vineries, peach, cucumber, and plant glasshouses, tomato, mushroom and fig houses, the gardener's house, bothy, storerooms, offices, and stabling.

- 1917 to 1934: records suggest the garden still contained glasshouses and offices.
- 1934: sale description less detailed, but 'various' plant houses and extensive range of forcing pits were still in place.
- 1930s: oral history indicates that the walled garden was tenanted by a market gardener who employed 30-40 women.
- 1939-45: part of the garden used to store machinery used by the Land Girls stationed in the Wrest Park Hostel. They may also have worked in the gardens. The main usage of the walled gardens was for raising vegetables and fruits for consumption by the employees of SIC.

The Formal and Great Gardens

- 1917: The sale thought to mark a decline but re-assessment indicates that the house and gardens used for entertaining and the gardens were kept up until the 1930s.
- 1932: Murray began to asset-strip the estate, selling some monuments and removing others to Coles Park.
- 1939 to 1946: records indicate was some maintenance and re-planting of a few areas by SIC staff as a 'hobby'. Dormitory huts erected under the trees to the south of the service range.
- 1944 to 1948: ploughing took place on the South Lawns.

Parkland

- 1917: although parts of the park were purchased by Mr J G Murray, others were sold separately or immediately let out.
- 1932: those parts of the park kept 'in hand' (and the woodland garden) were subjected to considerable tree felling as Murray sold off trees for timber. The obelisk also sold, and the column on Cain Hill removed.
- 1939: most of the park was sold separately from the Sun Insurance purchase reinforcing the separation between house/garden and park.
- 1939-45: the war saw arable intensification and field sizes expanded. All of the parkland and parts of the garden were under the plough, including areas worked by the Women's Land Army. Lumber Jills worked in the park and woodland areas. The woodland was managed by the Essex Timber Company; further extensive felling.

The post-war era, 1946-2005

Tenure

- 1946: estate sold to the MoW to ensure survival of heritage features.
- 1947: NIAE (later SRI) re-located to Wrest Park and the site gained national and international recognition for the work carried out there.

The Walled Garden

- NIAE/SRI used the walled gardens for experimental crops.
- New glasshouses and offices were built and some of the gates between compartments widened. Older greenhouses were eventually demolished but the range of service buildings to the north of these and part of the 'hovels' were left.
- 1960s to 1980s: further modern glasshouses were constructed, and offices and stores adapted. Many paths were lost, as was the wall fruit and decorative planting, though there was some replacement in 1980s.
- 1990s: part was still used as a productive garden providing vegetables and fruit for the employees of SRI. Meadow sowing in the eastern compartment. There was also an experimental volarium.
- 1999: it was noted that the walled garden was likely to come under pressure for more development as it was well screened from the public and under-used.

The Formal and Great Gardens

- Formal gardens and woodland/great gardens managed by the NIAE/SRI under the guidance of MoW/English Heritage.
- Gardens and grounds became a focus for local and regional recreation with an emphasis on heritage.
- Financial input limited to upkeep and certain areas became 'institutionalised' with low maintenance planting (eg the Italian Garden) whilst others were neglected or inappropriately planted.
- Deteriorating hydrology resulted in the degradation of the Bath House Gardens.
- After 1983: certain areas were 'restored' to the 18th century style, and some features which had been lost or altered were re-instated.
- 1986: Wrest Park added to English Heritage's Register of Parks and Gardens of Special Historic Interest at Grade I.

Parkland

- 1946 onwards: the parkland suffered greatly being denuded of its tree cover in almost all areas.
- Restoration of some of the avenues has taken place with inappropriate planting close to the Silsoe Lodges and north front.
- Experimental work (on wind funnelling) resulted in a series of 'temporary' buildings to the north of the main house. Equally intrusive are modern buildings both north-east of the house and east of the stables.
- A recreation ground was laid out in the park close to the Silsoe entrance.

- Parts of the western park was cut off by the insertion of the A6, whilst the main routes in and out of the park were tarmaced.

English Heritage, 2005-date

The Walled Garden

- Now houses parking, the visitor centre with a café and shop and a play area. There are also areas of planting by the apprentices.

The Formal and Great Gardens

- Considerable recording and assessment of the gardens has taken place over the last few years in preparation for the creation and implementation of a long-term management plan. The gardens have also experienced renewed investment as urgent remedial work is undertaken.

Parkland

- Most of the park is owned by Home Farm, although areas to the east and south are under different ownership/tenancy.
- Cain Hill is currently in private use for pheasant rearing and has been planted with appropriate trees - it is currently inaccessible.
- The Old Park area has recently been acquired by English Heritage and replanting is taking place.

AERIAL PHOTOGRAPHIC SURVEY

By Fiona Small

Introduction

The aerial photographic survey of Wrest Park was based on the interpretation of aerial photographs and data derived from airborne laser scanning (lidar). This was supported by relevant documentary sources such as historical plans of the park and gardens. The survey covered an area of 36 km² centred on the park (as defined by the English Heritage Register of Parks and Gardens), taking in settlements on the periphery of the park. The remit for the survey included transcription and recording of all archaeological features with a potential date from the Neolithic to the mid-20th century. Figure 21 shows all the features transcribed in the gardens during the project and a list of all NRHE records modified or added as a result of this work is given in Appendix 5.

Traces of the continued remodelling and altering of the gardens representing fragments from multiple phases of their evolution were identified. The main features recorded were parchmarks caused by the remains of buried structures such as building foundations, walls, paths, parterre borders and statue plinths. Also visible on aerial photographs were cropmarks and parchmarks caused by shrub and tree holes from former planting schemes. Slight earthworks were also recorded on lidar images and aerial photographs. There were also faint traces of former formal walks leading from the gardens into the parkland beyond. These overlay very faint traces of earlier (probably medieval) ridge and furrow and traces of embanked boundaries which appeared in places to predate the medieval cultivation. The remains of both the ridge and furrow and the boundaries extend beyond the limits of the park where the remains of a number of medieval sites were recorded. These included the motte and bailey castle at Cainhoe, village earthworks and a number of moated sites. Recent photographs of the area have also revealed a small number of earlier (probably later prehistoric) sites visible as cropmarks across the survey area.

The gardens

The Rose Garden

The Rose Garden is located between the walled garden and the French Garden (Figure 21). Sub-surface remains of planting schemes associated with the 19th century house, are visible as cropmarks in the grass lawn now covering the former garden plot. Segmented beds arranged in two fans are clearly visible at either end of the grass strip with a central oval parched area beneath a single remaining statue or plinth (visible on far left of Figure 22). Planting holes for trees or shrubs are also visible as cropmarks at either end of the lawn. Slight traces of these features were seen on lidar images suggesting some earthwork survival, but not in enough detail to map. The ground based analytical earthwork survey recorded details of slight earthworks corresponding to the features visible on aerial photographs.

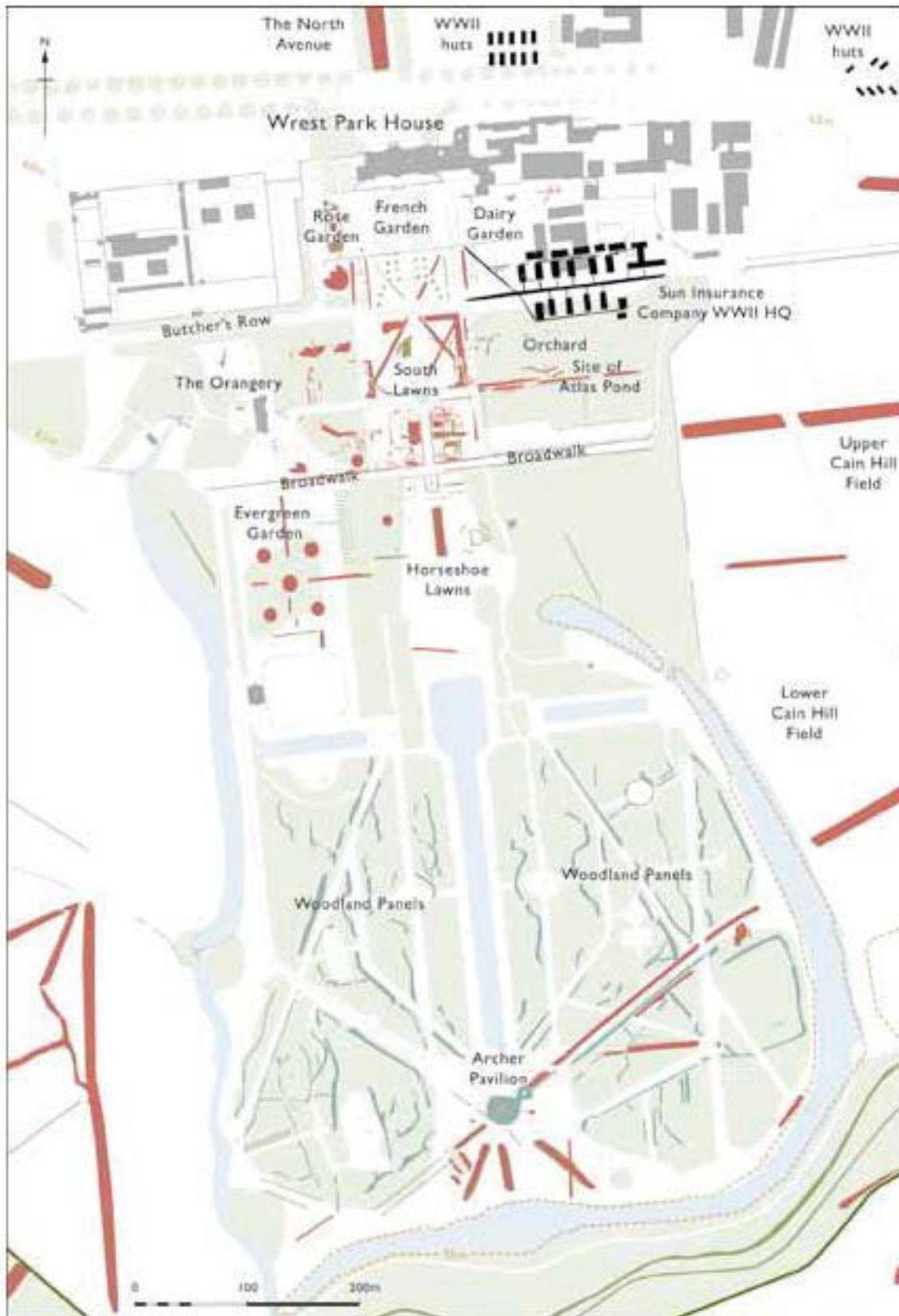


Figure 21 Composite transcription of features mapped within the gardens at Wrest Park from aerial photographs and Lidar data (base map Atkins Mapping Solutions 2007 © English Heritage and © Crown Copyright. All rights reserved. English Heritage 100019088. 2014. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™)



Figure 22 Former flower beds in the Rose Garden visible as cropmarks visible in the left centre (detail from EHA TL 0935/57 06-JUL-2004 © English Heritage).

Remains of an avenue can be seen in the adjacent strip of the garden, to the east of the path, but no buried planting patterns were discernible. The analytical earthwork survey identified the remains of former planting in this area.

The Dairy Garden and Petit Trianon

Within the Dairy Garden, 1994 aerial photographs record a double row of parched tree planting holes extending in a north/south strip along the western edge of the lawn (Figure 23). This parching is thought to be associated with a former scheme of planting which the current one has partially replaced. The former planting scheme is bordered to the east by the parched traces of a probable former path which is also visible as a parchmark. This appears to have been a continuation of the north/south path which still forms the eastern edge of the middle section of the South Lawns.

An east-west path, visible as a parchmark, extends along the southern edge of the Dairy Garden, and is possibly the continuation of Butcher's Row, the east-west drive shown on Figure 24. A diagonal linear feature (probably a former path) extends from the south-east through the southern half of the Dairy Garden, intersecting with the extension of Butcher's Row described above. This was seen in part as a parchmark on aerial photographs and as a faint earthwork bank on the lidar images. A 1950s photograph (CUCAP FF31) shows this diagonal path in use, leading to 20 or so huts arranged on either side of the east-west path. These huts were part of the second World War HQ of the Sun Insurance Company (above). Further, probably military, accommodation or



Figure 23 Former planting holes and paths visible as parchmarks in the Dairy Garden (EHA TL 09 35/19 26-JUL-1994 © Crown copyright. EH).

storage huts were also seen on 1947 RAF photographs arranged in six dispersed clusters along the eastern drive which passes to the north of Cain Hill eastwards in the direction Gravenhurst Lodge at the eastern edge of the park.

The South Lawns

The South Lawns lie between the French Garden and Broadwalk. It is divided into six lawns by a wide north/south axial path and two parallel east-west paths (Figure 24). The Fountain lies at the centre of the southern group of four lawns.

The site of the former house (described below) lies across the southern 3rd of the South Lawns. The formal drive and Great Court at the front (north) of the earlier house occupied what is now the middle section of the Lawns. This area became part of the gardens to the south and rear of the new house in the 1830s when the old house was demolished. There is evidence of a number of phases of landscaping associated with the former house and earlier phases of gardens for the present house. These sub-surface remains are visible as parchmarks on aerial photographs, but parts can be seen as slight earthworks on lidar images and on the ground.

The old house

The old house lay in the southern third of the South Lawns over 200m to the south of the present house (Figure 24). It was remodelled and aggrandised in 1676 and again in 1710 before it was demolished in the 1830s. The buried remains of the house lie just beneath the turf and parts are clearly visible as prominent undulations, some with exposed fragments of masonry. Aerial photographs, particularly those taken in July 1994, record extensive traces of the house, surrounding buildings, walls and garden divisions (Figure 25). These include multiple phases of buildings and gardens probably dating from the 13th to the 19th centuries. Several components correlate with representations of the old house and gardens on early views, maps and plans. These include illustrations of the old house from 1704 (Figure 16), Laurence's map of 1719 (Figure 90), and the 1735 and 1737 Rocque maps (Figure 99 and Figure 100). There are differences in the scale, alignment, and positions of some buildings around the old house, but their overall

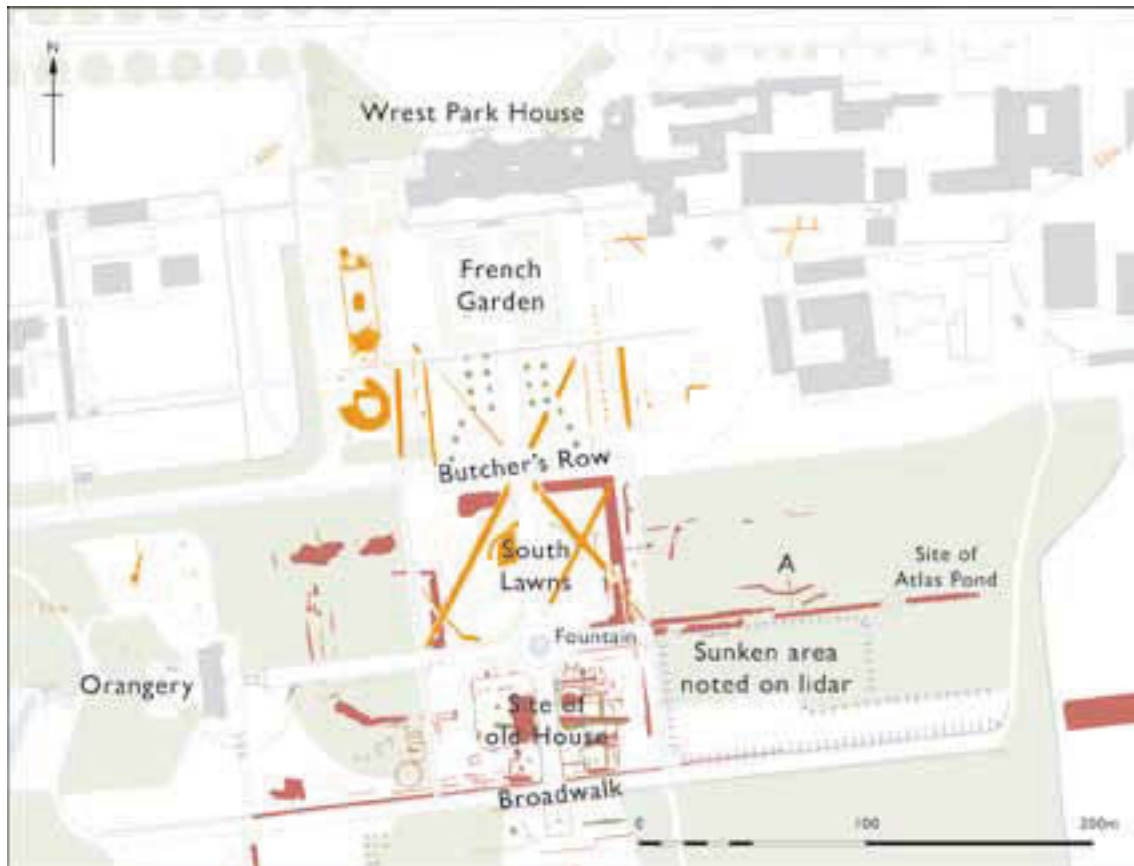


Figure 24 Traces of the earlier house and associated garden features: positive features red, negative features green, later features associated with new house orange (base map Atkins Mapping Solutions 2007 © English Heritage and © Crown Copyright. All rights reserved. English Heritage 100019088. 2014. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™)

appearance and location seems fairly accurate when compared to the photographic evidence. Some estate plans of early houses were compiled before the house and gardens were completed and so include aspirations which never came to fruition, or slight alterations, and this seems to be the case at Wrest Park.

The major elements of the former house can be seen as parchmarks in the south-east lawn where the outlines of the walls are clearly visible. In the south-west lawn there is evidence of extensive disturbance, where the structures and details are hard to identify. The parched traces of possible wall foundations (A, Figure 24) appear to correspond to walls or borders dividing the gardens as depicted on the 1705, 1719 and 1737 plans. These buried features extend east-west along the southern edge of the South Lawns adjacent to the present day Broadwalk.

To the west of the southernmost panels of the South Lawns, are the parched traces of a subdivided building on a NNW-SSE axis (c.13.5 × 6.7m). Mid-way along its western side there is a projecting structure which may be the traces of an entrance, possibly steps. This building is present on the 1719 and 1737 plans, though it is depicted as being aligned more north/south than it appears on the aerial photographs. Immediately to the north-east there are traces of a second smaller E-W aligned building. This is not marked on the

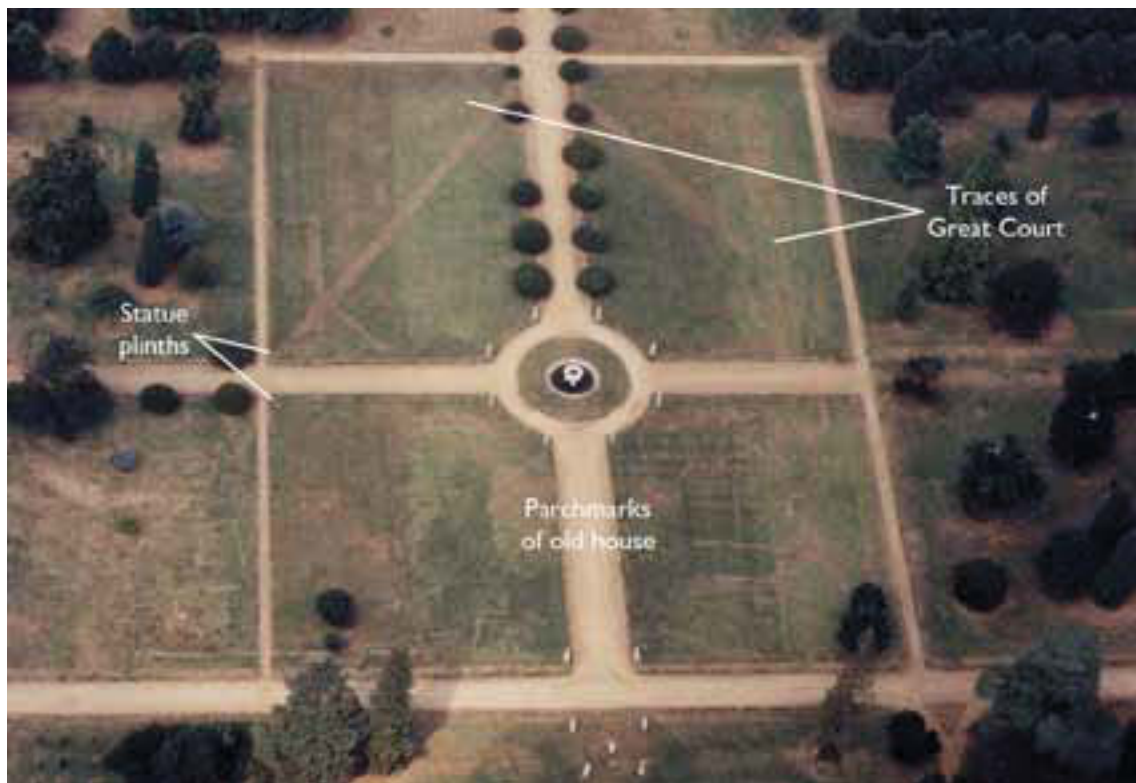


Figure 25 Detail from a rectified aerial photograph showing parchmarks from former garden features, the old house and the faint outline of the circular driveway in Great Court (EHA TL 0955/15 29-JUL-1994 © Crown copyright EH)



Figure 26 Aerial photograph mapping of the old house and Great Court areas (overlaid on the 1735 Rocque map; The Bodleian Libraries, University of Oxford, Gough Maps I, folio 16b).

1719 plan, but is on the 1737 plan opposite the western entrance to a small courtyard within the house complex. A larger courtyard occupies the eastern half of the house site and is shown on early plans with an entrance through an archway in the northern façade of the house. The lidar images recorded the presence of slight disturbances probably caused by remaining building material and the foundations spread across the site of the house, but not in enough detail to identify individual structures.

Garden features associated with the old house

Faint parchmarks and slight earthworks represent the square outer border to the Great Court to the north of the house, depicted on the 1705 Kip and Knyff plan and 1737 John Rocque plan (Figure 26). Hints of the northern part of the circular bed within the drive's circuit also appear on the 1994 aerial photographs (Figure 25).

A possible side entrance to the house is indicated by faint parchmarks of a possible path or drive extending west from the house, curving north in the direction of the south-east corner of the present walled gardens (Figure 26). This could be a side drive to the western courtyard seen running up the western side of the gardens on the 1705 plan.

Within the northern half of the South Lawns there are traces of a two mirrored blocks of six (possibly eight) circular dark marks (2.5-3m in diameter) on either side of the current central axial path (Figure 22 and Figure 24). A diagonal line of three further tree holes extends from each of the double rows to the south-west and south-east corners of this part of the South Lawn. These have been identified as former tree planting holes that correspond to the avenue of trees depicted on the 1704 Kip and Knyff views, which show two parallel lines of trees (planted two-deep) approaching the house through the park from the north. The avenue crosses an east-west avenue, both widening to form a small circle of trees at the crossing point. The avenue then continues southwards to the Great Court curving outwards as single lines of trees, creating a semi-circular space in the front of the gateway into the court. The cropmarks in the lawns are the remains of the very southern end of the original North Avenue where it meets the east-west drive (Figure 27).

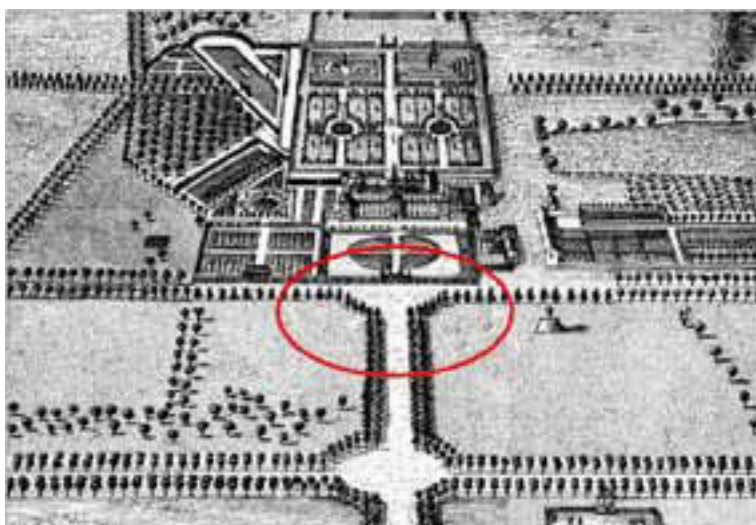


Figure 27 Detail from the 1703/4 Kip and Knyff view of the park from the north showing the approach to the house, traces of the southern end of the avenue can be seen as cropmarks in the South Lawns (Patricia Payne © English Heritage DP029355)

19th and 20th century garden features in the South Lawns

The middle and northern sections of the South Lawns are crossed diagonally by the traces of two former paths that cross at Butcher's Row (Figure 28). The paths to the south of Butcher's Row are visible as parchmarks on aerial photographs and as very slight earthworks on the lidar images. The easternmost path is crossed by another diagonal path extending from The Fountain to the north-east corner of the lawn. This was only seen as a parchmark on RAF vertical photographs taken in 1947, and the 1830s panorama depicted a different arrangement of paths which appears not have been created after all.

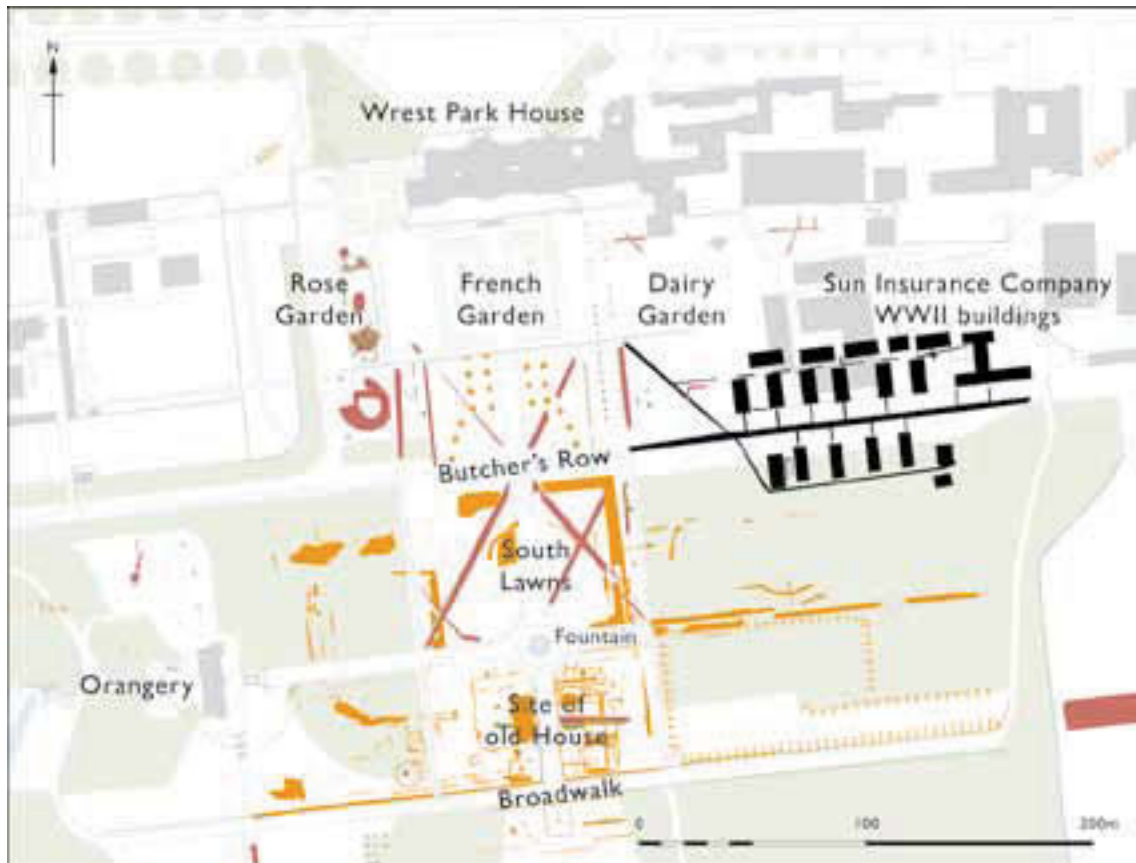


Figure 28 Plan of garden features associated with the new house: positive features red, negative features green, earlier features orange (base map Atkins Mapping Solutions 2007 © English Heritage and © Crown Copyright. All rights reserved. English Heritage 100019088. 2014. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™)

There are parchmarks of four possible former statue plinths flanking the paths extending east and west from the central north/south walk. Based on their relationships to the present-day paths and lawns, these plinths were probably those of statues removed in the 20th century (Figure 25).

The Orangery

Much of the area east of The Orangery is now dotted with ornamental trees, between which there are parched areas recorded on 1994 aerial photographs (Figure 25 and

Figure 28). In the southern half there are traces of buildings and a possible side entrance associated with the former house site discussed above. However, it is not so clear what the areas of parching to the north represent. North-east of The Orangery there are traces of several short lengths of bank (aligned north/south) which may be associated with a compact plantation of trees or shrubs first recorded on the 1737 Rocque plan, a portion of which is visible at the western edge of Figure 26.

The Orchard

East of the South Lawns lies the orchard where aerial photographs show the parched traces of a former path extending from west to east which had its origins in the 18th century gardens, when it extended the line of the walk east from the Orangery. The parchmark is interrupted mid-way by the former Atlas Pond dating from 1840 (Figure 24). Of note is another linear parchmark located to the north of the path which curves south before extending west in a straight line (A on Figure 24). This has the appearance of an apsidal border to an ornamental bed. Other fragmented linear features could be remains of former parterres depicted on plans of the earlier house such as the 1737 John Rocque plan.

Immediately to the east of the site of the old house, both the 1719 and 1737 plans depict an area of partitioned garden approximately 50m square and sub-divided into two rectangular regions, possibly beds or ponds. The lidar image for this part of the garden indicates the presence of a sunken area that corresponds to this part of the early garden. (shown on Figure 24 and Figure 26)

The Horseshoe Lawns

Aerial photographs taken in 1994 of the northern half of the Horseshoe Lawn show a number of faint features visible as parchmarks and cropmarks in the grass. Today, a group of five statues sit midway along the northern edge of the lawn within a parched rectangle, possibly a former gravelled area. Immediately south of the existing central statue is the site of another possible former statue plinth visible as a small square area of parching (Figure 29).

There are traces of linear structures extending E-W along the southern edge of the Broadwalk, possibly footings of a former wall or path-edging (probably associated with the earlier house) which can be traced into the Evergreen Garden to the west (Figure 29).



Figure 29 Early 18th century garden features visible as parching and cropmarks on the Horseshoe Lawns (EHA TL 09 35/16 26-JUL-94 © Crown copyright EH)

South of the current group of five statues are traces of further linear features which extend east-west. These step southwards down the slope, by about 4m, from the statue group. This coincides with the northern edge of the parterres recorded on Laurence's plan of 1719 (Figure 30).

South of the Broadwalk the lawns were bisected by the remains of a former path which is visible as a parchmark in 1994 following the line of the principle axis of the gardens which was established as a path from the old house to the Long Canal (Figure 29 and Figure 30). Both the 1705 Kip and Knyff and Laurence's 1719 plans show the lawns divided into four parterres, each with a central circular basin or bed with a central fountain or statue. The northern pair of basins or roundels could be seen on aerial photographs. Each had traces of a central fountain or plinth located 60m south of the Broadwalk, set 60m apart, with two concentric ditches surrounding the eastern plinth. Within the inner circuit the grass was considerably greener than the surrounding lawns,



Figure 30 Transcription of features visible on aerial photographs of the Horseshoe Lawns overlaid on the 1719 Laurence map (BLARS L33/286 f.3, Patricia Payne © English Heritage DPI10990)

possibly due to higher water content, matching exactly the location and size of the basin depicted on the 1719 plan (Figure 30).

Potential traces of a southern pair of roundels depicted on the plans could not be seen on aerial photographs due to tree cover. No trace of either the northern or southern pair of basins could be detected on lidar images indicating an absence of surface remains, but the two northern basins and plinths were detected by subsequent geophysical survey confirming subsurface survival (Linford 2011, 4 and Figures 4-5).

The Evergreen Garden

The Evergreen Garden was dominated by the Atlas Cedars (planted post 1917) which surround a large mound surmounted by a statue known as The Hawking Party. In the lawns surrounding this central plantation, there are parchmarks of earlier paths extending north/south and east-west from the central point (Figure 31). The north/south path was recorded on the 1737 Rocque plan of the gardens dividing the ordered plantation known as the Grove. These paths were not included in plans of the later 'Romantic' phase of the garden (1740-1834) designed by Lancelot 'Capability' Brown. However, the paths were depicted on the 1882 1st edition Ordnance Survey map (Figure 32) when the four mounds flanking the central statue mound were also recorded. These mounds were recorded by the lidar survey beneath the canopy of the trees.

The north of the east edge of the Evergreen Garden has a border of young trees planted in three rows (Figure 31). The photographs taken in 1994 show parching around the base of these trees, but it is not clear whether the parching is associated with the current trees or an earlier plantation. These are visible to the left of Figure 29.

Google Earth images taken in 2007 and 2009 show a number of large rectangular parchmarks arranged in rows to the north of the Atlas Cedars. These are almost certainly the traces of the rows of stalls and tents from one of the numerous summer events or shows held in this part of the grounds in recent years, including one recorded in action on 2002 Google Earth images.

The Arboretum

Lying to the east of the Horseshoe Lawns, the area known as the Arboretum has undergone considerable landscaping and remodelling over time. No features from former phases could be discerned on either photographs or lidar images despite the good visibility due to the sparse modern planting. The south-west half of the Arboretum is dominated by the northern end of the Broad Water. The location of this appears to coincide with one of the perpendicular diagonal ponds dating from the 1702-5 phase of the garden, and has been suggested to have been part of an earlier medieval moated manor house at Wrest Park (Cabe Halpern, 2002). However, no hint of a moat can be seen on available aerial photographs or lidar images.

The most prominent feature in the arboretum visible on the lidar images is a diagonal ditch extending NW-SE. It doesn't appear to coincide with the course of the recent 6

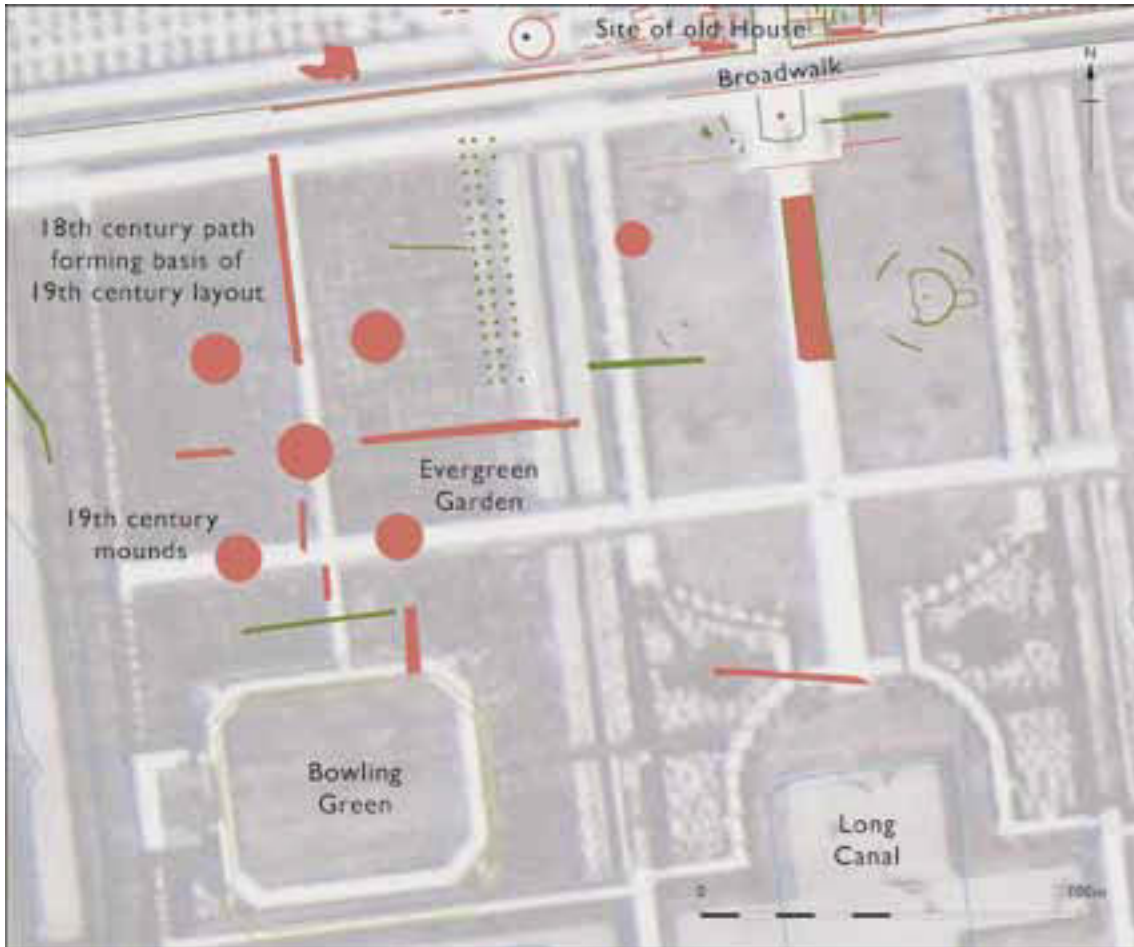


Figure 31 Traces of paths and mounds in the Evergreen Gardens and Bowling Green mapped from aerial photographs and lidar data overlaid on the 1735 Rocque map (The Bodleian Libraries, University of Oxford, Gough Maps I, folio 16b)

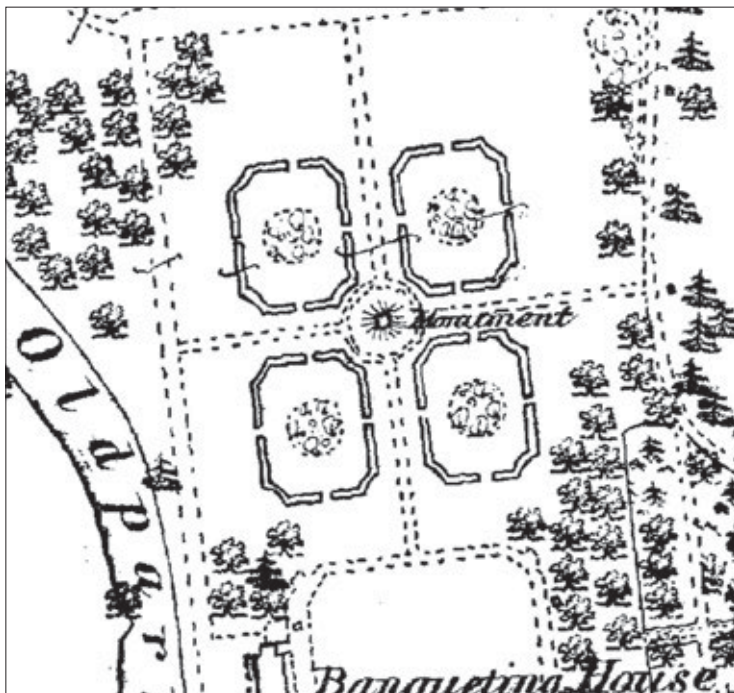


Figure 32 Detail from 1st edn OS 1:2500 map 1882 (Bedford 26,1 © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2010) Licence numbers 000394 and TP0024)

inch pipeline inserted to circulate water around the garden's water features, though does appear to be a recent feature.

The woodland panels

The woodland panels are the areas of woodland on either side of Long Canal. Initially known as the 'new plantation', they were laid out about 1711-13 and were planted with blocks of trees divided by numerous walks between clearings forming garden 'rooms'. The layout has been altered somewhat through time, and drainage ditches have been cut. Due to the dense tree cover aerial photographs were of little use in the wooded areas, but the lidar revealed the sinuous courses of the woodland drains beneath the trees as well as traces of former paths visible as slight raised linear banks (Figure 33).

In the grassed clearing around the Archer Pavilion to the south of the Long Canal, traces of former paths could be seen as cropmarks, and slight earthworks, radiating out from the pavilion (Figure 33). The four main diagonal paths were first recorded on the 1719 Laurence map and on the 1735 Rocque map. The south-east path is bisected by traces of a north/south aligned path, which is a contemporary remnant of one of the two parallel paths that flanked the Long Canal for the entire length of the woodland garden.

The wider park

Old Park

The area of park known as the Old Park is situated immediately to the west of the gardens, beyond the sinuous canal known as the Old Park Water (Figure 36). Today the western park is divided into a number of large fields which were under arable cultivation through much of the 20th century. Leases were granted to graze and cultivate parts of the park in the 19th century, though the parts to the west, north and east of the gardens were maintained as pasture.

The Old Park is bisected north/south by a track, the remaining section of the formal Duke of Kent's Drive, associated with the 18th century park (Figure 34). The northern end of this drive is visible as a very faint cropmark on 1970 aerial photographs and as a slight earthwork on lidar images. To the west of the track, adjacent to the cutting of the A6 trunk road, the traces of a low irregular mound and tail of bank were detected on the lidar images (Figure 36). This mound corresponds to the approximate location of the Obelisk erected on the western edge of the park after 1719. It was retained following the construction of the 1830s house, but was sold in 1934 (above).

The cropmark remains of a number of faint ditches can be seen within the Old Park (Figure 34). Most are thought to be traces of 19th-20th century drainage, but it is possible that some of the linear features are the remains of ornamental walks from the gardens depicted on various plans from 1719 onwards, but removed when the park was deformalized in the 19th century.

The lidar survey recorded slight earthwork traces of a number of features which probably pre-date emparkment. These include linear banks and traces of medieval and later



Figure 33 Top: lidar image of the southern half of Wrest Park gardens showing the network of sinuous drainage ditches and raised paths in the woodland panels; note also the bank [A] (lidar: © English Heritage DTM 05-APR-2009, height exaggerated x5 for emphasis). Bottom: Aerial survey mapping of the Woodland Garden. A cut feature [B] continues the alignment of one of the rides (overlaid on the 1735 Rocque map; The Bodleian Libraries, University of Oxford, Gough Maps I, folio 16b)

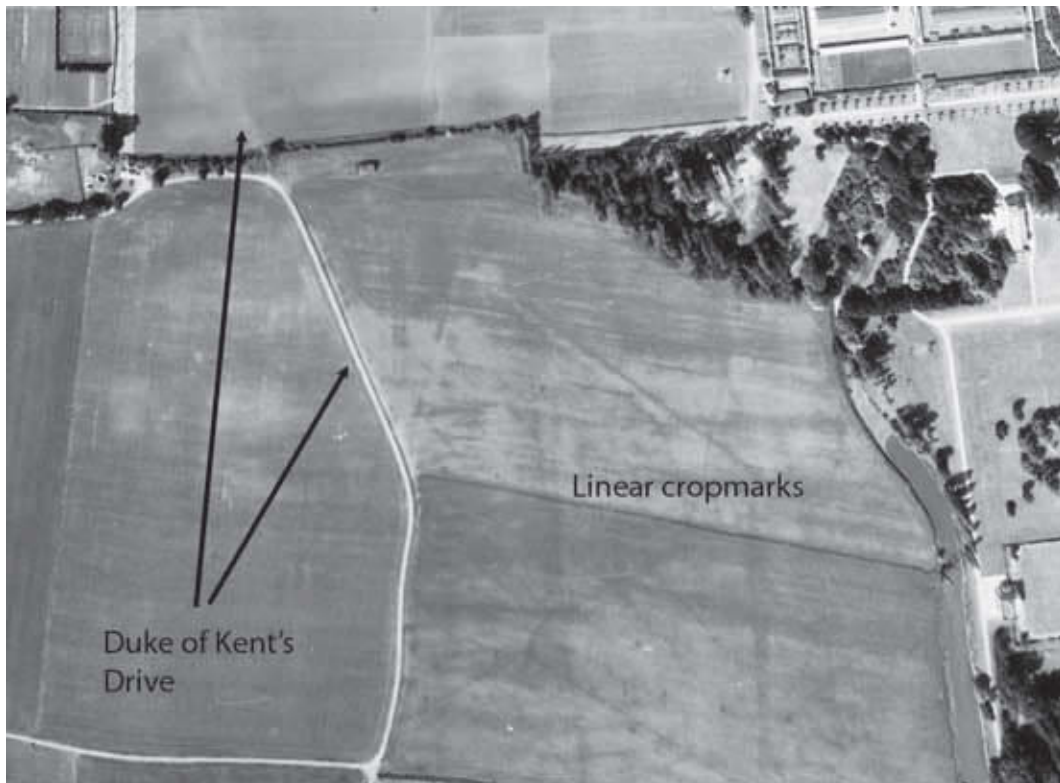


Figure 34 A rectified aerial photograph showing cropmarks of linear features including 19th-20th century drain and the Duke of Kent's Drive within the Old Park Field to the west of Wrest Park. EHA TL 08 35/11370 22-JUN-1970 © Crown copyright English Heritage

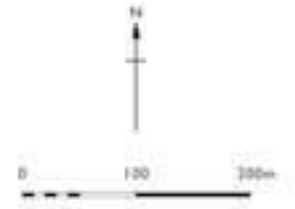
cultivation in the form of ridge and furrow. The ridge and furrow appears to overlie at least two of these linear banks, which may be earlier boundaries. Other banks may be headland banks associated with the ridge and furrow.

Cain Hill

Cain Hill forms the end of a tree-covered ridge lying immediately to the east of the former house. The earliest depiction of the park (the 1705 Kip and Knyff engraving) shows the hill devoid of trees, but flanked to the east by woodland and to the north by more sparsely planted trees. The programme of planting started around 1703 (Cabe Halpern, 2002) with a tree-lined formal walk extending east from the front of the old house, looping around the back of the hill over the ridge and back to the gardens south of the house. Subsequent plans (1719 and 1737) show Cain Hill planted with trees in close concentric circuits with seven paths radiating from the central point aligned on seven of the eight principle compass points excluding the east (pointing away from the house). Though covered with mature trees today, the lidar images of Cain Hill reveals the concentric ridges of the 18th century plantation, interrupted by the radial paths (Figure 35). The location of a building, Cain Hill House, can also be seen as a mound on the crown of the hill. This was depicted on an early plan of 1721, now held by Bedfordshire County Council Record Office, and was subsequently shown as both plan and elevation drawings in the Rocque plan of 1737. It was removed in the 1830s and replaced by an iron column on a plinth on the central mound.



Figure 35 Lidar image of Cain Hill showing the central mound and the 18th century concentric planting ridges broken by radial paths (lidar: © English Heritage DTM 05-APR-2009)



Faint traces of the formal walk extending northwards from Cain Hill into the park were seen as a soilmark on aerial photographs taken at the same time as the lidar survey in 2009. On the northern edge of Cain Hill there is a network of ditches, probably drainage, visible as earthworks which appear to cut the 18th century woodland ridges. There are further woodland planting ridges to the south of Cain Hill (Figure 35).

Upper and Lower Cain Hill Fields

Upper and Lower Cain Hill Fields are situated to the east of the gardens (Figure 36). Like the Old Park to the west, this part of the park was originally broken up by small plantations, clumps of trees and formal tree-lined walks, but most of the trees were removed in the mid-19th century when it was turned over to pasture. Traces of the former walks are still visible as slight earthwork ridges detected by the lidar survey, and as cropmarks visible on the aerial photographs. One is visible extending from near the eastern end of the Broadwalk towards Cain Hill and another short length of bank runs parallel to the south. Both these walks were present on the earliest plans of the park dated to 1705 and 1719, the latter extending past the southern side of Cain Hill. A third former walk is recorded on the lidar images extending north-east across the Lower Cain Hill Field from the end of the East Diagonal Walk. The East Diagonal Walk cuts NE-SW through the woodland panels from the Archer Pavilion, crossing the Circular Canal via a bridge. This walk is on the 1705 views, and can be seen on the 1719 and 1735/7 maps.

Faint traces of medieval or early post medieval ridge and furrow can be seen in the northern and southern ends of Cain Hill Field as cropmarks on RAF 1947 vertical

photographs and the lidar survey recorded further faint traces of ridge and furrow in the central band between the traces of the northern and southern E-W formal walks.

A linear bank at the southern end of the Cain Hill Field was visible as a broad low earthwork on the lidar images appearing to pass beneath the buildings of Whitehall Lodge. It extends northwards to meet the NE-SW course of the southern E-W formal walk through Cain Hill Field which is described above (A on Figure 33). RAF vertical photographs from 1947 show this feature as a bank and ditch, following the course of a track from the lodge (depicted on the 1st edition OS map of 1882); it is probably a boundary which predates emparkment.

Northern park

The Northern Park is the area to the north of the present house. The North Avenue extended in a straight line (just west of north) from the house in the direction of Home Farm. The 18th century maps show the avenue lined by trees two or three deep, but the 19th century watercolour of the new house depicts a new arrangement with the avenue flanked by widely spaced paired clumps of trees, the sparse remains of which could still be seen on the RAF photographs taken in 1947 (RAF CPE/UK2159 4283 13-JUN-1947). The first 150m of the avenue was replanted subsequently with two lines of trees, the rest of the northern park largely cleared of trees and cultivated. However, beyond the short avenue spur traces of the original drive can still be traced as a slight earthwork for a further 330m on the lidar survey.

Beyond the park

Beyond the limits of the park and garden of Wrest Park, aerial photographs were the major source. Lidar data was only acquired for the core area of the survey centred on Wrest Park. Where it did extend beyond the park, further traces of the slight banks of former field boundaries and plough headland banks recorded elsewhere in parts of the park were seen extending to the limit of the lidar images. Only slight traces of some of these banks could be discerned on the aerial photographs, including the Infoterra photographs taken at the same time as the lidar survey, suggesting further undetected remains could survive in the outer area of the survey beyond the limits of the lidar data.

The earliest features identified were a small number of possible prehistoric sites seen as cropmarks dispersed across the survey area. These typically represented the subsurface survival of ditch-defined enclosures and linear boundaries affecting the growth of overlying arable crops and pasture. Most of these sites, with the exception of a complex of enclosures near Higham Gobion, had no previous record and were surveyed from photographs taken between 1995 and 2009. The lack of recorded sites prior to this survey is partly due to the fact that very few specialist oblique photographs had been taken of the area outside the gardens of Wrest Park, and the vertical photographs were generally taken for non-archaeological purposes, at the wrong time of year to reveal cropmarks.

Within the valley of the River Flit the cropmark remains of three possible Bronze Age round barrows were recorded from 1999 EHA photographs. The low number of such



Figure 36 Transcription of features mapped from aerial photographs in the gardens and wider park (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™)

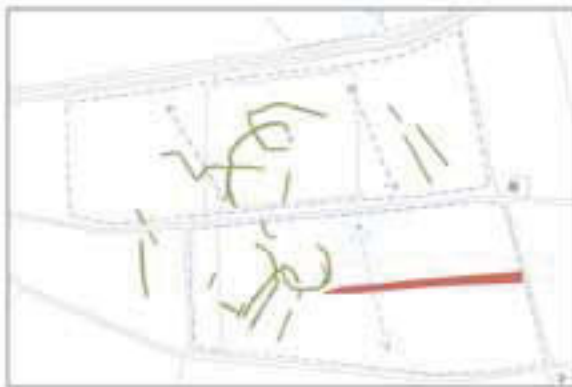
- 1 - The present house
- 2 - The North Avenue
- 3 - 2nd World War huts
- 4 - Walled Garden
- 5 - Duke of Kent's Drive
- 6 - Site of Obelisk
- 7 - Upper Cain Hill field
- 8 - Lower Cain Hill field
- 9 - Woodland panels



EHA 1518303

Settlement remains southwest of Chicksands

Aerial photographic source:
EHA 18370/15 25-JUN-1999



EHA 1517980

Settlement remains west of Silsoe

Aerial photographic source:
EHA 15287/30 22-JUN-1995



EHA 36224

Cropmarks immediately east of the medieval earthwork known as The Castle, Higham Gobion

Aerial photographic source:
AAR 11-12 (CUCAP) 24-MAY-1960








- | | |
|--|---|
|  Sink |  Large cut feature |
|  Ditch |  Extant ridge and furrow |
|  Extent of Area |  Levelled ridge and furrow |
|  Structure | |



Figure 37 Possible late prehistoric settlement sites visible as cropmarks (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™)

sites in a river valley where there are typically a higher occurrence of barrows is probably due to lack of specialist archaeological aerial reconnaissance.

The sites of three possible later prehistoric settlements have also been identified, two of which were new discoveries from 1995 and 1999 EHA photographs (Figure 37). The first of these was seen to the south-west of RAF Chicksands, immediately to the north of course of a probable Roman road (now the A507 Ampthill Road). This site appears as the fragmented traces of a number of enclosures (one of which contains a possible hut circle), attached to the southern side of an E-W linear ditch. Two parallel ditched boundaries extend south-east to the road forming a strip or field with a small rectilinear enclosure sitting within it. This settlement may well be of later prehistoric or Roman date.

The second possible later prehistoric settlement was seen as fragmented cropmarks extending across three fields to the west of Silsoe village. This site appears as cropmarks of a number of curvilinear and sub-rectangular enclosures and ditch fragments, overlain by the remains of levelled medieval ridge and furrow visible as cropmarks on the aerial photographs, but surviving as slight earthworks detected by the lidar survey.

Another similar settlement site lies immediately to the east of the site of medieval earthworks known as The Castle at Higham Gobion, south-east of Wrest Park. This settlement appears as a large sub-circular enclosure with traces of ditches, a trackway and at least three possible hut circles. The site is only visible on one set of CUCAP photographs taken in 1960, with an additional enclosure at the south-western edge of the site seen on a Google Earth image dated 2009.

The wider survey area included the parishes of Silsoe and Gravenhurst and parts of five others: Pulloxhill, Shillington, Campton and Chicksands, Clophill and Flitton and Greenfield. Traces of medieval or post medieval ridge and furrow were recorded on photographs and on the lidar survey in all of these parishes to a greater or lesser degree. Some ridge and furrow could be seen to sit within slight embanked boundaries identified from the lidar images of the core of the parkland. In these areas the rig generally appears to respect the earlier field divisions, though in some cases it appeared to extend over the boundaries, suggesting that some of these banks are remnants of a landscape which pre-dated the medieval open field cultivation.

There are a number of medieval sites surviving as earthworks across the survey area. The larger sites include Cainhoe Castle and number of moated sites, as well as village earthworks at Lower Gravenhurst, and two possible medieval fish farms.

Cainhoe Castle (Figure 38) is a medieval motte and bailey situated on a natural sandstone knoll. Before the Norman Conquest Cainhoe (Chainehou) was held by Aelfric, a thane of King Edward, but was granted to the d'Aubigny family following the Conquest. When the male line died out in the mid 13th century the castle was abandoned, becoming a ruin by 1394 (Doubleday and Page 1904). The castle had three irregular baileys separated from the motte by a ditch. A later manorial complex with a square moat with several fishponds occupies the level ground to the south-west of the castle. Traces of medieval or post medieval ridge and furrow may be seen within some of the enclosures

thought to be part of this later manor site. Immediately to the north of the castle are the earthworks of a number of embanked enclosures and a hollow way were recorded from aerial photographs. These earthworks are thought to be the remains of the medieval village of Cainhoe which was deserted soon after 1349 following the Black Death. The Hollow way passes south-east through the settlement in the direction of the approach to the castle, terminating just short of the north-eastern corner of the castle earthworks.

Upbury within Pulloxhill (Figure 38), to the west of Wrest Park, was the site of a former moated medieval manor house thought to date from the 12th century with further features dating from the late 13th and 14th centuries. The central rectangular moat has an entrance causeway to the east and is surrounded by five further moated enclosures and fishponds. The earthwork traces of ridge and furrow cultivation could be seen



Figure 38 Medieval sites of Cainhoe Castle and Upbury (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014)

within two of the outer moated enclosures and further levelled rig was detected in fields surrounding the manor complex.

Immediately to the west of Lower Gravenhurst village are the extensive remains of medieval village earthworks (Figure 39). Though suffering considerable plough damage, the remains of two areas of raised earthworks, probably house platforms, surrounded by traces of embanked strip fields and ridge and furrow could be seen extending across a number of fields around the 14th century church of St Mary the Virgin and the hamlet of Lower Gravenhurst, suggesting village shrinkage or shift.

In addition to these larger sites, a number of smaller probable medieval sites were mapped. These included possible homestead moats at Newbury Farm to the north-west of Silsoe (Figure 40, top), a small possible homestead site (more embanked than moated) seen to the south of Wrest Park, lying amongst the remains of ridge and furrow close to the Silsoe-Pulloxhill parish boundary (Figure 40, bottom), and two to the east of Lower Gravenhurst (Figure 41 A & B).



Figure 39 Medieval remains in Lower Gravenhurst (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014)

In the same area, just over the parish boundary in Shillington is a D-shaped earthwork enclosure known as Church Panel (Figure 41 C). The enclosure measures c. 145m in length and is defined by a ditch flanked by narrow inner and outer banks. The straight side is less clear, defined by the course of a small stream or drain. It has not been excavated, but is variously suggested to be either a Danish or medieval manor or refuge enclosure (see Archaeological background above).

The moated sites are distributed across the area around Wrest Park, with a concentration along either side of the valleys of the River Flit to the north, and its

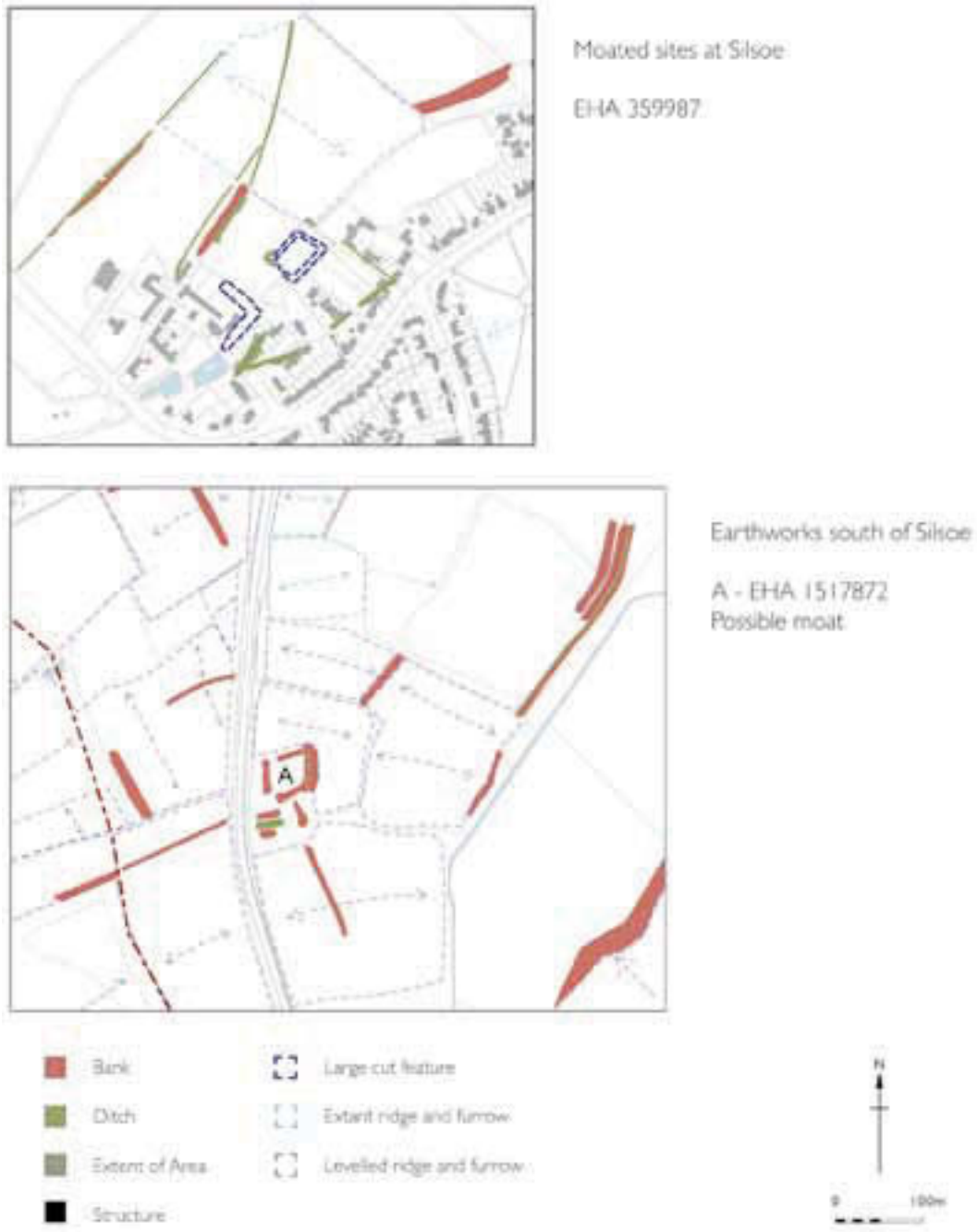


Figure 40 Medieval moated sites mapped in the area (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014)

tributary, the River Hit which flows from the south of Wrest Park, north-east to its confluence at Shefford. Within this distribution there is a notable absence of medieval (or earlier) sites identified in the area covered by the park itself. It is likely that this apparent 'void' was the site of at least one such farmstead or manor, and that the process of emparkment and the creation of the artificial park environment around the house has removed or masked all but the slightest traces of the medieval landscape within the park at Wrest Park.



Figure 41 Medieval earthworks east of Lower Gravenhurst (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014). For key see Figure 40 above

ANALYTICAL EARTHWORK SURVEY

By Magnus Alexander.

The main area surveyed formed a large block between the new house and the north end of Long Canal together with areas to the west, referred to here as 'the upper gardens'. As far as possible these earthworks will be described chronologically. Two other areas were also surveyed; around the Archer Pavilion at the south end of Long Canal, and the site of a possible bastion garden to the south-west. Each of these will be treated separately. See Figure 6 for the location of named garden areas mentioned below.

The upper gardens

Pre 17th century features

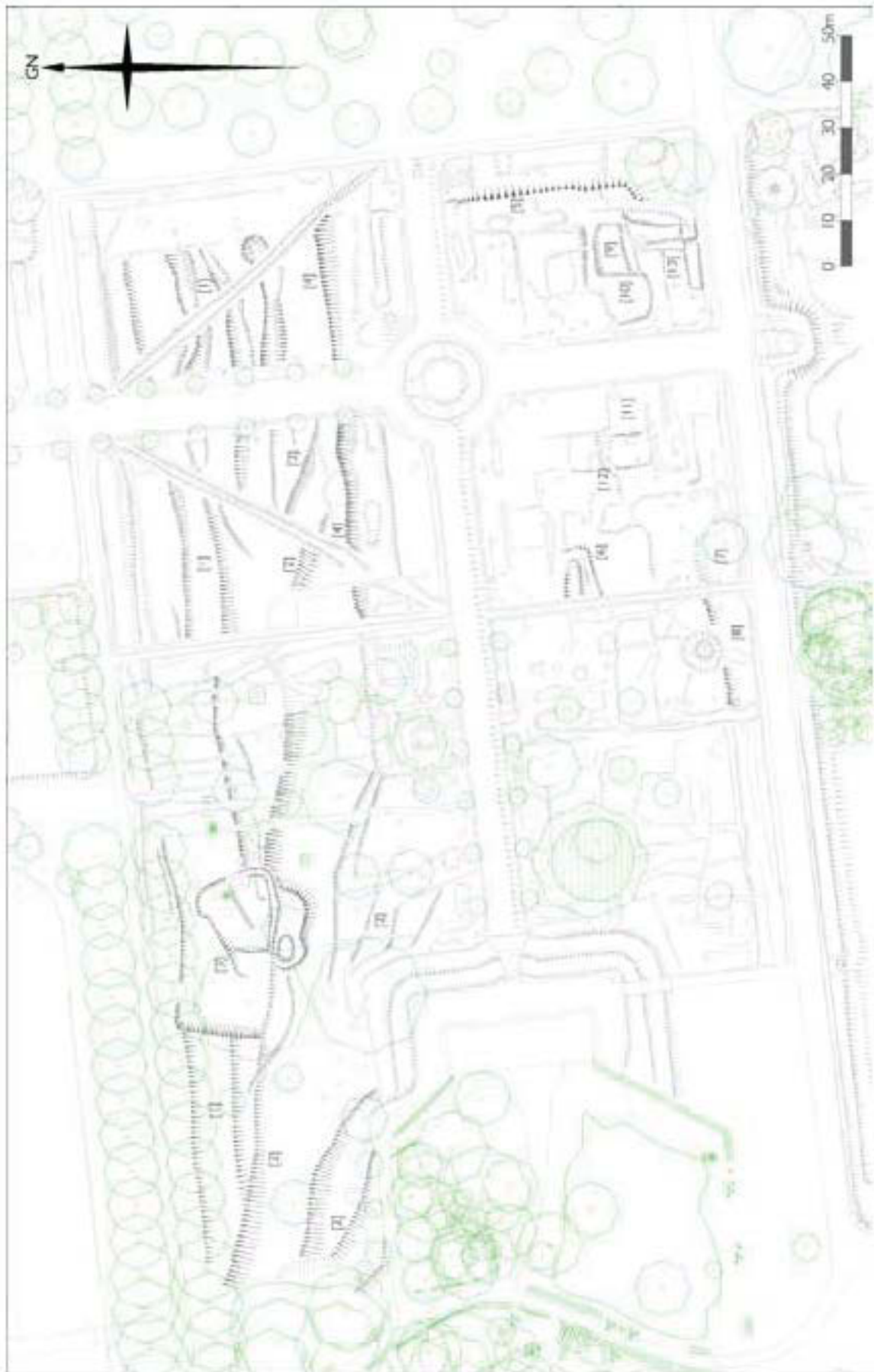
This section covers all surviving earthworks likely to be earlier than the first known gardens at Wrest Park, the first evidence for which is from the middle of the 17th century (above). They are likely to be mainly late medieval or early post-medieval.

[Numbers in square brackets refer to Figure 42]

Agricultural features

The earliest features surveyed were several faint south-facing scarps running east/west, along the general southwards fall of the ground, from north of The Orangery and across the central part of the South Lawns [1]. To the east, these became a series of faint gullies separated by low ridges. They were perhaps truncated by a faint terrace defined by a broad low scarp running WNW-ESE, slightly down the natural fall, again from north of The Orangery and across the South Lawns as far as the central drive, north of The Fountain [2]. There were several other faint scarps on similar alignments to the south of this around The Orangery and another to the east, north of the main scarp. Rather than being later, as implied by the possible truncation of the features to the north, it could be that the two areas were being utilised differently and the two sets of features were different contemporary components of a single land-use system. Many were clearly cut or overlain by features of the late 18th and early 19th centuries as well as features probably of the early 18th century (below) so must pre-date these. Nothing shown in any known documents, maps or illustrations corresponds to these features and the slightly oblique scarps appear to be truncated by the earthworks associated with the old house and its service buildings, including what may be the remains of the northern arm of the moat (below). They are probably the remains of medieval cultivation.

A little to the north-east of The Orangery was a small earthwork complex [3]. It comprised a sub-rectangular area measuring about 40m east to west by 20m north to south defined by inward-facing scarps to west and north where the ground was higher; so was slightly levelled. It appeared to overlie the east-west scarps mentioned above, but apparently respected the more oblique scarp [2], supporting the suggestion that the former were earlier than the latter and suggesting that this complex may be roughly contemporary with the oblique scarp. Within this area was a sub-square depression or



enclosure defined in its northern side by a scarp that ran from the north-east, around the corner and then WSW, petering out after about 20m. To the south it was defined by a slight east-facing scarp that ran into a relatively clear bank that extended along the edge of the oblique scarp mentioned above and turned north at a fairly well defined corner. The relationship between the up-slope scarp and the down-slope bank was obscured here by a well-defined depression that was probably a later feature. Perhaps associated with the complex was a raised sub-rectangular platform that appeared to project forward from the oblique scarp, with a hollow area towards its western end. It is possible that these features represent a building platform to the south with a small yard or garden to the north, perhaps within a larger yard. Nothing similar to this is shown on any known illustrations of the area; the only known buildings appear on the wider Kip and Knyff view of the early 1700s where a long range of buildings is shown as the eastern end of a walled garden extending further to the west – very little evidence for which was seen during the survey. It is possible that this was a building associated with the moated manor house (below) before the formal house and gardens began to develop in the 17th century, perhaps a gardener's, parker's or warrener's cottage, or similar. A park was associated with Wrest Park manor house by 1315 and the enclosure of a warren was underway by the mid-14th century (above).

The moat

A relatively broad and deep east-west gully runs across the South Lawns to the north of The Fountain, defined to the north by a broad, uniform south-facing scarp [4], which had the hint of a southward return at its western end. To the south the defining scarps were less consistent and rather different in nature to the east and west of the central walk, probably the result of the construction of the classical north front in the 1670s and its later demolition. The base of the gully was also rather uneven with lower areas, gullies and mounds suggestive of infilling with mixed materials and/or different degrees of compaction or settling. Despite these caveats the gully was clear and well defined and appeared to be overlain in places by later features, some apparently from the early 18th century, and it did not correspond to any features in any known historic sources. The old house had a moat by 1512, probably considerably earlier (above), and it appears most likely that this gully marks the line of the northern arm of that moat, perhaps remaining visible as it would have been slightly deeper here on the uphill side of the house.

To the east of the old house site was a rather vague gully, perhaps the eastern arm of the moat. This was better defined to the west where the ground dropped away eastwards from the generally raised area to the west, forming a clear scarp [5]. Although obscured by other features, this seemed to have a return to the west at its south end, which perhaps hints at the size of the building platform within the moat, and the line of its southern arm. The relationship with the northern arm was rather confused and there were only slight hints of a continuation of this scarp to the north of the east/west walk. This is not surprising given the late 17th and early 18th century developments here. To the east, the ground fell away westwards slightly from the path but this was ill defined and the features actually surveyed were probably later. The natural fall of the ground was to the east and south here and the development of the formal gardens to the east from

Figure 42 (opposite) Pre 17th century features (base map Atkins Mapping Solutions 2007 © English Heritage)

the later 17th century, resulted in the creation of garden compartments terraced into the slope, evidence for which remains. Prior to this though, the ground would have fallen away more gently and the moat would have run in a much better defined gully.

No clear evidence for the western arm of the moat was seen but the Kip and Knyff prints show a rectangular north/south canal/pond to the west of the house buildings which is generally considered to have been the remodelled remnant of it. This was crossed by a small decorative bridge with what appears to be a substantial gatehouse at its eastern end that was identified as the porter's lodge on the 1735 Rocque map. Earthworks consisting of an approximately square platform with a gully and some other south-facing scarps to the west were surveyed to the south-east [6]. This was probably the site of the porter's lodge and bridge over the canal pond to the west mentioned above. The probable south-east corner of the lodge was marked by fairly well defined scarps and the features to the west could have been related to the bridge. The Amptill and District Archaeological and Local History Society also identified this as such during a resistivity survey (Fadden and Turner 2004). The canal must therefore have run roughly north/south on a line to the east of the path here. If this was a part of the moat then the platform within may have measured about 60m north/south by 80m east-west. The lodge seems to have comprised an archway with a chamber above, with a lantern roof, perhaps with a clock. This could be the gate mentioned in the 1573 inventory as 'Chamber over the Gate, Chamber coming upon the Gate, Clock Chamber' (Collett-White 1991a, 323). The first chamber would have been the first floor room, the second possibly a ground floor room accessed from the gateway, and the third in the attic. An early date would be consistent with the canal pond being a remnant of the moat but this is rather speculative. Architecturally the building looks rather later but could have been remodelled.

A deep hollow in the very south-west corner of the South Lawns might mark the south-west corner of the moat [7], and gully running off to the WSW may be the remains of an outlet leat [8]. This is discussed in detail below (1702-21, Garden).

Other moated sites are common in the area, for example at Newbury Farm in Silsoe, which measured 40m by 50m, Lower Gravenhurst, which was a similar size. Another in Upbury was slightly larger as was a similar example in Maulden, both about 50m by 60m (above). This suggests that the Wrest Park moat was rather larger than the average, though it may have developed over time, perhaps being extended to the west to accommodate an enlarged service yard.

The house

The medieval core of the old house probably consisted of, from east to west, a solar block, open hall, screens passage and kitchen block, with a chapel to the north of the solar block (above). The earthworks of the chapel were clearly visible and readily distinguished from the rest of the old house earthworks as they were on a slightly different orientation [9]. The earthworks of the hall house were less obvious though a low platform may have marked the location of the solar block [10]. The hall was probably under the central walk but the eastern scarp of a rectangular hollow [11] may have marked this end of the kitchen block, the hollow forming as a gap between buildings.

There are numerous scarps in this area that could be related to this part of the building though. If the return identified at the south end of [5] above does mark the south-west corner of the moated platform, then this fairly linear east/west arrangement of buildings must have been constructed quite tight to the moat and occupied most of the southern half of the platform. It is therefore likely that any yard and ancillary buildings lay to the north, or outside the moat.

Other elements were added to this basic layout rather haphazardly over the years. Plans of the old house show a substantial cross wing to the east of the kitchen, and the 1831 sketchbook shows what appears to be a Tudor building here (see Figure 124). Slight scarps approximately marked some of wall lines of this building [12] but the area was rather confused and some probably resulted from demolition. This building apparently extended further south than the earlier range of buildings. A block also seems to have been added to the south of the solar block and another wing added to the east of this, south of the chapel. Any of the numerous scarps in this area [13] could relate to these buildings which are known to have been developed in several phases. Again these extended further to the south than the earlier core, suggesting that either this arm of the moat (below) had been filled by this time, or it was on a line further to the south.

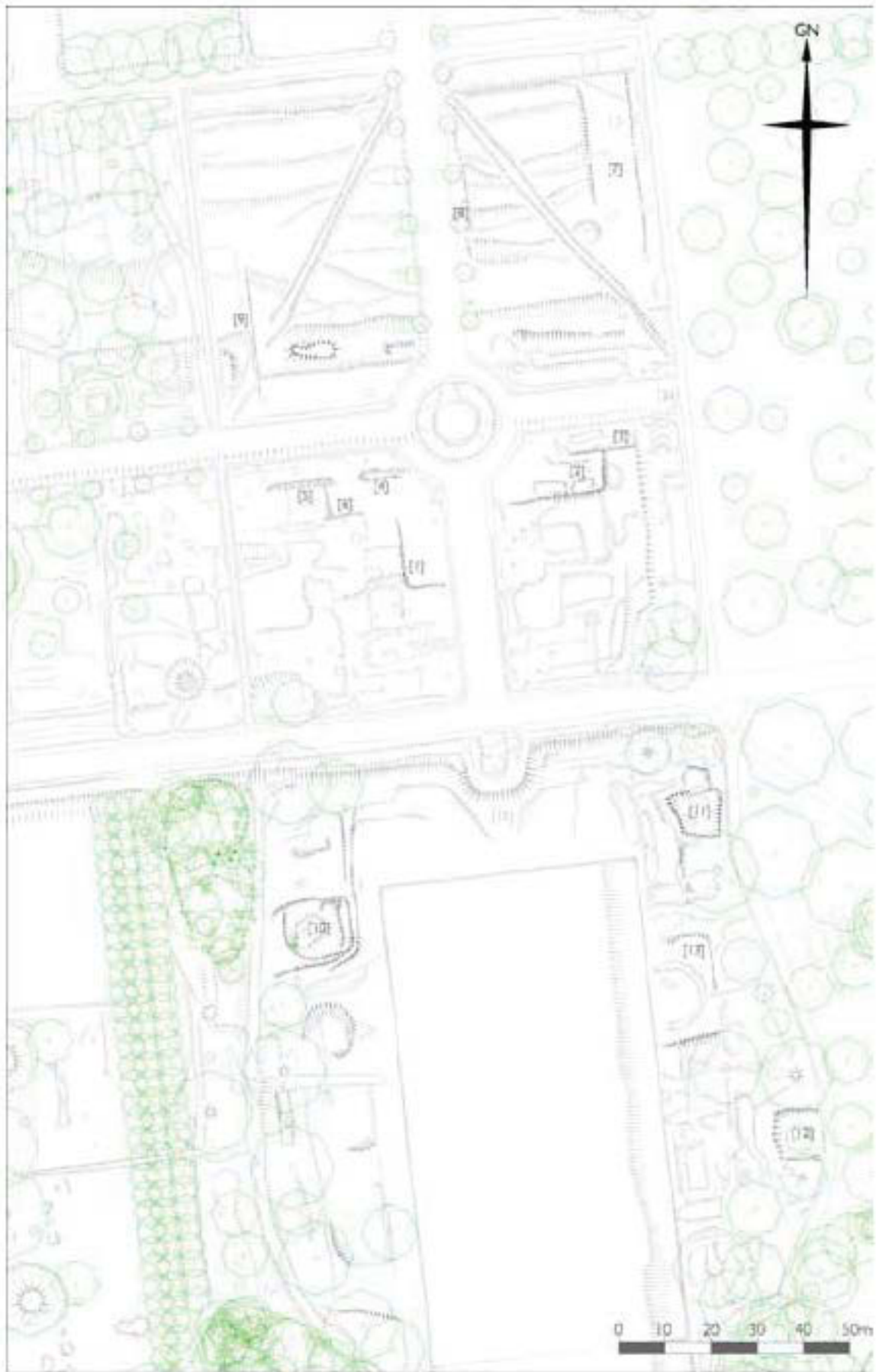
The 17th century to 1686

[Numbers in square brackets refer to Figure 43]

The house

Between the 1570s and 1670s the only addition to the house was 'a new gallery looking towards the hall', probably built in the 1660s (Collett-White 1991a, 324). This could well have been an internal feature but it is just possible that it refers to the wing running north from the kitchen block and later referred to as the 'servant's hall' which looked directly across a courtyard to the earlier hall. The line of the west wall of this wing was visible as a faint west-facing scarp [1], and the south-facing scarp to the south may relate to this wing, as might the west-facing scarp to the south of this attributed to the medieval kitchen block ([9] above).

A new north wing with a classical front was added to the house in the 1670s. The east end of this was recorded during the survey, defined by south and east facing scarps that formed a clear corner [2]. To the north, a north-facing scarp [3] probably marked the front of the salient block and continued to the east, picking up the line of the niched wall. There were several other features on the low platform defined by these scarps that may have represented internal structures. The western half of the front was not so well defined. A slightly irregular gully [4] was on the approximate line of the front of the wing, or perhaps marked one of the possible light wells visible in the Kip and Knyff view of the house. A south-facing scarp [5] was on the line of the salient block's front and again this continued to the west perhaps picking up the robbed line of the niched wall here. Another south-facing scarp [6] was on the line of the rear of the wing but this appeared to be part of a group of features running off to the west and south. A faint west-facing scarp running between these features may have been an internal wall line. The contrast with the east end of the wing may have been because it had been slightly terraced



into the slope here. The low terrace running across the north front would have lain underneath the main east-west walk here and no evidence was seen for it.

The court

In front of the main house was the Great Court that the close Kip and Knyff view shows set out with broad walks around the edge and central north/south and east/west cross walks, dividing the court into four, with a sundial at their intersection. This was probably placed there in 1682 (Cabe Halpern 1995, 152), suggesting that the arrangement was of this date or earlier, most likely set out at the same time as the new main front was built. The north arm of the moat must have been filled by this time at the latest and much of the unevenness seen in the base of the gully to the north of the site of the house (above) must have resulted from this process. One visible remnant of this layout may have been a very slight, broad terrace running north/south, in the north-east of the court area, defined by slight east- and west-facing scarps, between which the ground was relatively featureless [7]. This may mark the eastern of the north/south walks though this is uncertain since only the western scarp was on the correct line, the other probably being too far east. Two to three metres to the east of the central avenue were two slightly irregular east-facing scarps that may have marked the eastern side of the earlier central walk [8]. No equivalent scarps were seen to the west of the central walk though there was a slight fall down to the west edge of the north/south path indicating that it had been levelled which might have removed evidence for the earlier layout. To the south-west was a faint east-facing scarp [9], which became a narrow ridge where it ran through the gully probably marking the north arm of the moat (above). These features probably marked the line of the western wall of the court, a feature that survived until at least the second half of the 18th century (below) when the court was swept away. To the north was a slight west-facing scarp a little to the west of the line of the ridge to the south, defining a narrow flat-topped bank. This may have been from a slightly later phase but also seemed to define the west side of the great court. It is perhaps surprising that the earlier agricultural scarps and gullies described above survived in this area but the later features must have been relatively superficial. This is supported by a complete lack of evidence for the circular arrangement seen in later sources, and in aerial photographs.

The gardens

The earliest firm evidence for formal gardens comes from this period. A 'new' garden was mentioned in an agreement of 1658, when it was to be walled with steps built at each end (DIA et al 2009a, 47). This was apparently levelled when a second walled garden was laid out in 1686 to the south of the house so probably occupied much the same area as the later walled garden visible in the Kip and Knyff view (below). Despite this, there are numerous features that cannot be easily explained within the context of later periods and though arguing from negative evidence may be unwise, it seems likely that some of these must relate to this first walled garden.

The most obvious of these features was a square depression to the south-west of the site of the old house [10] about 13m across. Although rather confused by a substantial

Figure 43 (opposite) 17th century features, to 1686 (base map Atkins Mapping Solutions 2007 © English Heritage)

mound within it, the remains of a later tree bole, this seemed to be oriented on Broadwalk and associated with a low flat-topped ridge, probably a former path, running north from its eastern side. To the north there were also hints of a second square depression on approximately the same alignment. There was also a faint and partial sub-circular depression to the south of these features that was on the same alignment and could have been another degraded square depression. Although undated these features seem to be oriented on the general framework provided by the house, Broadwalk and the walled gardens, so may be of this period, but they are also about the right size and shape to be former knots in a formal knot garden, so it is possible they are remnants of even earlier gardens close to the house.

To the east of this, in a similar position relative to the old house complex, was a much more confused area of earthworks. Despite this, the general orientation of features also seemed to be parallel with, or at right angles to, Broadwalk. Some of these earthworks could be related to later features, and some overlay earlier features, but others did not appear to be related to any known elements of the gardens. Once again, the most prominent of these was a substantial square depression [11], of a similar scale to the depression described above, though not symmetrically reflecting its position. There were also hints of linear north/south features to its west, possibly reflecting the path line noted above, and also of further square features to its north.

To the south of this area, in the strip between the horseshoe path (currently a track) to the east, and the croquet lawns to the west, there were further earthworks predominantly on similar orientations to those noted above. These were more subtle than those to the north and more of them appeared to correlate with known garden features but once again many did not and several are likely to be from this period. For example, there was a clear square depression about 12m across [12] that was overlain by the Horseshoe Path (track) but which didn't correspond to any known features, though its western scarp may be related to a later north/south path. There were also hints of a rectangular platform around the eastern circular fountain (below) suggesting that it might originally have been situated with a square feature [13], rather than the circular paths shown in the early 18th century, no surface evidence for which was seen. The square platform was slightly irregular however, and the fountain not precisely central, so it may have been from this earlier period. Several other features across this area, and one or two to the west of the croquet lawns, might also be from this period though it must be emphasised that the highlighted features are only suggested as being from this phase.

Late 17th century, 1686-1702

[Numbers in square brackets refer to Figure 44 and Figure 45]

Old house and Great Court

It is not certain if any significant changes were been made to the house during this period. However a slight, rectangular hollow in the south-east of the South Lawns [1]

Figure 44 (opposite) Late 17th century features (base map Atkins Mapping Solutions 2007 © English Heritage)



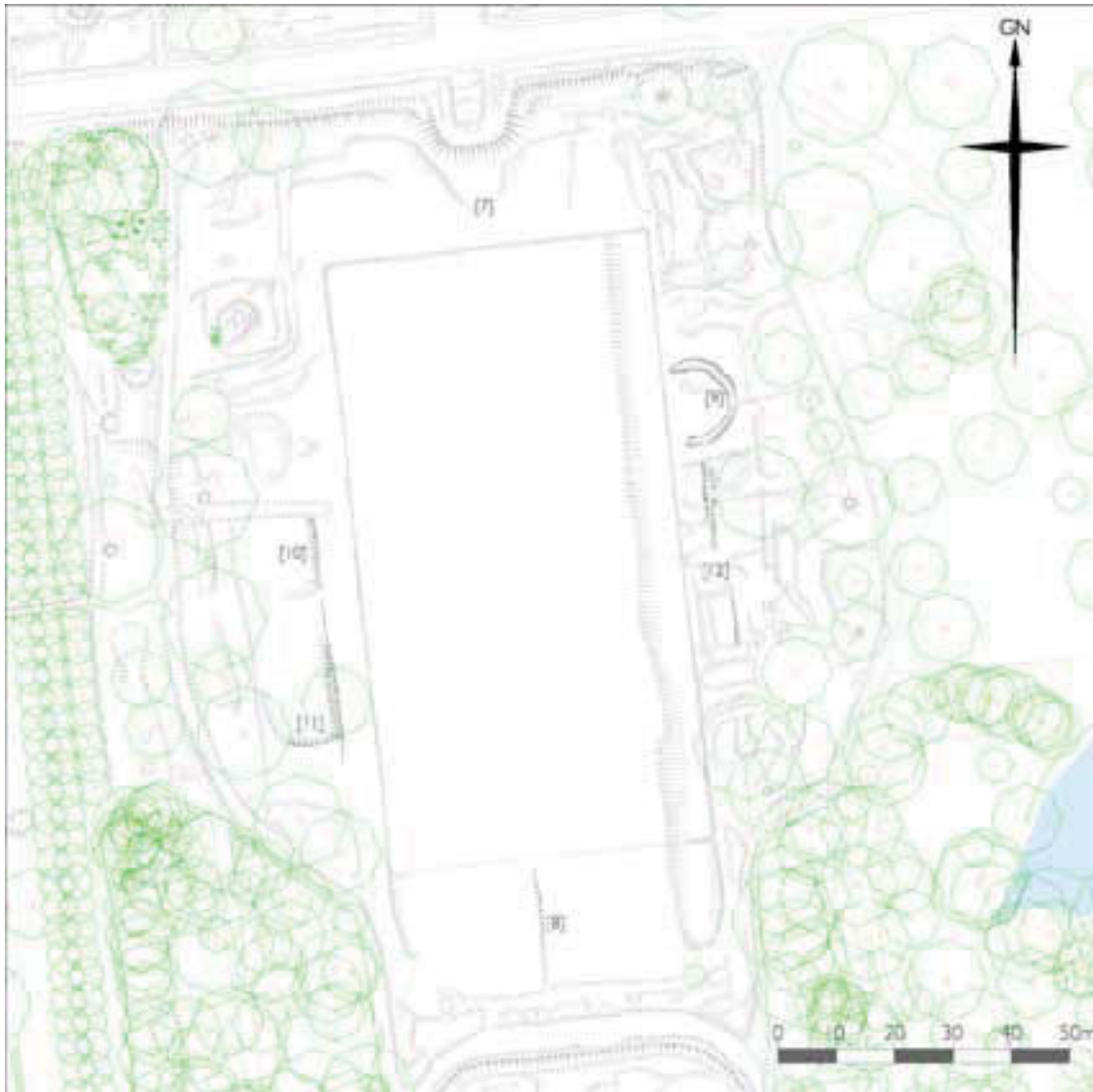


Figure 45 Late 17th century garden features (base map Atkins Mapping Solutions 2007 © English Heritage)

probably marked the location of 'Queen Anne's Wing'. It is not certain when this was built and there are no references to it any historic sources but it is likely that the name was later and became attached after its construction (see 'Documentary evidence' above). Later sources seem to show that it ran south at right angles to the north wing which it abutted which suggests that it was constructed after it which would make sense since it only abutted the chapel to the south and does not appear to have had any communicating links with it. It therefore probably dates to between 1676 and 1704 and has been placed in this phase simply on the balance of probability. Such evidence as there is suggests that the square layout of the court shown in the Kip and Kniff view of the house was probably contemporary with the original front of the 1670s and this layout doesn't appear to have changed until 1703/4. No other changes to the house and court are known.

North of the court

In the two northernmost panels of the South Lawns there are a series of circular depressions measuring about 4.0m in diameter and 0.1m deep [2]. These consisted of two groups of five depressions, together forming a semicircle with the chord running along Butcher's Row. A further four depressions on each side of the central walk arranged in pairs ran away to the north. Those to the west were shallower and less well defined than those to the east, suggesting levelling, perhaps war-time ploughing. These were very probably the remains of tree boles from an avenue to the north of the old house site. This is clearly shown in the Kip and Knyff views in exactly the form indicated by the earthworks, with singly planted arcs and double avenues, which supports both the accuracy of this interpretation and the print. This is in contrast to the Laurence plan of 1719 which shows squared planting and a triple avenue, for which there was no field evidence, suggesting that this plan may be unreliable in its details. It is notable that although approximately symmetrically arranged about the central axis of the gardens, the tree boles are slightly offset relative to it. Those to the east are approximately 0.6m closer to it than those to the west, so the centre line of the avenue was about 0.3m west of the centre of the existing walk.

The trees appear to be fairly mature on the 1703/4 view which suggests that they may date to an earlier phase, perhaps planted at the same time as the north wing and Great Court were laid out. They formed the south end of an avenue running north into the area of parkland acquired in the 1670s, and extensive tree planting is known during this period, so this is a reasonable assumption. However, they are smaller than trees shown running along the west side of Mr Acker's Canal to the east of the house, which was created in 1703 (Cabe Halpern 1995, 155). It is therefore probably safer to assume that the avenue is from this phase.

The service area

The most prominent building in the service area was a substantial structure shown immediately to the west of the canal/pond in the Kip and Knyff views, and identified as the laundry on the 1735 Rocque map. Clear earthworks of the laundry were identified during the survey consisting of low ridges marking wall lines to the south and sub rectangular hollows to the north where the building was terraced into the slight natural slope [3]. The illustrations of this building show it as being on the same alignment as the canal and it survived to be recorded on the 1737 Rocque map, on the same alignment. but the survey suggests that it was in fact at a slight angle to this suggesting the views and maps were presenting a somewhat idealised view. A smaller building was shown some way to the WNW of this building but no evidence for this was seen. To the north, immediately west of Great Court was a small building complex. Two slightly overlapping sub-rectangular depressions in approximately the correct location [4] might mark building footprints.

To the west, the Kip and Knyff view shows a rectangular walled garden orientated east-west with a line of buildings running north/south along the short eastern end. The eastern end of this garden, including the line of buildings, would have occupied the area to the east and north-east of The Orangery. A low north/south ridge, that became a

slight east-facing scarp at its northern end as the ground rose [5], would appear to be in approximately the right position to mark the eastern limit of the walled garden and extended about as far to north and south as would be expected. A short east-facing scarp to the west [6] might mark the line of the western wall of the buildings shown here. No other evidence for these buildings was seen though, and it is likely that they were light structures.

The gardens

This period began with the remodelling of the formal walled garden to the south of the house from 1686. This work included extensive levelling followed by the construction of much of what can be seen in the Kip and Knyff prints (Cabe Halpern 2002, 133). This formal garden lay in the area now known as the Horseshoe Lawns, divided from the old house site by Broadwalk to the north and extending as far south as the north end of Long Canal. It has been suggested that these works removed all evidence for earlier periods but this does not appear to have been the case (above).

The later gardens comprised a large rectangular area with a broad central walk with gates at the southern end, opening onto Long Canal, which also had gates at the far southern end, creating a strong central north/south axis. About two-thirds of the way south was a narrower cross walk that had gates to east and west leading out onto avenues within the park creating an east-west axis and also dividing the walled garden into four main panels. Each of the two larger northern panels was divided into four by paths with circular pools with fountains at the centre. The smaller southern panels were hedged wildernesses (mazes) of different designs, the western with a small viewing tower at its centre. There were also gardens to the east known as the Chapel Garden and the Orange Garden (Cabe-Halpern 2002, 134) though this area was extensively remodelled in later phases and has not been surveyed.

The strong east-west axis defined by Broadwalk was a later feature (below); the walk shown in the Kip and Knyff views only extended as far east and west as the walled garden itself, and the relationship between the house and garden in this period is unclear. However, a 'terrace wall to stand on' was begun in 1690 with 'iron pallisades on the terrace' recorded later (Cabe-Halpern 2002, 134), which must have been the precursor to Broadwalk as no others are shown with railings. By the 1720s the centre of this terrace was marked by a rectangular projecting area featuring a sundial which was purchased in 1682 and thought to be in its original position (Eustace 2008, 1), though a second sundial was bought in 1690-94 (ibid) and given the date the terrace was created this seems more likely. It is probable therefore that the terrace and the rectangular central projection with the sundial also date from this period. Later evidence however, particularly the Angelis view of the early 1720s, appears to show that the drop down to the walled garden ran on a line to the south of that seen today and that it was cut back at some point, probably in the later 18th century.

Survey revealed extensive earthworks outside a largely featureless central area, the result of post-war ploughing (below). Two of the scarps immediately to the south of the main slope down from Broadwalk ran in from east and west towards the centre and curved

southwards until approximately 6m apart. At this point [7] they seemed to be defining the north end of the central north/south path through the walled garden. To the south of the croquet lawns a faint west-facing north/south scarp, slightly to the west of the probable centreline of the walled garden appeared to define the east side of the path here [8]. The surface evidence for the path between these features must have been levelled by ploughing or for the croquet lawns. To the east of the croquet lawns a faint C shaped gully enclosing an area of somewhat uneven ground was surveyed that clearly marked the location of one of the two fountains [9]. This had been truncated to the west, again probably by ploughing or the croquet lawns. The western fountain could not be identified all evidence having been removed by ploughing.

The identification of the central path and the eastern fountain enabled the location of the main garden elements but this allowed relatively few elements of the surveyed earthworks to be related to this phase. This is not surprising given the extensive developments seen in the gardens over the years and the apparent survival of earlier features. To the south of the site of the western fountain was a west-facing scarp [10] that probably marked the western side of the north/south path here. At its southern end it curved around to the west on a line that could not be related to any known garden layout but which may have been an earlier feature (above). The north/south alignment was picked up to the south as another west-facing scarp [11] which also returned to the west at its southern end but this appeared to be on the line of the northern edge of the main east-west path already described. A slighter west-facing scarp immediately to the east was also on the line of the west side of the north/south path but this extended south across the line of the east-west path and may have marked the extent of ploughing here since the area to the east was completely blank. To the east, several short sections of scarp may have correlated with probable path lines [12] but no coherent pattern could be discerned, at least in part because the earthworks were more complex than to the west.

Elsewhere the identification of features from this phase was problematic. Although several scarps appeared to be on the lines of path edges and so on, at the time of survey they were thought to be parts of features that do not seem to conform to the layout at this date. Whilst it is unwise to rely too heavily on documentary sources to explain field evidence, the images and maps are generally quite consistent. The overall impression is that there were earthworks of several unidentified phases of activity in this area, some clearly later but others perhaps earlier (above).

The Duke of Kent's early works, 1702-21

In 1702 Anthony died and the estate passed to Henry (1671-1740), 12th Earl and later Duke of Kent, who was prominent at the courts of William and Mary, and Queen Anne. He had absorbed from them, his father, and his Grand Tour, a desire for a fashionable garden and improved landscape, and a prudent marriage to a wealthy heiress, as well as the early death of his mother left Henry financially buoyant allowing major works.

[Numbers in square brackets refer to Figure 46 and Figure 47]

The old house and court

No development of the house is known to have taken place during this period.

In about 1703/4 the square outer walks in the Great Court were replaced by a circular drive, probably to allow carriages to turn, and by the end of the period, as shown on the 1719 Laurence map, the east-west walk had been removed. No surface evidence for this layout was evident however, despite being visible on aerial photographs (above).

The service buildings, yards and kitchen garden

By the end of this period, the canal/pond to the west of the old house had been filled in and the bridge removed though the porter's lodge remained, as did the laundry to the west. The service area had also been rearranged. The walled garden and the slightly irregular group of buildings immediately west of Great Court had been removed.

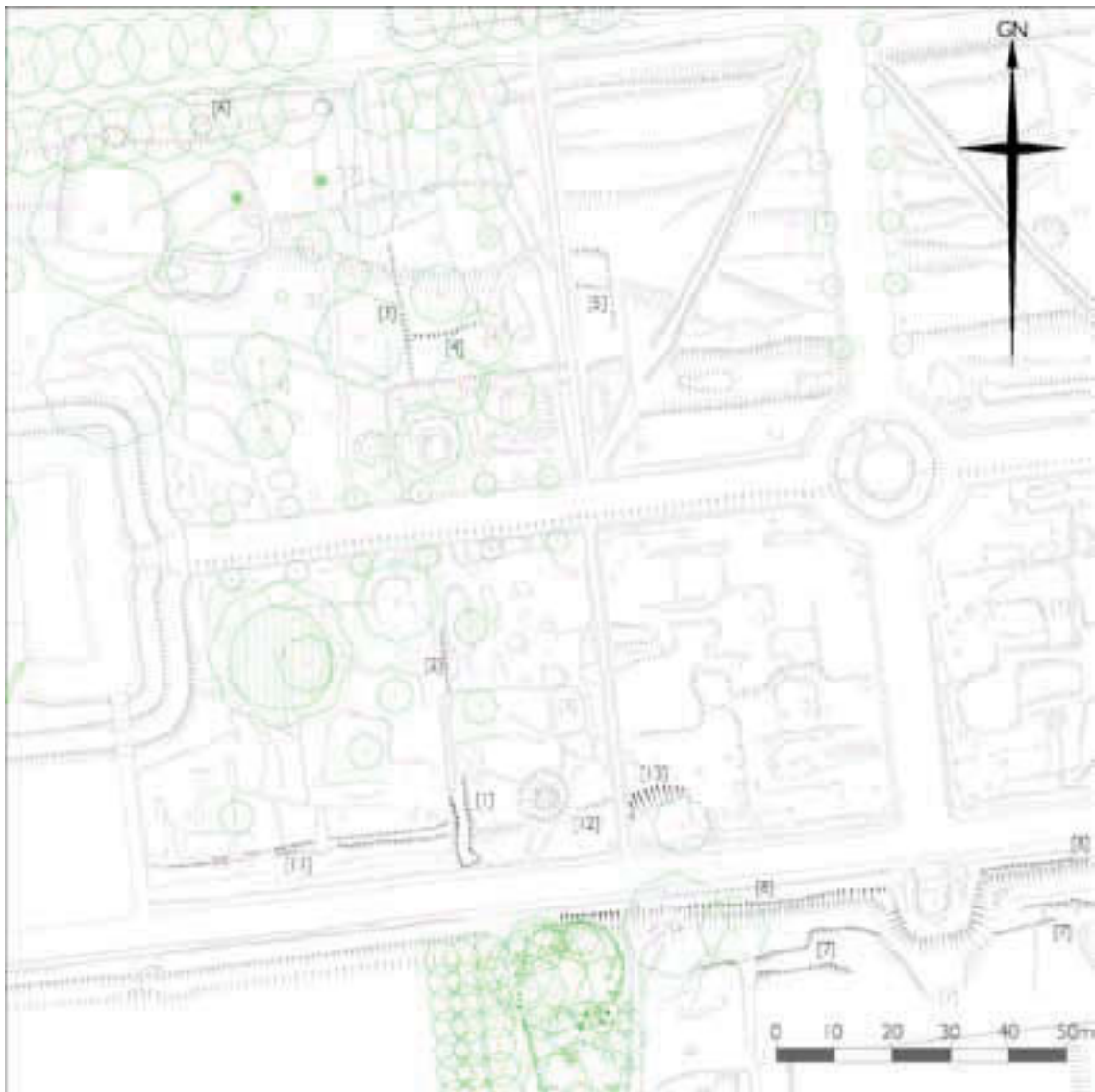


Figure 46 Early 18th century features; the service area (base map Atkins Mapping Solutions 2007 © English Heritage)

They had been replaced by a rectangular enclosure, probably walled, with two internal divisions creating an uneven tripartite arrangement with the largest enclosure to the south, a roughly square enclosure to the north and a smaller rectangular enclosure between.

The service enclosure is shown on the Laurence and Rocque maps as being about half the width of the court, perhaps about 40m across. The east wall of the enclosure was the west wall of the Great Court, the alignment of which was noted above. To the south and 37m to the west of the line of the western court wall was a low, slightly irregular, flat-topped bank [1] that ran north to south for 15m before getting lost among other features. This would be the location of what appears to be a curving wall, perhaps a west-facing niche, shown on the Laurence map, which might explain its slight irregularity. To the south, the bank had a slight turn to the east, perhaps suggesting a return. This alignment was picked up by an east-facing scarp some way to the north [2] and continued by a second further north again [3]. To the north of this was a shallow gully, perhaps the line of a robbed out wall but more likely related to several other ridges and gullies here, all probably later. Narrower ridges a little to the west could be remains of a later wall built on roughly the same alignment, perhaps later in the 18th century (below).

No certain traces of any of the east-west walls could be seen. Evidence for the north wall had probably been lost with the development of Butcher's Row, and the revision of the approaches to the house in the later 18th century. Evidence for the south wall was probably lost similarly, when Broadwalk was modified. The southern of the two internal divisions probably lay under the east-west walk from the Orangery and no evidence for it was recorded. The northern internal division must have run about 25-30m north of this walk but there was no certain evidence for it. A slight south-facing scarp [4] ran on approximately the right line but only halfway across the enclosed area before being lost amongst what were probably earlier features to which it may have been related. To the east of this, the east-facing scarp thought to mark the line of the western court wall had a slight counterscarp that had a clear western return at its northern end and another slight return to the south [5]. This southern return could be a trace of this division and was on roughly the same line as the scarp to the west though facing north rather than south. The northern return would appear to be too far to the north and may relate to an internal feature of the northern area rather than the division itself. There was also a slight south facing scarp between the two returns that might have been related to the division, but also seemed too far to the north. None were convincing.

No trace of a small building shown faintly on the Laurence map in the south of the service area was seen. As noted above this map is probably inaccurate in its details and the building may have been to the east where several buildings are shown on the Rocque maps.

To the north, along the south side of Butcher's Row, were several hollows [6] of a very similar character to those seen in the northern panels of the South Lawns (above). These were thought to be hollows left by trees forming the avenue running away to the north from the entrance to the Great Court. No trees are shown to the south of Butcher's row in this area prior to the Laurence map of 1719 so it is possible that these hollows are from this phase, if so however, others might be expected to be visible to the west.

The gardens

One of the main developments during this period was the extension of the terrace (later Broadwalk) to east and west, its development with walks to both south and north and the creation of the octagonal Neptune Basin at the western end. It is highly likely that the central of the three walks was on the approximate line of the existing Broadwalk, but the Angelis view of the early 1720s suggests that the drop to the walled garden was to the south of the southern walk, on a line south of the current south-facing scarp which must have been cut back, probably in the later 18th century. On the lower ground below this, there were several south-facing east-west scarps [7] and it is likely that many of these related to features at the north end of the walled garden such as the terrace wall itself, lower retaining walls or path or bed edges. Some though might be related to the process of cutting back the scarp here, perhaps from intermediate arrangements.

Above these, to the south of the central section of Broadwalk, was a slight south-facing scarp above the main scarp down to the Horseshoe Lawns [8]. This appeared to be

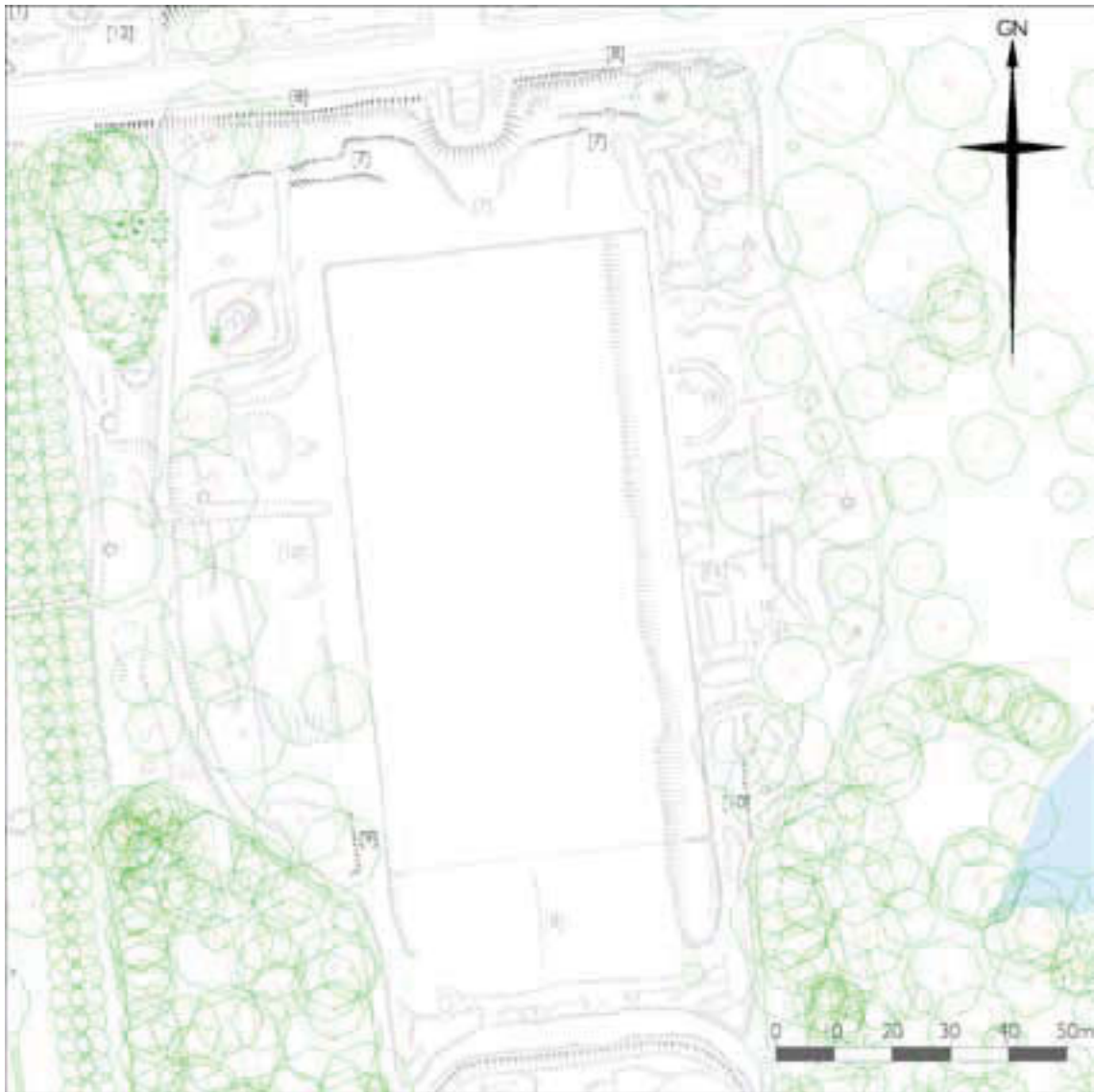


Figure 47 Early 18th century features; the gardens (base map Atkins Mapping Solutions 2007 © English Heritage)

on the line of the transition between the central terrace walk and the southern walk and probably dated from this period, a remnant of the arrangement before the terrace was cut back creating the current scarp. It was uncertain how far to the east and west this scarp extended as it was interrupted by the horseshoe paths. The area to the east was not surveyed and only a short section to the west could be surveyed before shrubs obscured it.

The pools in the walled garden were filled and the fountains replaced by statues as can be seen in the Angelis view, with similar arrangements replacing the wildernesses to the south, as shown on the Laurence map and so of this phase. A west-facing scarp to the south-west of the croquet lawns [9] was in the right place to be picking up the west side of the path running north from the south-west circular feature and had a slight return at its southern end that might have been picking up the start of the circular path itself. A similar scarp to the east [10] appeared to be mirroring this scarp but extended rather far to the south, possibly across the line of the circular path that would have been to the south.

To the north of Broadwalk and west of the site of the old house was a shallow east-west gully, generally about 7m wide. The ridge thought to mark the line of the western service yard wall ran over this gully and it was rather different in character to either side of this. To the west it was defined to the north by rather irregular scarps [11], clearly disturbed by later features in several places, which ran parallel to Broadwalk except to the west where they ran slight more to the north-west, also probably later modification. The gully was relatively shallow with an irregular base, which had a low ridge along much of its length that petered out to the west, where there was a south-facing scarp, but which ended abruptly at the ridge to the east. It seems highly likely that these features related to the east-west walk north of Broadwalk on this side of the house, which was initially laid out in this period and removed in 1735-7.

To the east, the gully was superficially similar but was relatively deep with a broad, uniform northern scarp that ran at an angle (ENE/WSW) to Broadwalk [12]. It maintained the same alignment but became significantly deeper to the east of the north/south path here. This suggests two possibilities, that this was part of the feature to the west which predating the service yard with the difference being due to different subsequent histories; or that this was a separate feature that happened to be roughly aligned on that to the west. The latter is a more reasonable suggestion than may at first appear. Initially the terrace (Broadwalk) only extended as far west as walled garden to the south, slightly to the east of the boundary to the service yard (represented by the overlying bank) with the extension west being later. The eastern gully could have related to or predated the earlier section of the terrace, perhaps running around the end of it and diagonally off to the south-west. Then, when the terrace was extended westwards, any new feature related to it, would naturally approximately align with the earlier feature. The most likely feature would be an outfall leat of the moat, so this feature could be quite early. The 1719 Laurence map shows a faint blue line running along the south side of the terrace starting immediately to the south of the service area wall which supports this suggestion. The deeper area to the east probably marks the south-west corner of the moat which was either not completely back-filled or has compacted more since it

was deeper. The northern scarp [13] must have resulted from the backfilling of the canal/pond in this period.

In contrast to the northern scarps, the north-facing scarp that defined the south side of the gully was fairly short, steep and uniform along its full length. This was probably related to the later development of Broadwalk, presumably after the service yard wall was removed, perhaps in the later 18th century.

The north-facing slope to the north of the Bowling Green may date, at least in part, to this period since the Bowling Green itself was certainly in place by 1719 and would have had to be levelled. Although the upper, steeper part of this scarp probably related to the yew hedge and path here at the time of survey, the lower, gentler slope [14] was probably earlier and perhaps contemporary with the Bowling Green.

The Duke of Kent's later works, 1721-40

It had been thought that the 1720s saw a pause in the work at Wrest Park due to a string of unfortunate events including losses when the South Sea Company collapsed, a disastrous fire at the Duke's London house, and the death of his two sons. This analysis is not entirely correct and certain features, particularly in the great gardens were laid out during this period. For example the short-lived Obelisk Basin and canal to the west of the Archer Pavilion visible in the Tillemans sketches of about 1729 (see 'The bastion garden' below).

The Duke's second marriage in 1729 brought £20,000 and the possibility of a male heir, which probably created a renewed sense of optimism and enabled further works at Wrest Park. Batty Langley also published his **Principles of Gardening** in 1728 which proposed less formal gardens with serpentine paths, irregular features, and shady woodland walks. The formal gardens at Wrest Park were suddenly out of fashion and a subtle remodelling of the gardens incorporated and reflected the new fashions.

Within the main survey area few features could be securely dated to either phase so they are treated together.

[Numbers in square brackets refer to Figure 48 and Figure 49]

North of Broadwalk: the old house, court, service buildings, yards and kitchen garden

Of the numerous small hollows scattered across the gardens few formed any coherent pattern or had any stratigraphic relationships allowing them to be dated. However, a relatively large hollow was overlain by the path around the northern side of The Orangery [1] indicating that it was earlier and further to the east were several similar hollows on an approximate east/west alignment. Regularly planted trees are first shown in this area on the 1735 Rocque map suggesting a date in this phase. A similar alignment of hollows to the north seemed rather too close to be from the same period, but no doubt several of the other hollows scattered across the area must be of this phase.

The Green House was constructed between 1735-7 on the same site as the southern part of The Orangery but orientated east/west rather than north/south. It was raised on a mound, the area in front (south) was terraced and there were mounds supporting statues to either side with a fence between. A series of rather faint and incoherent earthworks were surveyed in the area to the south and south-east of The Orangery terracing [2]. This would have been the location of the southern and western earthworks associated with the Green House and it seem likely that some at least of these were the much denuded remains of these works but it was difficult to relate any surveyed features to specific elements of the former layout.

Within the south of the service area (above) a west-facing scarp [3] with a southern return to the east, probably marked the site of a building first shown on the 1735 Rocque map and so was probably of this phase.

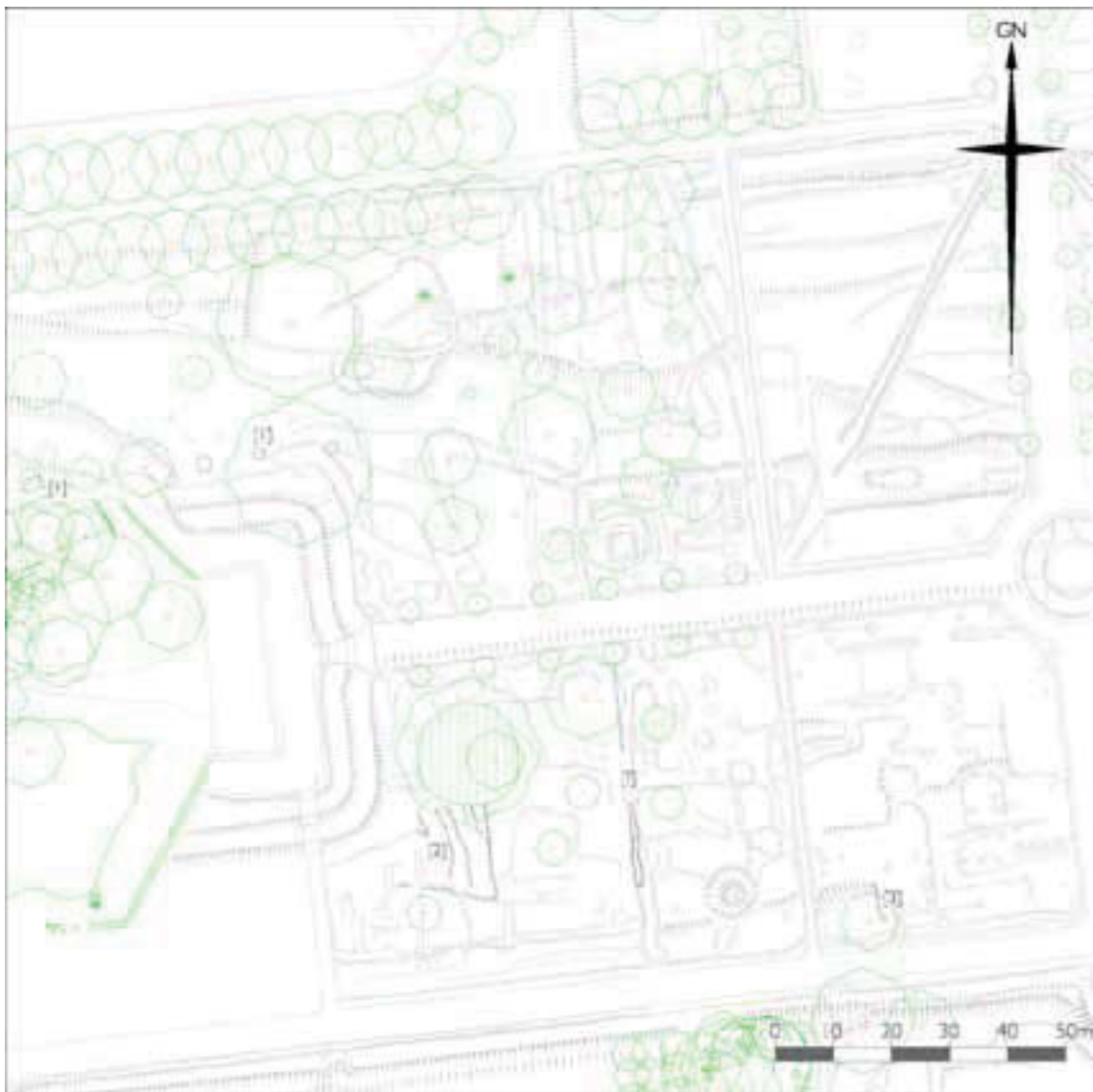


Figure 48 Features of the 1720s and 30s; north of Broadwalk (base map Atkins Mapping Solutions 2007 © English Heritage)

South of Broadwalk: the gardens

By the time of the 1735 Rocque map the outer two north/south paths within the walled garden south of the house had been replaced by paths set further out from the central walk. To the west of the croquet lawns, where the earthworks were less complex, several scarps could be picked out that appeared to mark the line of one of these new paths [4]. Amidst the complexity to the west, this was less straightforward but several did appear to be on the probable line of the eastern path [5]. To the north, south and east-facing scarps [6] seemed to define the angle where the new north/south path met an east-west path. Most of these scarps however appeared to form parts of other features, including for example the western side of one of the square depressions suggested as being from the first walled garden of 1658 (above). No trace of the east/west path was seen, nor the north/south path through the orchard to the west, all surface evidence apparently removed by later developments.

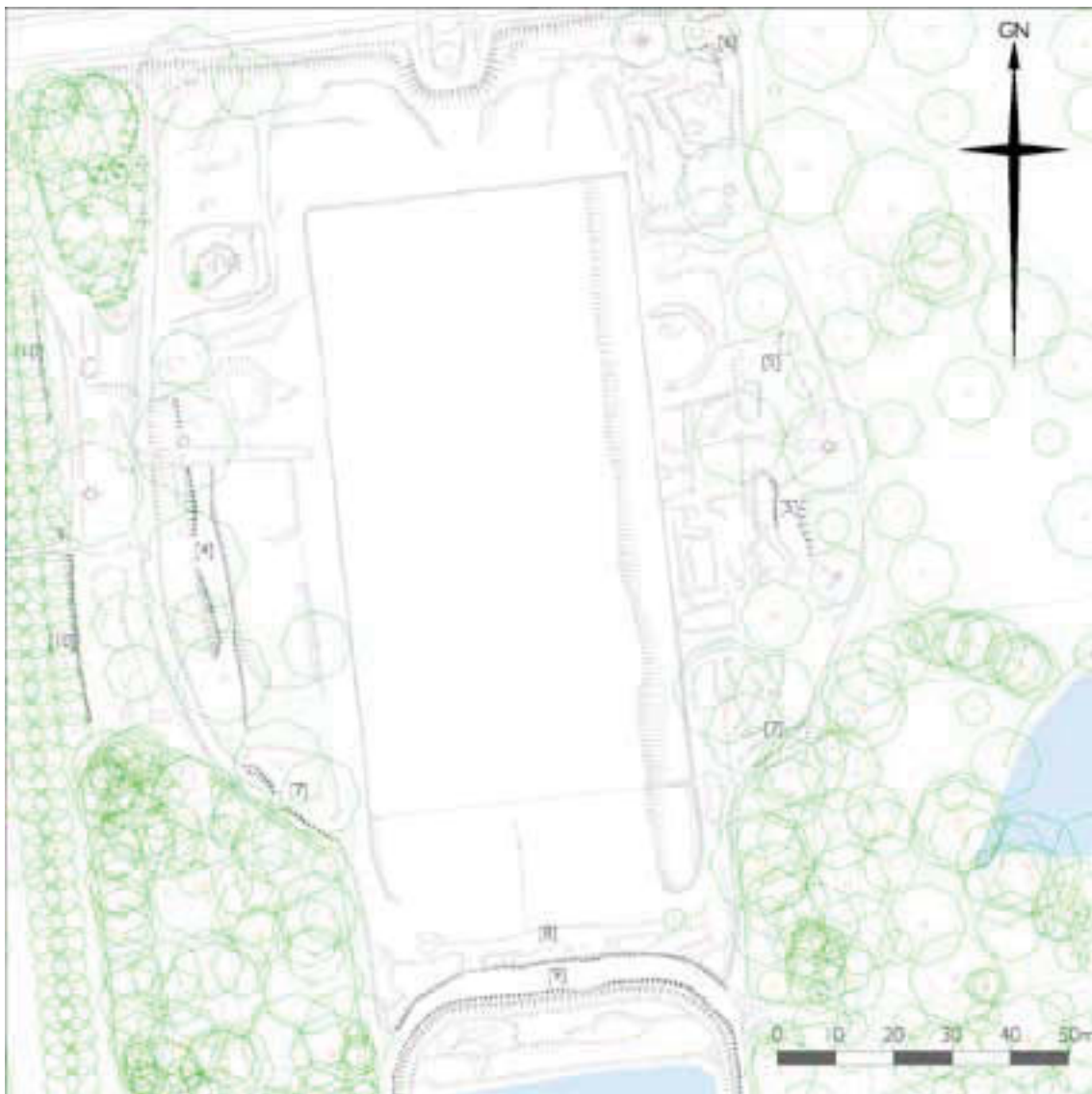


Figure 49 Features of the 1720s and 30s; south of Broadwalk (base map Atkins Mapping Solutions 2007 © English Heritage)

To the south the new outer paths curved inwards towards the centre and then turned south again to run parallel to the central walk but much closer to it. All three then joined a path running around the north end of Long Canal, but set some way back from it. The later Horseshoe Paths (below) seem to have followed the lines of the inward curving sections for short distances and sections [7] probably preserved the alignments of the earlier paths. The central section of a low ridge [8] to the north of the clearer earthworks of the later walk around the end of Long Canal was on the line of the connecting east-west path but had probably been modified in later periods.

To the south of this was a low flat-topped ridge [9] that curved around the end of Long Canal, just beyond the main scarp down to a lower level area at the end of the canal. This was clearly the remains of a path which was first shown on this line on the 1737 Rocque map. However at this time the area within the path seems to have been higher with the slope down to the water shown on a line to the south.

By the time of the 1737 Rocque map the central north/south walk through the former formal gardens had been removed as had the main east/west walk (and its continuations east and west) creating a single large lawn. The east and west walls of the formal garden had been replaced with continuous hedges, or perhaps covered walks, running parallel to, but outside, the north/south walks. Outside these hedges or walks were what look like deep beds planted in rectangular blocks. To the west some west-facing scarps [10] seemed to mark the line of the western edge of these beds.

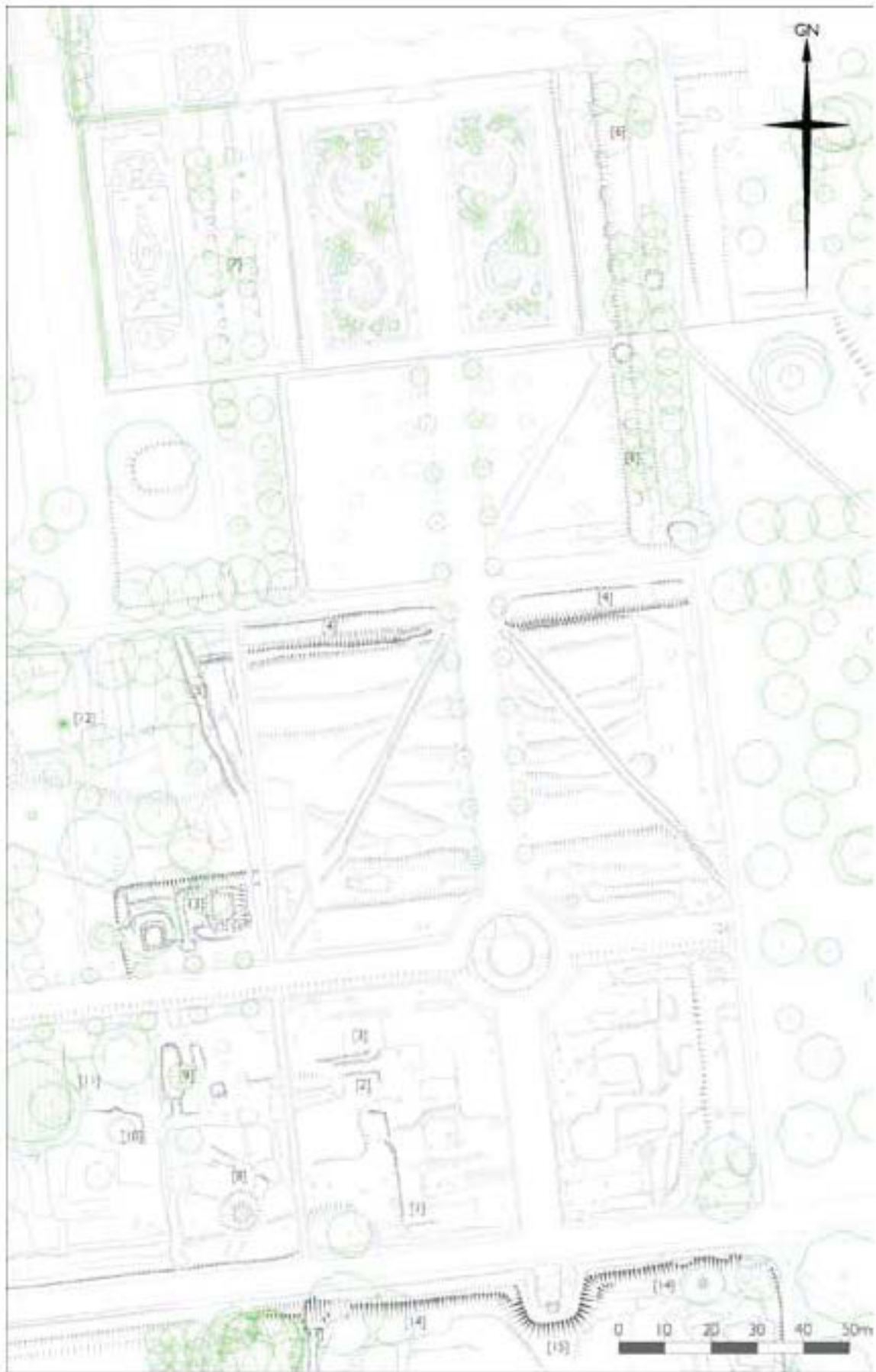
Jemima, Marchioness Grey, 1740-97

Under Jemima, Marchioness Grey, there was an initial period of retrenchment followed by intellectualisation and romanticisation of the gardens. Lancelot 'Capability' Brown was commissioned to carry out work on the site between 1758 and 1760 (Collett-White 1991b, 9). His work concentrated on making the surrounding canals appear more natural, clearing trees and planting clumps with meandering paths, to make the gardens appear more 'natural'. In contrast to some other gardens Brown was either inspired or restrained by his client, and left large parts of the gardens untouched. The lack of visual sources makes it difficult to determine which features were from this phase. There are no known maps or images of sufficient detail to be informative between the 1737 Rocque map and the pre-enclosure maps of the very early 19th century, but many of the changes and new features shown on the latter must be from this period.

[Numbers in square brackets refer to Figure 50 and Figure 51]

The old house and approaches

Although there was no major redevelopment of the house the early 19th century maps show that several blocks were added to the west of the house complex. To the south some of the buildings were remodelled and the gaps filled in [1]. An 'L' shaped block was added to the north-west corner of the north/south wing [2] and a substantial square block was added to the west end of the north wing [3]. The latter two additions created a narrow entrance into the former open kitchen court. Some scarps seemed to mark elements of all these additions and others, no doubt, marked internal features.



The Great Court to the north of the house was swept away and replaced by a drive that curved south from Butcher's Row, across the front of the house and back with a ha-ha between to create an unbroken view out into the park. Brown probably laid all this out in the 1760s. The line of the ha-ha was marked by a shallow gully running parallel and to the south of Butcher's Row [4]. This had a low ridge on its south side that presumably picked up the line of its retaining wall. To the west a low flat topped bank [5] ran from Butcher's Row SSE on a slightly curving line that would have brought it around to the north front of the old house. This was clearly a remnant of the new drive. Between this feature and the existing north/south path to the east was a slight, narrow ridge also apparently on the line of the ha-ha retaining wall, perhaps remaining more discrete because this area was managed less intensively than the lawns, but no gully could be discerned here.

To the north of this and east of the French Garden and the northern part of the South Lawns, were lines of hollows running north/south [6], though those immediately to the east of the French gardens actually formed scoops in the eastern scarp of the terrace there. A very large depression immediately to the south of the garden wall to the east of the lawns was probably a tree throw, where the roots of one of the avenue trees were pulled out when it fell over, perhaps in a storm. This suggests that the other smaller depressions were where trees had been felled, perhaps prompted by the fall of what must have been a very large tree. There was another line of hollows on the high ground to the west of the gardens [7]. These marked the position of elm trees that formed two avenues visible in early 20th century photographs framing the French Garden and northern panels of the South Lawns. Mature trees that appear to be in the same locations can also be seen on pre-enclosure maps of about 1800-9 suggesting that they were probably planted during this period, presumably to frame the northwards sweep of lawn as set out in the 1760s. The two avenues appear to have been rather different. The eastern probably originated as a single alignment of trees defining the edge of an area of relatively sparse tree planting. The western line of trees making up the avenue would therefore have been better defined and more regular, the eastern line comprising remnants of the general planting, perhaps with some infill planting, rather than a true alignment. The western avenue was more regular with the trees closer together and probably originally planted as an avenue. Whilst these differences might be due to the accuracy of the mapping they do appear to be visible in the earthwork remains; the western depressions were more regularly positioned and closer together than those to the east as well as being smaller. Though it is difficult to be sure, the eastern trees appear in the photographs to be somewhat more mature than the western, a suggestion supported by the differences in the size of the remaining hollows noted. The western avenue as shown on these maps does not seem to run as far south as the extent of the recorded hollows. It seems likely that although many of the trees making up the two avenues probably date to this period, others, particularly those making up the southern half of the western avenue, were planted later, probably in the early 1800s.

Figure 50 (opposite) Later 18th century features north of Broadwalk (base map Atkins Mapping Solutions 2007 © English Heritage)

The service area

The layout of the service changed during this period. To the north the new sweeping drive necessitated a new boundary that ran on a slightly curving line from about the centre of the northern boundary of the former rectangular enclosure to the north-west corner of the extended north wing. No sign of this was seen, although the line of the new drive was clear, so this may have been a light structure, perhaps a fence rather than a wall. The south end of the service yard had also been removed and replaced with a boundary some way to the north running WNW/ESE. The area to the south became a part of the gardens, opening out the approaches from the south front of the house towards the Green House. This may have been a more substantial boundary as a few short lengths of scarp seemed to be on the line of this feature, or parallel to it [8]. The rest of the northern boundary and most of the western boundary appear to have remained on their former alignments.

The internal layout had also been changed. None of the buildings shown on the Rocque plans seem to have survived and the former tripartite arrangement had also gone. There was a new internal division running westwards on the line of the front of the north wing but no evidence for this was seen. A sketch map of about 1830 (BLARS L33/208) showed a rectangular building, or more likely two adjacent buildings, the eastern with a slightly smaller footprint, marked as 'Brewhouse' to the south of this new sub-division of the service yard and on a similar line to the north front of the main house. With a narrower building against the western yard wall to the north these formed a compact 'L' shaped complex. These were also shown on pre-enclosure maps of the very early 19th century and so probably date from this earlier phase. A north/south sub-rectangular hollow with a short gully running off to the south [9], together with a second smaller north/south hollow to the east and with hints of a 3rd east/west hollow east again, probably marked the footprint of the largest of these buildings. There was only slight evidence for the eastern building, and none for the northern however, so perhaps these were of lighter construction. A main building with attached sheds for example.

To the west, the gate out into the park appears to have been blocked and replaced by a square gatehouse allowing access from north to south but not apparently east into the service area. A west-facing scarp [10] probably marked the line of the west wall of this building. Rather than the simple track running to the north of this the area had been opened out with a boundary to the west and a southern boundary that continued the line of the new service yard boundary. The southern part of this seemed to be marked by a somewhat irregular south and east-facing scarp running away from the site of the probable gatehouse [11]. To the north, where the ground rose, there was no sign of this boundary. Within this enclosure the track still ran along the west wall of the service yard and to the north there was a shallow gully on approximately the right line [12] but this seemed to be similar to other features to the east and was probably later.

Within the central part of the service area was a very clear series of earthworks consisting of several square and rectangular elements all on similar alignments within a rectangular area that was slightly terraced into the slope [13]. Overall this area seemed to approximately match the central division of the service yard shown on the Laurence and Rocque maps, the northern boundary of which survived into the early 19th century. The

evidence strongly suggests a building complex and though no buildings appear in any of the surviving sources, from the Rocque map of 1737 to the pre-enclosure maps of about 1800 is a long period without reliable graphical sources.

The gardens

The process of reducing the formality of the gardens begun in the 1730s continued in this period. The last vestiges of this in the area of the walled gardens to the south of the house were swept away and the Horseshoe Lawns and associated paths to east and west created. The laying out of these paths would have necessitated the removal of the covered walks and probably most of the strips of rectangular beds, if not all. Broadwalk was also remodelled and must have approached its modern form.

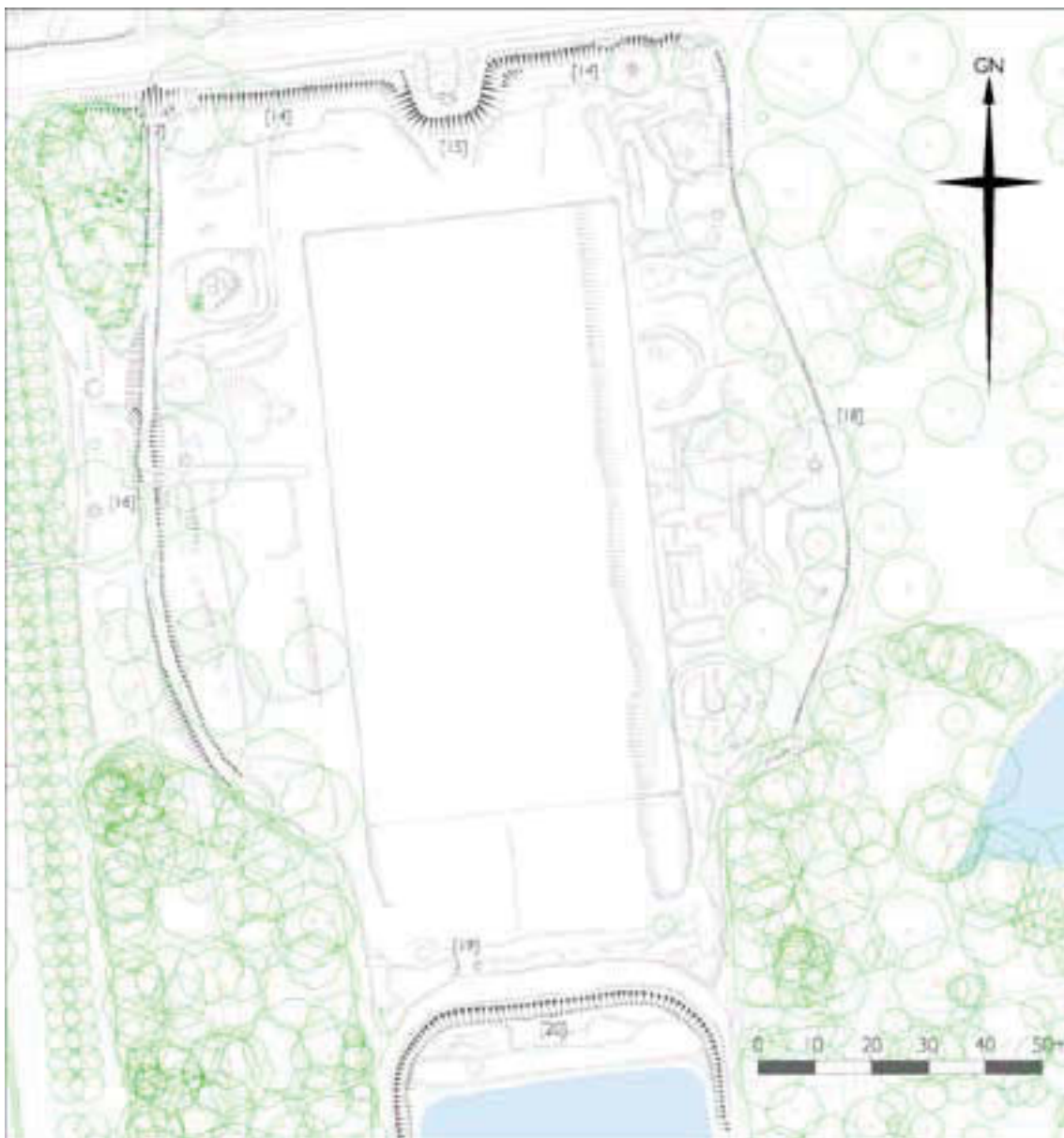


Figure 51 Later 18th century garden features (base map Atkins Mapping Solutions 2007 © English Heritage)

The triple walks of Broadwalk had been completely removed by about 1800 but had already begun to be downplayed by the 1737 Rocque map. The southernmost walk of the early 18th century seems to have been at a higher level than the Horseshoe Lawns and on a line somewhat to the south of the current Broadwalk. It is therefore probable that the slope down to the lawns to the south as surveyed [14] was the result of cutting back and steepening what previously was probably a more moderate stepped slope. The Horseshoe paths appear to overlie this steeper scarp and so the cutting back must have predated their laying out. It is likely that at the same time the central rectangular projection where the sundial was sited was also modified, being cut back to give it a softer curved form [15]. A central hollow to the south of the sundial suggests that it may have been moved north, probably to make it more central on the redesigned projection and so likely to have been contemporary with it.

The line of the western Horseshoe Path was clear as a pronounced cambered ridged amongst the trees to the west of the croquet lawns [16]. At its north end the transition from Broadwalk down to the lower level of the croquet Lawns was in the form of a ramp [17] projecting forwards with any slight cutting back into Broadwalk probably being the result of later erosion. The eastern Horseshoe Path very probably ran beneath the existing track [18], which obscured most evidence for its earlier form. Despite this, it seemed that the eastern path started slightly closer to the gardens' centreline and curved outwards more than the western path ran to the west of it creating some asymmetry. Interestingly, several early 19th century maps appear to show this, and though it appears to be due to inaccurate survey it is in fact the opposite.

To the south, both paths originally ran further in towards one another than the current paths before turning south. No clear surface evidence for these lines was seen though a short ridge between two hollows [19] may have been a remnant. These paths then met the walk around the north end of Long Canal. By about 1800 Long Canal appears to have extend further to the north. The steep scarp down to the level area here [20] would appear to be the result of this area having been excavated to extend the canal sometime during this period. The lower area within was probably the result of this area being filled in, probably during the later 19th century.

Amabel, Lady Polwarth, 1797-1833

In 1797, Amabel, widowed daughter of Jemima, inherited the estate and most changes during this period appear to be the result of neglect leading to the removal of features rather than their creation. No earthworks could definitely be assigned to this period.

Thomas, 2nd Earl de Grey, 1833-59

Earl de Grey inherited the estate in 1833 and very soon set about building a new house, then demolishing the old one, a process that took up much of the 1830s. He also built the extensive service ranges to the east, the large walled garden to the west and then set about improving the gardens, mainly focussing on the upper gardens around the new house and as far south as Broadwalk, and later the Evergreen Garden to the south-west.

[Numbers in square brackets refer to Figure 52]

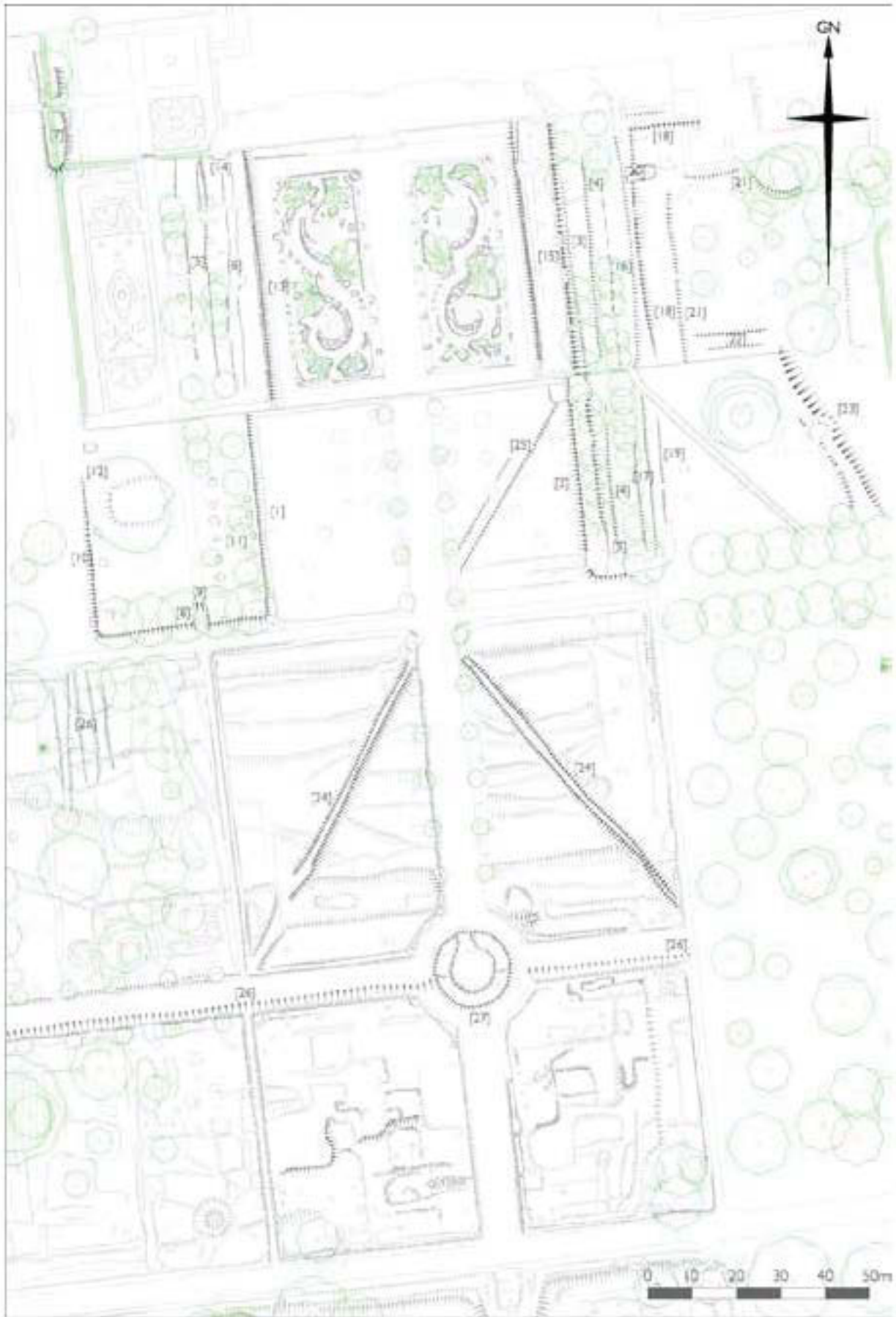
An intermediate phase?

The two northernmost panels of the South Lawns were defined by an east-facing scarp to the west [1] and a bank to the east [2] set about 10m further apart than those defining the parterres to the north and somewhat different in nature (below). The western scarp was quite similar to that to the north, with higher ground to the west, but was a little lower and perhaps slightly less well defined. The bank to the east though was smaller with an irregular profile. The west-facing scarp was steeper and more uniform and up to about 0.6m high at the south corner where it returned to the east. This face was similar to the scarp opposite and both were quite symmetrically laid out relative to the new house; from a centre line drawn through the main doors onto the terrace from the house, the discrepancy was only 0.15m. The rest of the eastern bank though was less regular. It had a generally flat top, which was defined to the east by a rather shallow and irregular east-facing scarp [3]. This was on a slightly different orientation to the western scarp so the top of the bank was about 3.0m wide to the north and broadened to about 4.5m to the south. To the east of this was another east-facing scarp [4], again on a slightly different alignment so that the terrace between the two was about 2.0m wide at its south end and about 4.0m to the north. Both of these east-facing scarps could be traced to the north of the wall. The southern end of these north/south earthworks was marked by a south-facing scarp that created a well-defined raised area mirroring that to the west. This seemed to be an easterly return of the west-facing scarp, suggestive of a 'tidying' of the earlier ridge here. This scarp had a distinct break about halfway along its length, associated with a slight scarp running off to the south-east, and may not have been all one feature; the section to the east of the break was rather different in character and given its apparent association with other features was perhaps secondary (below).

There seemed to be two main phases to this feature; a broad earlier bank had apparently been cut back on its western side and the material thrown up onto it to form the overlying flat-topped bank. Given that the west-facing scarp of this feature is exactly parallel with the east-facing scarp to the west, and that both are almost exactly at right angles to the new house, it would appear that the reason for cutting back the earlier bank was to create level, symmetrical lawns as part of the gardens around the new house. The bank was cut back to change the alignment of the underlying bank, to make it perpendicular to the new house and symmetrical relative to the opposite scarp and the south front. The increasing height and width of the bank to the south was perhaps due to the increasing amount of material needing to be moved to change the alignment due to both its alignment and the natural fall of the ground.

The date of the underlying bank is not known but it was probably earlier than the new house since it must have existed, and been in the wrong place, to require the suggested modification to make it conform to the new layout. However, both the east-facing scarps [3 & 4] could be traced running beneath the east/west wall, and the upper scarp could also be seen running beneath the terrace bank dividing the parterres from the Dairy Garden, indicating that both were earlier than the wall and terrace, and by implication the parterres.

This suggests that there was an intermediate phase between the construction of the new house and the laying out of the parterres, including the construction of terrace



bank to the east and the wall to the south, and there is documentary evidence to support this. One of the earliest images of the new house was a bird's-eye view from the south, thought to date from the 1830s. Whilst the house itself appears to be accurately portrayed other areas are not; the relationship between the house and the walled garden to the west is not as built and nor is the layout of the service buildings to the east. It therefore seems likely that this was a design view. The parterre design shown is also different from that seen today (see Figure 53).



Figure 53 Detail of bird's eye view of the new house (from a private collection)

There is also a plan in the Bedford record office (Figure 54) that shows a design for one of the parterre panels as it appears in the bird's-eye view. There is however a second design sketch for the parterre in the record office which appears to be broadly contemporary with the first plan that closely matches the layout seen today (Figure 55). The former plan appears to represent a design that was not implemented, the latter a design that was. It is perhaps significant that the first plan is rather well drawn, coloured and in good condition and the second rather more loosely executed, not coloured and somewhat battered, as though one was filed away and the other taken out and used. Taken with the perspective view this suggests that there may have been a redesign of the area around the house, perhaps after the house itself had been built, it is after all the most accurate part of the view.

There also appears to be a physical manifestation of this redesign in the house itself; the railings and balustrades on the house and terrace do not match those of the balustrade to the south of the parterre. One of the balustrade panels from the terrace is shown

Figure 52 (opposite) Mid 18th century features; to the north of Broadwalk (base map Atkins Mapping Solutions 2007 © English Heritage)



Figure 54 A plan for the parterre (Patricia Payne © English Heritage DPI 10946, BLARS L33/209/2). The pencil note at the bottom reads 'Terrace' so north is to the bottom of the image and this is the eastern panel, as indicated by the uncoloured outline to the right.



Figure 55 A second plan for the parterre (Patricia Payne © English Heritage DPI 10946, BLARS L33/209/1). Again the note at the bottom reads 'Terrace' so north is at the bottom of the image, but the 'Centre Walk' is to the left so this is the western panel

below (Figure 56) and it would appear that the initial parterre design was based upon half of this panel. It can be seen that in each half of the panel there is a large swirl with a second smaller swirl similar to the parterre design shown in Figure 54. In contrast, each half of the balustrade panels on the southern wall (Figure 57) incorporates a symmetrical broken scroll perhaps the basis for the second parterre design (Figure 55).



Figure 56 Dividing wall balustrade (Patricia Payne © English Heritage DPI 35910)



Figure 57 Terrace balustrade (Patricia Payne © English Heritage DPI 35909)

It may therefore be that the anonymous sketch of the area south of the new house (Figure 58) recorded reality rather than being a simplified depiction. Although the statues within the parterre panels are clearly shown, the parterres and balustrade are not and the lawns appear to run right up to the house.



Figure 58 Anonymous sketch of the French Gardens from the south-west (with permission of Bedfordshire and Luton Archives Service, BLARS L33/229)

Between the hollows defining the western avenue was a broad flat-topped ridge about 4.5m wide defined by faint scarps [5]. This was offset to the west relative to the hollows of the avenue but appeared to overlap them suggesting that it dated to the period between the planting and removal of the trees and perhaps represented the remains of a shaded walk along the avenue. It was clearest at the northern end where it rose slightly towards the Italian Garden though it did not appear to relate to the existing garden in anyway. It petered out to the south where the ground to the north of the main east/west wall was about 0.2m higher than that immediately to the south and it is likely that the levelling up of this area after the construction of the wall buried it. It was not visible continuing into the southern area but if this area was also raised (below) this is not surprising. It is unlikely that a walk would have been created within the park as it would have been completely isolated so on balance it probably post-dated the new house but predated the Italian/French Gardens so was probably a feature of this period. One of the north/south scarps already noted within the eastern avenue [4] might mark the remains of a similar walk, though the relationship to the avenue and other features was slightly awkward.

On the raised area immediately to the west of the French Garden east and west-facing scarps defined another very low, flat-topped ridge, which was rather irregular and somewhat disturbed [6]. This was probably a former path that ran at a slightly oblique angle relative to the slope down to the parterres, from just south of the stairs down

from the terrace, to just north of the balustrade wall. It seems unlikely to have been related to the French Garden as it would have shared its alignment, but it did seem to be related to the terrace steps. It is possible therefore that it dates to this period.

The Italian Garden, Rose Garden area and south

To the west of the main house was the Italian Garden, which was not surveyed in any detail. It was approximately level and defined to the east by the conservatory and house, to the north by a substantial wall on the line of the main house front and to the west by hedges and trees which were situated upon a broad ridge [7]. Beyond this was the ride south from Stranger's Gate, which sloped gently and evenly down to the south as it ran towards the main gardens, and beyond this was the walled garden. The garden was approximately square with a quadrangular arrangement of panels based around an east/west path that ran on an alignment from the conservatory door to a door into the walled garden, and a north/south path than ran through the centre of the garden, and south, crossing Butcher's Row and defining the west side of the South Lawns. The southern boundary of the Italian Garden consisted of a yew hedge with a low wall at its base, and to either side of the path were plinths with urns where it crossed the hedge line. This boundary ran along the top of a moderate but well defined south-facing scarp down to the Rose Garden area west of the path, with a more general fall to the east of the path. There was a moderate but distinct slope in the north/south path here to accommodate this change of level. The wall beneath the hedge and the two plinths and urns were much cruder than those seen elsewhere were, and the boundary was probably a secondary feature though it was in place by the 1st edition Ordnance Survey map of 1882. The 1830s bird's-eye view (Figure 53) of the house shows the Italian Garden extending as far south as the balustraded wall but as noted above this was a design view and many elements were never constructed as shown. Although the nature of the southern boundary to the current Italian Garden suggests that it may have extended to the south it seems highly unlikely that it ever did. Not only would it have extended further to the south but also further to the west taking up all of the area occupied by the drive from Stranger's Gate and perhaps the eastern margins of what became the walled garden. To have extended as far south as shown, within the constraints imposed by the walled garden, gate and drive as built, would have completely changed its proportions and the presence of the avenue of trees would have meant the design would have had to be offset somehow. It is probably significant that the low ridge forming the western boundary of the Italian Garden [7] only extended as far south as the current square plan. If the garden ever extended further to the south then this ridge might also be expected to extend to the south but it did not. It therefore seems likely that the current boundary replaced or enhanced a previous boundary on approximately the same line.

The path from the Italian Garden ran south through a gate in the balustrade wall and onwards dividing the area east of the ride from Stranger's Gate into two unequal parts. The smaller area to the west would have been dominated by the earlier elm avenue which was incorporated into the gardens of this phase, the hollows of which were still visible (above). Since the elms served to frame the French Garden to the east this area should probably be seen as a part of that garden area (below). The larger area to the west was the site of the former Rose Garden of the late 19th century (below).

The area to the south of the balustrade wall was closely connected with that to the north. It was defined by the ride from Stranger's Gate to the west, Butcher's Row to the south and the northern panels of the South lawns to the east. The whole of this area appeared to have been levelled up and was surrounded on the east, south and west by scarps dropping down from it. That down to the South Lawns to the east has been discussed above. The scarp to the south [8] was fairly steep, though not as steep as that to the east, and generally of a consistent gradient along its length, though it reduced in height slightly from east to west as the natural ground level rose. It was broken by the path to the Italian Garden which was in a short cutting [9] to allow it to rise at a moderate gradient rather than require steps. It is not known if this was the original layout though a slight difference in alignment of the scarp to each side suggests that it was. The moderate scarp to the west [10] that formed the boundary between the drive from Stranger's Gate petered out to the north as the difference in levels between the two reduced. It is not known why this area was levelled up in this way, but it must have taken place in this period, since the main elements defining it were of this phase, perhaps to reinforce the sense of connection between it and the area to the north.

This area was again divided into two unequal parts by the north/south path from the Italian Garden. The smaller area to the east was planted with a modern lime avenue but between the trees the hollows of an earlier avenue could be picked out [11]. These were, generally 1.5-2.0m in diameter and offset about 1.5m to the east of the line of the modern avenue, continuing the alignment of the hollows seen to the north. It seems highly likely that these were planted during this period to extend the existing avenue southwards; a sketch plan of 1834 shows the western avenue ending at the balustraded wall. The only other features likely to be from this phase were another line of hollows running along the western edge of the area that measured 2.0-3.5m across [12]. These probably marked another line of trees or shrubs that were perhaps from this period as they would have continued the line of the hedge to the north and served to define the boundary between this area and the drive to Strangers Gate to the west.

The French Garden

The French Garden comprised a low, level area housing large parterres with higher areas to east and west framed by elm avenues (above). A broad gravel walk ran south from the central staircase down from the main terrace and where this crossed the wall separating the house gardens from the South Lawns there were wide low gates and a step down. To the west was a sharp, east-facing scarp dividing it from the higher ground beyond and to the east was a broad flat topped bank, the west facing scarp of which reflected the scarp to the west. Further to east and west were the hollows marking former elm avenues from the Brown era (above), incorporated into the new gardens, presumably to give them a sense of maturity and with some additional planting to enhance their symmetry and perhaps to fill some gaps. The higher areas between these avenues and the slopes down to the parterres should be seen as parts of these gardens as they would have allowed views down into them and were part of the area framed by the elm avenues.

The parterres consisted of two rectangular areas either side of the broad central north/south gravel path with narrower gravel paths around their remaining three sides. The

designs were symmetrical about the central path and consisted of large scrolls in gravel, with spirals curving around the statue groups and straight connecting sections between. Scarps that sloped down towards the gravel scrolls suggested that these were originally more 'robust' in form being broader with deeper curves. Set in about 1.5m from the edge were narrow gravel filled gullies defining a frame around the main section, these had curved concave corners on all but the outer south corners which were convex. There was box planting on the grass around the scrolls in the corners and either side of the centres. In general the earthwork evidence was reflected on both parterres with gaps on one tending to be filled in by evidence from the other and vice versa.

The central box features on the outer sides of the central scrolls had five palmate lobes. Depressions between these and the scrolls suggested that originally they had two further lobes and a 3rd depression on the outside indicated an 8th lobe. The inner central box beds had four lobes and again depressions were noted between these and the scrolls suggesting that originally they had six lobes. There were also scarps around the end of some of the existing lobes indicating that they had been larger and with more rounded ends than at present. It is highly likely that these beds were more complex and larger than those seen today. A similar pattern was seen with the box beds in the corners, where various hollows, mounds and scarps suggested that the beds had previously had additional lobes and covered larger areas, but here the earlier layout was less clear-cut.

Along the curving sections of the scrolls, towards the central path, were lines of shallow hollows less than a metre in diameter with centres about two metres apart, semi-symmetrically arranged with respect to the box planting, perhaps with four to each side. These probably indicate that the decorative effect of these box beds had been enhanced with additional planting, perhaps small standards or specimen shrubs, emphasising the line of the scrolls. There were similar lines of hollows on the sides of the curves away from the central paths, with perhaps two hollows to either side of the outer box beds. Further hollows followed the curve of the scrolls south as they run around the southern statue groups but these were less defined running into one another, perhaps suggesting beds rather than discrete plants. The areas on the inside of the northern statue groups and between box beds are currently relatively large blank areas of mown grass. Faint hollows in these areas indicate that these too had also previously been planted, perhaps with small isolated beds, though the exact arrangement was not very clear.

Down each of the long sides of the panels, on the strip between the paths and the narrow gravel 'frames', were further series of slightly larger hollows generally over a metre across, consisting of five central hollows about four metres apart with additional hollows to north and south slightly further away from the others (about 6m). These strongly suggest further planting along these sides of the panels, probably standards or shrubs. There were small mounds in place of hollows, at the south end of the sides next to the central path suggesting a variation in the planting scheme here. Within most of the areas defined by the curved corners of the narrow gravel 'frames' were small mounds, hollows or other scarps. These suggest features placed here such as statues, or specimen plants but their variable nature suggests that they were treated differently during their lifespan perhaps being modified, replaced or removed at different times or in different ways.

Much of the above analysis can be confirmed by early 20th century photography (see Figure 59). Overall, the earthwork survey revealed no evidence for any substantially different layout at an earlier date but added considerable detail to the current simplified design.



Figure 59 View of the parterre from the terrace, early 20th century (from a private collection)

As noted above the eastern extent of the parterre was defined to the west by a steep uniform scarp that formed a transition up to the higher ground to the south of the Italian garden [13]. This had a series of faint scallops along its upper edge that might represent the remains of planting, although given the symmetrical nature of the overall layout, their absence from the top of the eastern scarp suggests that they were more likely to be erosion marks, perhaps from mowing which would explain the regularity. On the higher ground, around the bottom of the steps up to the terrace was a slight semi-circular mound [14]. This was probably made ground to ease the transition up to the stairs from the slightly lower ground to the south.

Reflecting the layout to the west, the parterres extended as far to the east as the steep uniform west-facing scarp of a substantial embankment [15] about 1.0m high with a flat top about 8.0m wide. The east-facing scarp of the terrace was also steep and fairly uniform but with regular scallops, probably the result of being constructed against the trees of the existing avenue (above) and their subsequent loss (in about 1950). These scallops became less pronounced from north to south, perhaps due to slightly different alignments of terrace and avenue.

The Dairy Garden and Old Orchard

To the east of the terrace and avenue, and north of Butcher's Row, were lower areas under mown grass that overall fell away gently to the south and east. They were informally planted and without any obvious paths, though a gate in the balustraded wall placed exactly symmetrically to the one south of the Italian Garden to the west, clearly indicated the former presence of one, which would have aligned with the path defining the eastern edge of the South Lawns, mirroring that to the west. This was visible north of the balustrade wall as a low flat-topped bank up to about 4m wide [16] defined by a slight west-facing scarp broken at intervals by the trees of the modern avenue, or hollows where these were missing, and a clearer, but slightly curving east-facing scarp. To the south it ran as far as the balustraded wall and appeared to have a definite terminal to the north but this may have been associated with what was clearly a modern service trench.

South of the gate a slight east-facing scarp seemed to pick up the line of the scarp to the north and as the ground fell slightly to the south this became a low flat-topped ridge, about 2.5m wide [17]. This petered out a few metres before the ground fell away to Butcher's Row to the south and there were hints of a terminal or perhaps the start of a slope down to the south. The two sections of path were rather different in character and it may be that the northern section had been somewhat degraded by being reused as a path during the Second World War (below).

East of this former path, the area to the north of the balustraded wall was known as the Dairy Garden, a more enclosed and intimate space than those to the west. It was focussed on the Dairy, a square building surrounded by a covered walk and connected to the other service buildings by walls to the north and east. A further 25m to the east was the Petit Trianon, or Swiss Cottage, a rustic timber building also from this period. The area to the south of the balustraded wall was known as the 'Old Orchard' and extended as far south as the avenue of trees along the north side of Butcher's Row. At the time of survey this area extended to the east as far as a modern hedge screening a former car park associated with the NIAE that has now been removed and the area opened up.

To the east of the north/south path line, and north of the wall, was an east-facing scarp [18] that became higher to the north where it turned to the east to the south of an east-west path from a gate north of the dairy to steps up onto the terrace. It seemed likely that it was created by the reduction in level of the area to the east and defined the extent of the Dairy Garden proper. However, a faint east-facing the east of the path line south of the balustrade wall [19] seemed to align with this scarp, suggesting the possibility that these features pre-dated the east/west wall and might therefore be related to the intermediate phase discussed above. The southern scarp was smaller and more uniform than that to the north though and the alignment not exact, perhaps simply the result of both being aligned on the path, so is perhaps less likely.

To the west of the dairy, on a line with the veranda along its south side, was a rising spur [20] that ran up onto the higher area west of the north/south scarp. This may have been to accommodate a path to the dairy or have defined a smaller garden area to the west of the dairy, or perhaps both. There was a very slight difference in the orientation of the east-facing scarp which suggests that this feature may have been constructed at the same time and so be of this phase but it could have been later.

To the south of this, a slight east-facing scarp [21] ran north/south to the balustraded wall on a line parallel to the more substantial slope to the west, perhaps defining a walkway within the western side of the garden. Similar scarps ran along the south side of the dairy and curved around the area to the west of the Petit Trianon. Together they seemed to define a further levelled area within the larger area, perhaps the core of the garden. To the south, a low flat-topped bank [22], about 2.5m wide, ran east/west parallel to the balustraded wall and about 2m to the north of it. This probably marked a path line but it had no relationships to other features and could not be dated, though it seems most likely that a path here would complement the path to the west and so might also be from this period.

The general ground level of the Dairy Garden was lower than that to the south of the balustraded wall. To the west there was no difference in height and there was no need for steps at the gate, though here the ground level was perhaps raised slightly being part of the broad ridge to the east of the South Lawns mentioned above, a feature. To the east the ground fell away slightly more to the north of the wall than to the south, presumably due to levelling work here, so that at the east end of the wall the ground to the south was about 0.30m higher than to the north.

A broad north-east-facing scarp [23] ran south-east from the east end of the balustrade wall and, to the north at least, marked the transition between the lower ground to the north of the wall and the higher ground to the south. This feature was on a rather odd alignment if contemporary with the Dairy Garden (it might have been expected to run east-west allowing a more straightforward transition of levels), was rather sinuous and had a clear counterscarp creating a low ridge to the south. It is not clear if this feature should be seen primarily as a bank, eroded to the north and so probably predating the features here, or as a simple scarp, with the counterscarp being secondary.

The South Lawns

The origin of the two northernmost panels of the South Lawns has been discussed above where it was suggested that they were first set out after the new house was built but before the parterres were laid out. If so then this probably holds true for the other lawn panels.

Broad low ridges were recorded running across the two central panels from the outer southern corners to the inner northern corners, converging on the crossing between the central drive and Butcher's Row [24]. Another very faint ridge was seen running away from this point north-east across the north-east panel [25], but no similar ridge could be detected within the north-west panel. Diagonal paths cutting across the four northern panels of the South Lawns and crossing at the northern of the two path crossings in this area are shown in Figure 53 and it seems that these were the remains of these paths which must have been executed as planned. No sign of the eight circular features between the paths was seen though so perhaps these were never laid out. At the north end of the north-east path line was a slightly raised square area, perhaps the former site of seat or other garden feature. It was unclear why the ridges should be so faint to the north-east and invisible to the north-west but perhaps the underlying ground conditions, or the subsequent treatment of the area were different here. It seems possible that these paths date from the intermediate period proposed above, though they are not visible in Figure 60 below. When the Orangery was constructed and particularly after the Fountain was installed, the focal point of the South Lawns would have shifted south and the diagonal paths would have probably been removed. It is not known when took place but the Orangery was constructed soon after the main house (Way 2009, 84), and the Fountain was probably installed in the mid-19th century when the surrounding statues were purchased, though it was not certainly noted until the 1880s (Way 2009, 81).

Most of the paths defining the four large southern panels of the south lawns had short steep scarps falling towards them, probably dating from their laying out and suggesting that they may originally have been wider. In many places, these had outer counterscarps



Figure 60 Anonymous sketch of the South Lawns from the SSW (with permission of Bedfordshire and Luton Archives Service, BLARS L33/230)

creating low ridges, particularly on the outer sides of the central panels, and along the northern side of the path to the Orangery and Broadwalk. They suggest that the lawns panels may have had more formal 'hard' edges in the past.

It is possible that the main east-west path from the Orangery (below) was widened at the time of its construction. This would explain the asymmetry in the path's camber, which had a markedly steeper fall to the south [26] than to the north. There were hints that this scarp ran through the island the Fountain was on and probably pre-dated it.

As noted above it is not certain when the Fountain was installed but it was probably very late in this period or early in the next. It was placed on a slightly circular island [27] within a broad encircling path. Prior to this it seems likely that there was a simply path crossing on the site. On all the outer curving verges were outward facing scarps presumably from the creation of the curved circular path around the fountain. Most of these also had inward facing scarps creating low ridges and a couple also had slight gullies but these may have been from later traffic.

Across the southern two panels of the South Lawns and the adjacent areas of the panels to the north and the areas to the west were numerous earthworks associated with elements of the old house, service yard and service buildings. Whilst many of the remains visible on the surface may relate to former buildings, as discussed above, many others will be the result of demolition processes such as levelled mounds of demolition debris or hollows where foundations have been grubbed out. Across the site of the old house itself, it is reasonable to assign most undated features to this process as there was a single final demolition phase [not identified individually]. Elsewhere though, there were multiple phases of construction and demolition so the actual period of any given element must remain uncertain.

To the east, and just south of Butcher's Row, were a series of north/south gullies and ridges [27]. These seemed to continue the line of the ride south from Stranger's Gate and perhaps marked the point where traffic southwards ran out into the gardens and onto softer ground. It is possible though that they were from one or more earlier periods (above) or were the eroded remains of tracks from heavier motor vehicles, perhaps from the Second World War work, or later ploughing experiments.

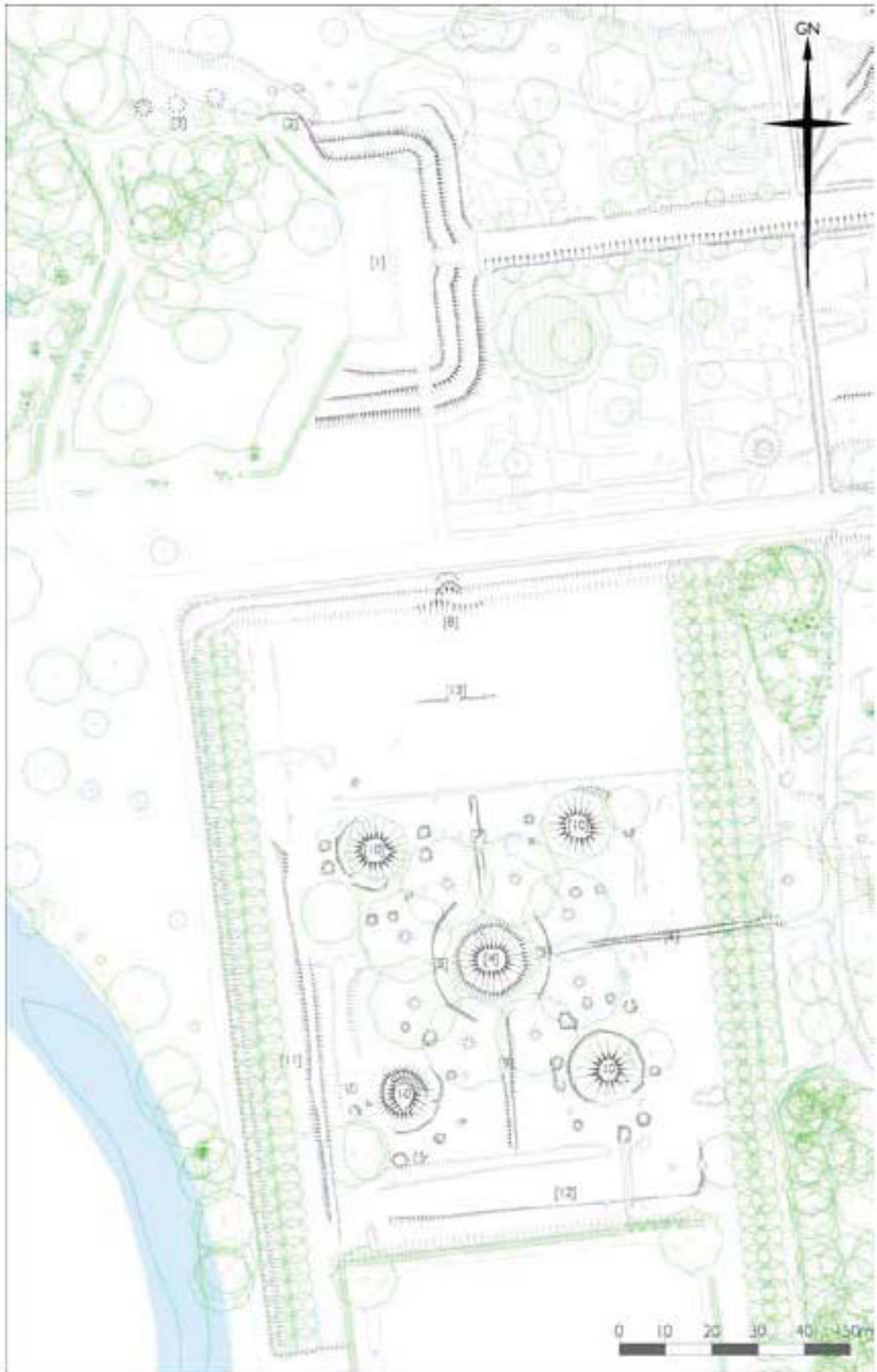
To the south, the only significant development was the reshaping of the southern ends of the Horseshoe Paths, sometime between about 1830 and 1860 [not shown]. By about 1830 the paths curved in until very roughly 30m apart when they turned south to join the path around the end of Long Canal, meeting it when about 25m apart (Figure 106). By the 1st edition map of 1882 they turned south when about 65m apart and then ran straight to join the paths either side of the basin, effectively continuing their lines northwards. Though rather badly drawn the enclosure map of 1862/3 (Figure 118) also seem to show at least the western path running straight from the Horseshoe Path south along the side of the basin. It seems probable that these paths were modified at the time that the new house was built. Moving them apart would have emphasised the sequence of lawns south from the new house to Long Canal, and the long view on to the Archer Pavilion.

The Orangery

[The letters in square brackets refer to features identified in Figure 61]

The Orangery [1] replaced the former Greenhouse on roughly the same site (slightly to the north) but faced east rather than south. It had vehicle sheds beneath and a service yard behind (west). On the garden side, it was raised on three grassed terraces though the lowest virtually disappeared on the north side where the ground level rose. The fact that any trace at all was discernible suggests that it was originally slightly more prominent here and some silting has obscured it. Broad central steps approaching the main western façade of The Orangery, with smaller steps to the south and a ramped path around the north side. This path ran slightly awkwardly over a lobe shaped feature that seemed to define the limit of the terraces here [2] suggesting that perhaps the path had originally had a different form, although it may simply have been spoil from the construction of the service yard. To the north of this path were three very similar hollows, all about 4m in diameter, in a line parallel to the path [3]. These probably represented tree boles but seemed too close to the hollows thought to be from the 1730s (above) to be contemporary and it seems likely that they were from this phase, perhaps planted to screen the service yard and its approach. The alignment continued to the east but these hollows were smaller, only about 2m across. It may be that these were from trees planted at the same time as those to the west but lost when younger, perhaps felled as they were obscuring The Orangery, but it could equally be that they were planted later to extend an earlier alignment.

Figure 61 (opposite) Earthworks of the Orangery and Evergreen Garden (base map Atkins Mapping Solutions 2007 © English Heritage)



The Evergreen Garden

The vast majority of the earthworks surveyed in the Evergreen (or American) Garden were of a single phase, probably of the mid-1850s. Originally, this consisted of four hedged panels centred on circular mounded beds around a central mound with a statue group on top. It lasted into the early 20th century but had been replaced with a ring of cedars by 1935. These have been felled as part of the current works.

The central mound [4] was the largest, measuring about 18m in diameter, and was fairly symmetrical and uniform. About 3.6m beyond its base faint outward facing scarps could be seen curving around the east and west sides of the mound [5]. These represented the outer edge of the circular path that originally ran around it. To the north, east and south low flat-topped ridges were probably the remains of three of the four paths that ran away from the circular path. The eastern path [6] could be traced running into the modern avenue of trees and on to where it joined the western Horseshoe Path. The line of the northern path [7] could be followed for almost 22m but north of this it had been truncated by later activity. On its line there were the possible remains of a ramp running up to Broadwalk [8]; the section between had been truncated, probably by ploughing in the late 1940s (below). The southern path [9] had also been truncated by later features and could not be traced all the way to the Bowling Green. To the west, the survival of features that could be associated with the Evergreen Garden was poor and the line of the path here could not be picked out.

The four outer mounds [10] were placed symmetrically within the four quarters defined by the remains of the paths. Each was about 13.3m in diameter and lower than the central mound, and again all were fairly symmetrical and uniform though some (particularly the south-west) showed signs of disturbance, perhaps from the grubbing out of larger plants. All showed signs of being surrounded by shallow gullies likely to have been created by the edging of the bed and marking the inner edge of the circular paths around them. Each mound was surrounded by several hollows between about 1.0m and 3.0m in diameter. These probably marked the position of shrubs that had been grubbed out and by envisaging the combined pattern of hollows around each mound it is possible to see that the original layout was symmetrical with pairs of hollows to north, south, east and west of each mound, probably indicating pairs of shrubs planted on either side of the entrances through the hedges. It is also likely that there were shrubs planted within the corners of the hedges, most probably to north and south. Although the distribution was not identical around each mound this was probably due to missing hollows, perhaps back-filled more effectively when the garden was removed or obscured by later activity. It was also possible to identify hollows that did not fit the pattern, again probably from later activity. No clear traces of the surrounding hedges could be traced as earthwork remains but it is possible that some of the smaller hollows outside the main pattern identified above did result from the removal of hedging plants.

The outer limit of the Evergreen Garden may have been represented by a low ridge running approximately north to south about 40m to the west of the central statue group [11]. To the south a faint south facing scarp [12] ran east/west about 54m to the south of the central statue and probably marked the southern extent of the garden. This scarp returned to the north at its eastern end, on a line about 39.5m to the east of the

garden's central axis mirroring the ridge to the west, but petered out after about 12m. To the north, there was a very faint south-facing scarp in the otherwise blank area about 56m from the central statue [13], perhaps a faint remnant of the northern extent of the garden. It appeared to be interrupted for about a metre on the line of the path towards The Orangery, suggesting that the path may survive as a sub-surface feature and hinting at the survival of other archaeological features in this area. Together these features defined an area about 110m north to south and 80m east to west.

Stasis, 1859-1916

In 1859 Wrest Park became a part of the Cowper estate and, though their main residence was in Hertfordshire, Wrest Park was used for country parties and the gardens were maintained by a full-time staff of gardeners.

[The letters in square brackets refer to features identified in Figure 62]

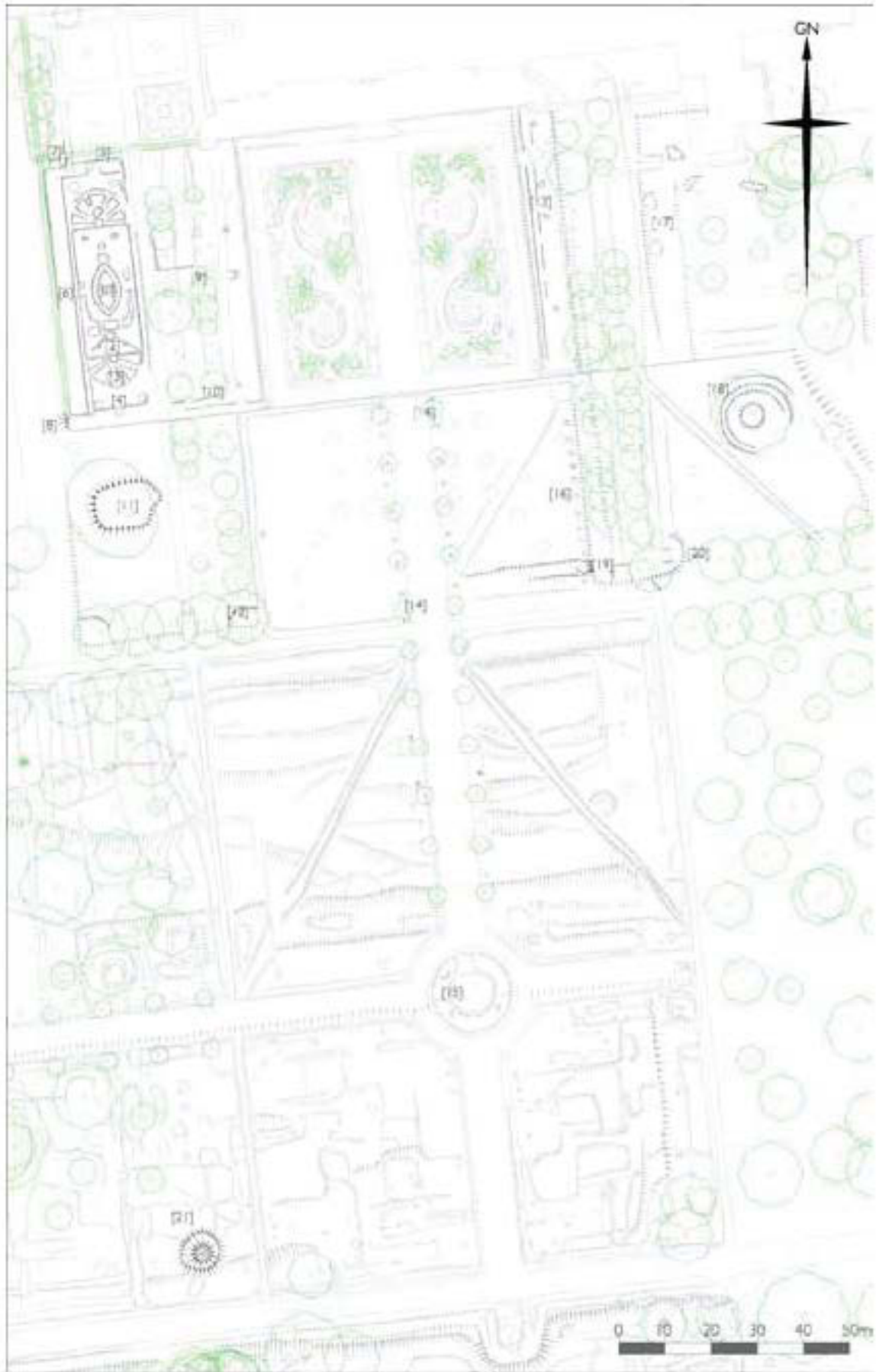
The Rose Garden and south

To the west of the path that ran south from the Italian Garden and north of the balustraded wall, was the area known as the Rose Garden, from a former planting scheme. The area was under short grass and much of the former design survived as earthworks. The results of the survey have since been used to recreate the former layout.

In the centre of this area there was a birdbath [1] and it was clear that this also marked the centre of the former layout; the earthworks to the north were more disturbed than those to the south but enough was visible to confirm a symmetrical arrangement. The birdbath was on a slightly squared sub-circular mound suggesting that it may have been placed within a slightly raised bed. To the east and west were two shallow arcing gullies about 1.5m wide forming a lens shape just under 7.0m wide by 12.0m long with its long axis running north/south. On the long axis of the garden to north and south of the 'lens' were two rectangular beds measuring about 3.3m east/west by 2.3m north/south; that to the north was disturbed and very faint. To either side of these were 'hockey stick' shaped hollows that curved around to the north and south defining a rectangular area with curved corners around the birdbath, which measured 11m east/west by approximately 17m north/south - the full northern extent could not be made out and so was inferred.

To the south there were three low mounds arranged in an obtuse triangle with the apex to the north [2]. The mound at the apex was about 2.5m across and those to the south about 1.25m. Between them and extending beyond them was a triangular depression with its base to the south that extended the full width of the planting scheme, measuring 11.5m across. Three similar mounds were surveyed to the north but the triangular depression between them could not be made out.

Immediately to the south of the triangular depression was a large semi-circular feature with a radius of 6m, made up of five depressed segments separated from one another (and the triangular feature to the north) by low ridges with a smaller semi-circular depression, 2m across, at the centre [3]. It is likely that all the ridges mark turf strips



between the beds defined by the hollow areas. This was clearly mirrored by a similar feature to the north though the centre of this was rather disturbed. Around the northern edge of the feature was a slight counter-scarp defining a ridge around the outside of the feature here. This was not seen to the south, but there may originally have been one here too, though the ground rose slightly to the north in this area which may have led to slight modifications of the design.

At the southern end of the Rose Garden were two hollows over 2.0m across, perhaps defining the corners of the main layout, just beyond which was a faint south facing scarp that ran parallel to the main east/west wall and about 3.5m to the north of it [4]. On the centre-line of the Rose Garden and impinging on this scarp was another hollow about 2.5m in diameter. There was a similar arrangement at the north end of the garden with two hollows defining the corners of the layout, perhaps a little to the south of an exact reflection of the southern layout, with a faint scarp running east/west beyond them and a centrally placed hollow beyond.

Overall therefore the Rose Garden layout appears to have comprised the central birdbath, perhaps within a raised sub-circular bed, surrounded by a lens-shaped bed enclosed within additional beds defining a rectangular area with rounded corners. To the north and south of these were triangular depressions, perhaps beds, with large semi-circular beds beyond them and hollows defining the corners with central hollows beyond them, perhaps where specimen plants had been grubbed out. The whole seems to have been enclosed by defining ridges (or at the least faint external scarps) and extended 55m north/south and 14m east/west (Figure 63).



Figure 63 *The Rose Garden in 1904* (© Country Life)

Figure 62 (opposite) *1859 to 1917 earthworks* (base map Atkins Mapping Solutions 2007 © English Heritage)

At the north end of this formally set out area there was a moderate south-facing scarp that ran up to the boundary with the Italian Garden and which curved around to the south at its east end where the central path rose up into the Italian Garden [5]. This resulted from the Rose Garden being at a slightly lower gradient than the surrounding ground; it appeared to have been slightly cut into the gentle rise up to the Italian Garden here. Similarly at the south end of the old Rose Garden the ground level was raised by about 0.30m relative to the ground to the south of the dividing wall; there were two steps down from the Rose Garden at the gate in this wall.

To the west of the Rose Garden was a long strip of featureless ground 3.5m wide that ran in front of the hedge and was defined by slight inward-facing scarps [6]. This area had, until recently, been an herbaceous border (Chris Slatcher pers comm). What was noticeable was that its gradient appeared to more closely match that of the broad drive up to Stranger's Gate on the western side of the hedge rather than the slightly lower gradient of the Rose Garden to the east. It had been levelled to some extent but this was probably due to the process of maintenance rather than design, in contrast to the Rose Garden proper. At the north end of this former bed was a well-defined, though moderate, scarp, in part reflecting the scarp around the north end of the Rose Garden, though with a slightly levelled step and a return northwards [7]. There had been a gap in the east-west hedge here and the north/south access would explain the northern return, but not the step which suggests that there may have been a feature of some sort here. To the south of the bed the ground level was slightly raised relative to the drive, with a gentle slope down to it where there was a gap between the north/south hedge and the east/west wall allowing access into the drive [8].

To the east of the path some earlier earthworks remained but these probably related to the earlier avenue, the suggested intermediate phase above or the French Garden to the east. There was though a slight south-facing scarp and a little further to the east a faint east-facing spur to the north/south path line noted above [9]. Taken together these were thought to be the remains of an east/west path. This was apparently aligned on the birdbath centrepiece of the Rose Garden and so might be contemporary with it, although it did align roughly with the centre of the parterres. To the south, a low flat-topped ridge ran east-west parallel to the balustrade wall [10]. This was probably another path and seemed to align with one of the beds in the rose garden to the west so may have been contemporary.

The Cedar of Lebanon to the south of the balustraded wall can be seen in the background of the *Country Life* photograph of the Rose Garden of about 1904 (Figure 63). At this time it was fairly large but not mature, still being conical in form and not full height so less than 50 years old, suggesting that it was planted early in this period. It was on a large, low, flat-topped mound [11], which appeared to be too large to simply result from root heave and a large number of rabbit burrows under the tree suggested that the mound might instead be the result of their activity. However, the obvious remains of a designed feature around the apparently contemporary cedar to the east (below) suggest that this mound may also have been designed, presumably at the time that the cedar was planted. A cedar of similar size at Apethorpe Hall, Northamptonshire, was also planted on a mound, though rather higher, perhaps to aid with drainage.

On the south-east corner of the raised area here (above) was a broad shallow scoop possibly marking the site of a garden feature of some sort [12]. A slight scarp in the south-west of this area may be the remains of a similar feature on the opposite corner. If so, then this suggested that these features were later than the raised area as a whole since the western feature related rather awkwardly to one of the tree hollows thought to be from the early 19th century

The French Garden and south

Faint scarps on the terrace to the east of the parterres suggested that there may have been a path, about 0.6m wide, running along the top of the embankment set back approximately 1.0m from its western edge [13]. A few faint hollows about 1.0m across and 0.1m or less deep ran down the centre of the embankment that were thought to represent planting, probably shrubs as anything taller would disrupt the long vista down the Long Canal to the Archer Pavilion from the terrace steps. The eastern scarp of the possible path was rather broken and it seemed possible that these breaks related to the planting suggested by the hollows. The only hints of a similar arrangement to the west were two slight hollows on a similar line. The date of these features is uncertain but it seems more likely that they were secondary, so perhaps of this phase.

Within the north of the south Lawns, to either side of the main central drive, were regularly planted trees forming an avenue. Between these were small hollows on the same alignment and similarly spaced though offset relative to the existing trees [14]. This was due to the removal of aging trees in the 1980s and their replanting in different positions to avoid the risk of disease (Chris Slatcher, pers comm). Historic photographs (such as Figure 59) show that the alignment of trees in Versailles tubs either side of the central path between the parterre panels had been continued as far as the Fountain. The trees on the South Lawns were clearly smaller than those in the tubs though, and it seems highly likely that this extension was secondary, probably of this period. The hollows were only clearly visible on the northern two panels, apart from a few to the south. There were also three hollows on the 'island' around the Fountain [15]. If a fourth had been obscured at some time then these would form planting around the Fountain which would complement the avenue and so could also have been of this phase.

Along the eastern edge of the north-east panel of the South Lawns, immediately at the base of the west-facing scarp, was a series of small regularly placed hollows [16]. Once again these probably represented a row of shrubs, perhaps of this period, though they do not appear in any known images of the garden. It is worth noting that these hollows seem to be on the line of the hollows on the eastern terrace north of the balustrade wall ([13] above) and were perhaps intended to extend an alignment south as the central trees did. A single small hollow was seen in a similar position on the western panel and it is possible that there was similar planting here most evidence for which had been lost; the overall impression was that this panel had been levelled at some time. Note that a slight irregularity in the east facing scarp above this isolated hollow was not related, it was the result of rabbit damage.

The Dairy Garden and Old Orchard

South of the dairy were two large 'D' shaped depressions that had been cut into the north/south scarp to the west and were probably secondary features [17]. They were rather different to the large hollows marking the position of the trees of the avenue to the west and they were thought to have been flower beds from this phase. Closer to the dairy were three other similarly sized, though more irregularly shaped, hollows that were also probably flower beds from this period.

The most significant feature to the south of the balustrade wall was the large Cedar of Lebanon. This was clearly similar in age to that to the west although it was not planted quite symmetrically to the house being several metres further from the central drive and closer to the wall. It was also taller and more regular but this was probably due to development rather than anything else; a *Country Life* photo of the western tree showed a scar where a limb had broken off. The eastern tree was on a broad mound 6.6m in diameter, probably the result of root heave though perhaps deliberately constructed. This was almost completely encircled by a shallow gully [18] (missing only its south-east quadrant) starting about 2.5m out from the base of the mound and about 2m wide, and again very regular, though not perfectly aligned on the mound. This had a counter-scarp around the northern quadrant creating a slight external bank. This tree was probably originally planted as the centre piece of garden feature, presumably a circular bed with an encircling path. This suggests that the western tree may also have been so and that perhaps the mound there, which was similar in size to the gully, originated as a genuine feature, later disturbed by rabbits. A similar, though smaller feature, surrounded a tree in the south-east of the Horseshoe Lawns and may have been contemporary [not shown].

To the south-west, the south end of the irregular north/south bank had a clear raised terminus mirroring that to the west (above). There were several features here that were thought to be secondary and so probably of this period. At the south end of the west-facing scarp defining the South Lawns was a clear bulge probably [19] indicating some steps or a ramp down from the terminus to the lawns. Two faint parallel scarps running away west from the base of this may have indicated a path slightly terraced into the natural fall, probably just from erosion (a third scarp on a similar line to the south may have been related to this path or to Butcher's Row). No similar features were seen to the west and the lack of symmetry suggests that these features were not from the initial setting out of the gardens. No indication of a path was seen to the east on the bank terminus itself, but to the east slight inward-facing scarps and a lobe of raised ground [20] suggested a transition down to the east on a similar line. Between these two features any indication of a path had probably been obscured by a shallow rectangular depression thought to mark the position of a garden feature of some sort, presumably later but perhaps of this period, which in turn had been cut by an oval depression, probably formed by the fall of one of the elms from the avenue.

The Upper Gardens

Across the rest of the rest of the surveyed gardens few features from this period could be identified with certainty.

It is likely that much of the planting of specimen trees was from this period though the planting of the ring of cedars in the Evergreen Garden in the 1930s makes it clear that some took place later. The two cedars to east and west of the northern south Lawns, and a circular feature around one of the trees in the south-east of the Horseshoe Gardens are mentioned above. There was also a large mound to the west of the south panels of the South Lawns [21]. This had a hollow in its top where a stump had rotted away and was clearly related to tree planting (the mound and tree are visible in Figure 65 to the left of the statue) but was too big to have been the result of root heave. The mound must have been constructed and the tree planted on top of it but it was not certain if the mound was directly related to the tree planting or if it was an existing feature reused. Another mound clearly related to a tree lay within one of the square features suggested to be a remnant of the first walled garden's layout ([10] on Figure 43 above). This was rather lower, more irregular and likely to be the result of root heave however.

The north end of Long Canal had been cut back sometime in the later 18th century creating the steep scarp down from the surrounding level ([20] on Figure 48). At some point the end of the canal was back-filled to create the lower level area present at the time of survey. The first reliable sources showing this was the 1st edn OS map of 1882/3 so it is probably safest to assume that this took place during this period.

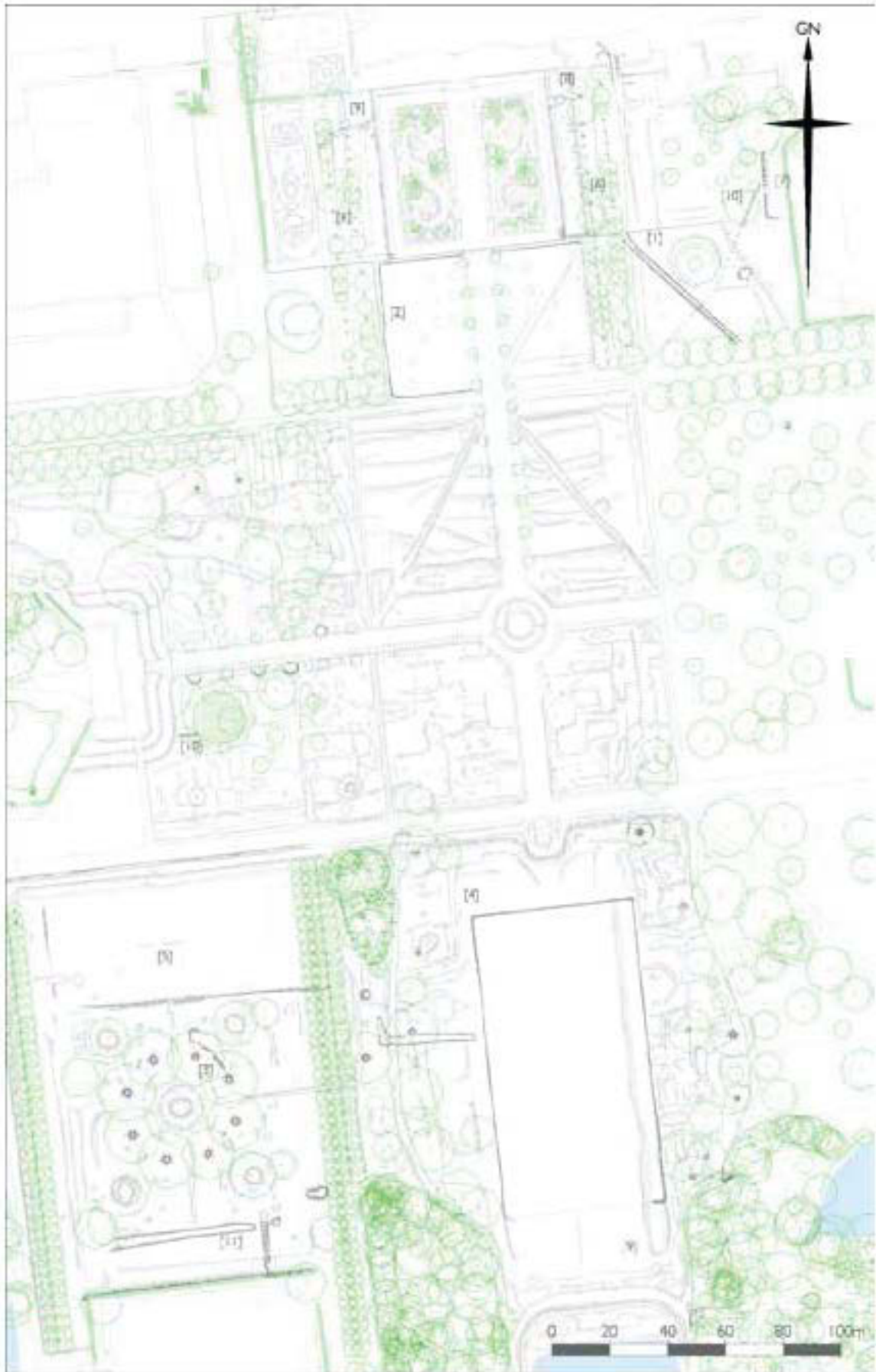
Fragmentation, 1917-46

During the First World War the house was used as a convalescent home until closed by a fire. In 1917 the estate was sold but most of the gardens were kept up and the house and gardens used for entertaining. From 1939 to 1946, Wrest Park was the headquarters of the Sun Insurance Company (SIC) and records indicate some maintenance and re-planting by their staff as a 'hobby'. Also, from 1944 to 1948, parts of the site were utilised by the Women's Land Army; ploughing took place on the South Lawns and Lumber Jills worked in the park and woodland areas.

[Numbers in square brackets refer to Figure 64]

Cutting diagonally across the Old Orchard area was a low straight ridge with a flat top 1.0m wide [1]. This ran for over 50m from the east gate in the balustraded wall and faded out to the south-east just before the avenue of trees along Butcher's Row. It marked the line of a path to temporary huts erected by the SIC in this area during the Second World War noted on aerial photographs above and cinders from its surface occur just below the turf (Chris Slatcher, pers comm). This path ran on a line through one of the avenue trees indicating that they were later than the path.

It is not known which areas were hobby gardens or ploughed at this time. However, it has already been noted that the north-west panel of the South Lawns seemed rather more featureless than the other panels and a slight inward facing scarp ran around its edges [2], as seen on areas known to have been ploughed in the 1940s. It is possible that this area may have been ploughed at this time. There was a similar slight scarp to the north of the panel to the east of this which may also have been levelled



At the time of the survey, a ring of eight Atlas Cedars around the large mound surmounted by the Hawking Party, planted by 1935, dominated the Evergreen Garden. Each was surrounded by a mound created by root heave and between them there were some slight scarps, perhaps also from roots [3].

The post-war era, 1946-2005

In 1946 the house was sold to the MoW and in 1947 the National Institute of Agricultural Engineering (NIAE) re-located to Wrest Park and took over the management of the gardens.

[Numbers in square brackets refer to Figure 64]

In the late 1940s the Institute conducted ploughing experiments in the gardens. The main area of ploughing was the Horseshoe Lawns, which can clearly be seen in the 1948 Pathé newsreel and contemporary photographs. Survey here revealed extensive earthworks outside a largely featureless central area [4] which included the croquet lawns, plus a strip to the west about 7m wide and additional areas to the north and south. This must primarily have been the result of this ploughing rather than the croquet lawns since the blank area did not correspond with them. The croquet lawns themselves were laid out in this period. They have been intensively managed and this has created slight inward facing scarps around most of their outside edges.

It is possible that other areas were also ploughed. The north-west panel of the South Lawns is mentioned above. To the west, the open area to the north of the main Evergreen Garden earthworks [5] was largely featureless. To the south of this blank area, was a slight north-facing scarp with a faint counter-scarp in places. This was too far south to have been a part of the Evergreen Garden, encroaching upon it, and probably represented the southern extent of levelling here, presumably ploughing. There was another faint scarp to the west that may also have been related. Ploughing of this area is just visible in the background of a record photograph, to the left of the statue of Minerva (Figure 65). If this area was ploughed at this time, this would explain why only very faint traces of earthworks were seen here. Nevertheless, a faint hollow in the south-west was probably from the grubbing out of one of the shrubs of the evergreen garden and indicates the potential survival of remains in this area.

In several places to the east and west parts of the parterre and northern South Lawn panels small hollows were noted along the lines of the modern avenues [6]. These clearly marked the location of trees planted in the 1980s that had since died or been removed (Chris Slatcher, pers comm). Across the gardens there were also numerous examples of mounds around extant trees created by root heave much as noted above for the cedars. Although undated many will have been planted in this or the previous phase.

To the east of the Dairy Garden was a roughly north/south, east-facing scarp that had an eastward return to the south [7]. It was approximately parallel to other earthworks

Figure 64 (opposite) Main early 19th century features (base map Atkins Mapping Solutions 2007 © English Heritage)

to the west, and the return aligned approximately with the balustraded wall so it seemed to be related to this garden, but it was awkwardly placed relative to the Petit Trianon. It seemed more likely that it was a negative feature related to the NIAE.

Many of the features associated with this period related to modern services or recent planting. Within the formal gardens near the house, at the north end of the terrace to the east of the parterres, was a large depression 3.5m across with a shallow gully running off to the west of it [8]. This apparently marked the location of a 20th century water tank capable of holding approximately 10,000 gallons (about 37,850 litres) intended for the use of the fire brigade in an emergency (Chris Slatcher pers comm). A similar, though smaller, depression on the opposite side of the parterres [9] probably marked the location of another such tank (ibid). Here a narrower gully curved away to the west, running towards the birdbath in the Rose Garden, perhaps taking a water pipe to it from the house since it appeared to run through the depression. In some areas, particularly the Old Orchard [10] and south-east of the Orangery [11], the lines of other, apparently



Figure 65
Record photograph
of a statue of
Minerva, March
1949 (© English
Heritage Archive
Map Room
AL0989, 85)

more recent service trenches could be picked out. South of the Evergreen Garden, was a broad but shallow gully running east to west [12]. This had truncated several earlier features and was where drainage had been inserted running from two manholes to the east across to an outlet to the west (Chris Slatcher, pers comm). At its eastern end several features including a north/south gully were also clearly modern, though of unknown origin.

English Heritage, 2005-date

Considerable recording and assessment of the gardens took place over the first few years of this period in preparation for the creation and implementation of a long-term management plan. The earthwork survey reported here formed a part of this phase but did not record any features of this phase.

Undated features

Wrest Park has a complex history of intensive garden development over several centuries. Clearly it has not been possible to associate all the features surveyed with specific phases of this development or known elements of the various designs implemented over the years. It is likely though that in certain areas unidentified features must relate to certain archaeological element or processes. The original medieval moated manor house, the developing post-medieval house complex and its demolition in the 19th century is an obvious example located within the southern panels of the south lawns and some immediately adjacent areas. Others include the former service areas to the west of this which must explain many of the earthworks on the lawns around the Orangery and the series of gardens known to have begun by 1658 in the Horseshoe Lawns area.

In addition to these broad areas, there were numerous small hollows and a few slight mounds, all 1-2m across, scattered across the gardens, which were thought to represent tree/shrub boles or remnants of other planting. Many were isolated or did not form part of any coherent pattern and consequently could not be dated. They were widely scattered but were particularly dense across the south-west panel of the South Lawns and around The Orangery, and along the eastern edge of the east and south-east panels of the South Lawns. These areas were adjacent to areas of tree planting and it is possible that many of them were the result of grubbing out self-seeding saplings. It seems likely that most were from later phases when the gardens were less intensively managed, but is possible that many of those around the Orangery were considerably earlier as the area was shown to have trees on it from the early 18th century.

The Archer Pavilion area

The area around the Archer pavilion was surveyed due to planned developments including the reinstatement of gravelled pathways and replanting of woodland panels closer to the building.

[Numbers in square brackets refer to Figure 66]

The area surveyed consisted of the rectangular open area surrounding the Archer Pavilion, south of Long Canal and north of Broad Water and defined to east and west by the woodland margins. This open area measured about 120m east to west and 140m north to south (the survey area was actually oriented slightly west of north to slightly east of south but for simplicities sake the ordinal points will be used). Several rides and paths ran away from this area that were fairly symmetrically arranged, particularly to the north. Two ran off to the north along either side of Long Canal [1] and from the south end of these two paths ran off at about 45° to north-west and north-east [2]. Two broad rides ran away from the north-east and north-west corners of the open area on lines slightly south of north-east and north-west respectively [3]. These were

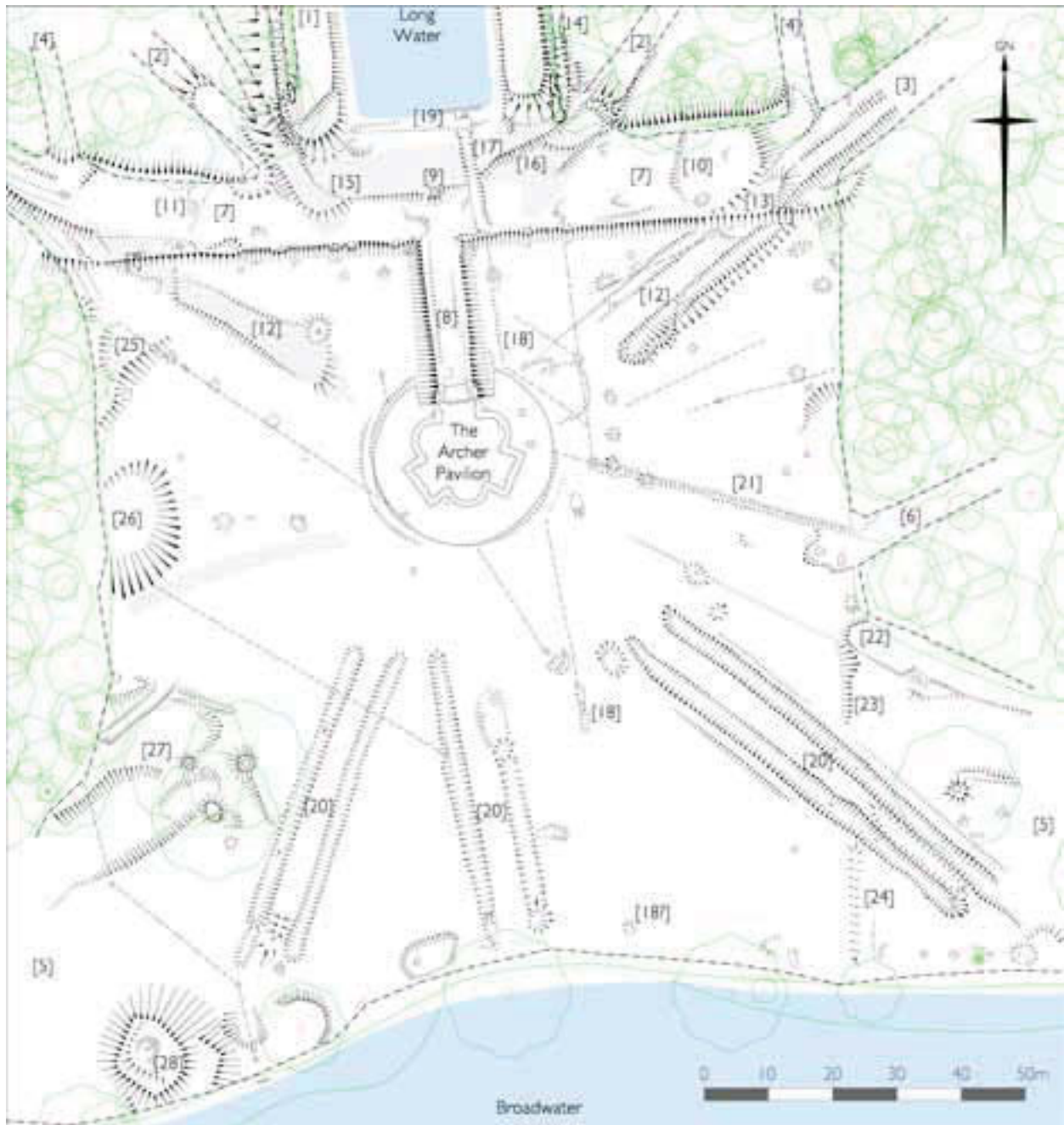


Figure 66 Earthworks around the Archer Pavilion (base map Atkins Mapping Solutions 2007 © English Heritage)

aligned on windows in the Archer Pavilion. From the same points two paths ran away to the north [4]. These appeared to pick up the lines of the woodland fringes to east and west of the pavilion though they were not particularly true. To the south-east and south-west open areas ran away along Broad Water [5]. They were defined to the north by the woodland fringe, that to the west extended further to the south than that to the east, which was also straighter and appeared to reflect the line of the ride diagonally opposite to the north-west. Finally, a path ran away to the ENE from south-east of the pavilion [6]. Survey was extended along these rides and open areas where necessary in order to clarify features, and in some places it was pushed into the woodland margin though as the survey took place in summer this was generally not practical due to dense undergrowth.

The dam and causeway

The Archer Pavilion dominated the open area but in terms of the earthworks surveyed the most obvious features were the east-west dam [7] and the north/south causeway leading from this dam to the pavilion [8]. The low ground to the south was generally level with a slight natural fall to the south and east (Figure 67).

The causeway had a level surface from the foot of the pavilion steps north to the area around the statue of King William III [9] from where the ground rose slightly to Long Canal. For about 20m to east and west of the statue, the surface of the dam was also fairly level but then fell away gradually to meet the level of the forest rides [3]. These sections were extensions to the dam that were not directly related to Long Canal.



Figure 67 The pavilion, causeway and dam from the east (Patricia Payne © English Heritage DPI41075)

The main scarps of the causeway and the south facing scarps of the dam were straight and generally uniform. They were steep, about 40°, and at their highest, along the causeway, well over a metre high. They reduced in height to the north as the lower ground surface rose slightly. To the east and west as the dam surface sloped down the south facing scarps decreased in height and gradient eventually tailing off and curving to the north after about 60m, a few metres after they ran into woodland. There were several small erosion scars along the top of the south-facing dam scarp that appeared to have been worn by visitors. Some had small build-ups of material at the base of the scarp beneath them, other small build-ups appeared to be related to erosion scars or animal scrapes in the face of the dam. The north-facing scarps that defined the extensions were more irregular and the extensions were of different widths, that to the west being 10.5m to 15.5m wide and that to the east being more consistently over 15m. Both appeared to respect existing trees and were not clearly visible lying within the woodland/shrub fringe. The extensions appeared to have been relatively recently constructed with little care giving to the scarps that could not be seen. A few slight earthworks were recorded on the surface of the extensions, including several scarps and small hollows, which must relate to their construction and in some cases subsequent settling.

It was clear that at their outer ends the dam extensions overlay the earthworks of the broad rides [3]. These consisted of broad cambered ridges with ditches to either side that ran up to the dam extensions and continued beyond into the open area on both sides of the pavilion [12]. The ditches were only visible to the east and were rather irregular in places, particularly the west end of the southern ditch, and it seem likely that tree boles had distorted them. To the west, the camber was visible more clearly as a parchmark than an earthwork and the ditches could not be seen which suggests that on this side of the pavilion, the open area, naturally higher here, may have been reduced at some point. There were some scarps associated with movement of vehicles over the dam extensions so that the rides appear to rise slightly up onto them, most obviously to the west where wheel marks showed traffic was more frequent [the main tracks are shown as dotted lines]. Silt from the clearance of Broad Water was also dumped on the rides in the 1980s which then settled to reflect their earlier form but this has created rather soft ground along the lower, and generally damper, eastern ride (Chris Slatcher, pers comm). This dumping probably explains the low mound and lower angle of the south-facing dam scarp seen where the ride and dam intersect to the east [13].

The dam extensions also ran across the entrances to the northern paths [4] and in both places rather irregular scarps showed where the change in levels had been roughly accommodated. This suggests that the dam extensions post-dated their creation.

As already noted the ground was level along the causeway to the statue of William and then rose slightly to Long Canal, a profile echoed to east and west as far as the point where the ground began to drop away to the diagonal paths [2] and on the later extensions. Earthworks in this area were generally faint. Slight outward facing scarps were traced along the causeway about 1-2m in from the main scarps that were probably the traces of the edge of a former path laid out on the causeway.

To the north of this, the earthworks were more complex. To either side of Long Canal the ground rose to form two flat-topped banks that ran along either side of Long Canal

[1]. The bulk of their construction seemed to be a single bank about 9m wide on both sides with their tops well above the surface of the canal so not intended to retain water. They terminated at their southern ends in broad curving scarps that ran out onto the level area around the statue of William, that to the east terminated rather further north and more abruptly, perhaps as a result of the reinstatement of the north-east diagonal path (below). To the west a faint scarp was also recorded curving around on the same line as the western walk but several metres to the south. This probably represented a continuation of the walk. To the west it ran into a broad open scarp that ran down onto the lower diagonal path and away to the north. No similar scarp was seen to the east, probably due to a 19th century reinstatement of the diagonal path noted below.

Low scarps in places made it clear that there were low banks built up on the banks of the main walks. That to the west was broader than that to the east measuring a little over 7m wide compared to about 6m. These banks appeared to be secondary and to both east and west they ended approximately as far south as the end of Long Canal. They were probably created by the dumping and levelling of silt cleared from Long Canal. A small bank was also noted running north/south on the western bank that appeared to be a remnant of a modern hedge line here. In the same area, at the south end of the western path, the earthworks had been pushed out to the west by modern tree growth forming an irregular bulge that overlay the other earthworks.

The Long Canal walks appeared to have been constructed upon the dam rather than being a part of its original construction and to both east and west there were lower, outward-facing scarps that were probably parts of the dam sub-structure [14]. The scarp to the east was clearer and more substantial than that to the west, probably a result of the natural fall of the land, though neither was very visible being in dense undergrowth. A faint scarp was recorded curving around from the western side of the southern end of the western bank [15] that ran east beneath the statue of William, which appeared to have been placed on it later. This looked rather like the probable path edges on the causeway noted above but seemed to cut across the known path layouts here, was not reflected in the parchmark (below), and aligned approximately with the west-facing scarp thought to be a part of the underlying dam structure. It therefore seems possible that this could be a hint of the dam substructure, perhaps the robust original construction showing through despite later work. To the east this appeared to have been truncated, probably by work associated with the reinstatement of the diagonal path already mentioned (and below).

To either side of the raised walks running along Long Canal, the ground fell away to the north-east and north-west onto lower-level woodland paths [2]. These two diagonal paths had different histories, which seems to have affected the earthworks in the two areas. Both paths were first shown on the 1719 Laurence map and the north-west path seems to have remained in use throughout the subsequent history of the garden. In contrast, the north-east path was shown on a map of about 1800 (BLARS L33-7) as wooded, either deliberately planted over or through neglect. This map shows mature trees across the path line so it would appear to have been out of use for some time and remained so for several years; it was first shown to have been reinstated on a copy of a map, the original of which must have dated to about 1830 (BLARS L33-208).

In general, the earthworks on the approach to the north-west path appeared to be related to the walk along the western side of Long Canal suggesting that the walk was created later than the diagonal path. In contrast, the earthworks on the approach to the north-east path seemed to be related to this path and to have truncated those of the walk to the north. As already noted, a south-east -facing scarp approached the northern side of the entrance to the north-east path [16]. This cut through the earlier earthworks removing the faint scarp thought to have marked the underlying dam substructure [15] and truncating the end of the path along the side of Long Canal [2]. This scarp clearly post-dated the creation of the raised walks either side of Long Canal. A second south-east -facing scarp parallel to the first and aligned on the south side of the north-east path approach was also recorded.

At the time of survey a parchmark was visible on the surface of the central section of the dam [shown stippled yellow]. This was broadly symmetrical and must have represented a previous gravelled area. It ran broadly east/west in a strip about 7m wide to the north of the statue of William and extended a little way down both the north-west and north-east paths. It also extended a little way northwards onto the two raised walks alongside Long Canal though soon faded out and was not visible where the silt was thought to have been dumped (above). Opposite these were two lobes that extended southwards but these faded as they approached the top of the dam's south face. It was clear that the parchmark was from a path layout with two parallel paths running south from the walks either side of Long Canal with an east/west path linking them and extending into the diagonal rides. What appear to be gravelled rides along the Long Canal walks and the diagonal paths and a linking cross path are first shown on the 1737 Rocque map, though the diagonal paths are shown as gravelled in 1735. However the north/south paths do not appear until the 1800 map (BLARS L33-7) when they are shown to extend beyond the dam and curve around the south side of the pavilion. It therefore seems likely that the parchmark was reflecting a layout that originated in the later 18th century and which remained broadly the same until at least the 1925 3rd edition OS maps. To the west, the recorded earthworks respected the parchmark but to the east they did not. The parchmark here was rather narrower and less well defined but still present suggesting that the underlying gravelling had been damaged when the diagonal path was reinstated but perhaps, that the layout had still been maintained.

Finally for the dam, a clear gully ran away from the outlet to Long Canal southwards [17] cutting through earlier features and aligning with several other features to the south [18]. This was visible as a scar on the 1952 aerial photograph of this area which showed the gully running along the south end of Long Canal [19]. Work was obviously done at this time to renew the outlet and perhaps to prevent leakage.

Overall, it is clear that the dam has a complex history reflected in the earthworks.

Around the pavilion

Some features in this area have already been described, particularly those associated with the broad rides to the north-east and north-west of the pavilion [12]. To the south of the north-west ride, which has already been noted as more clearly being visible as a

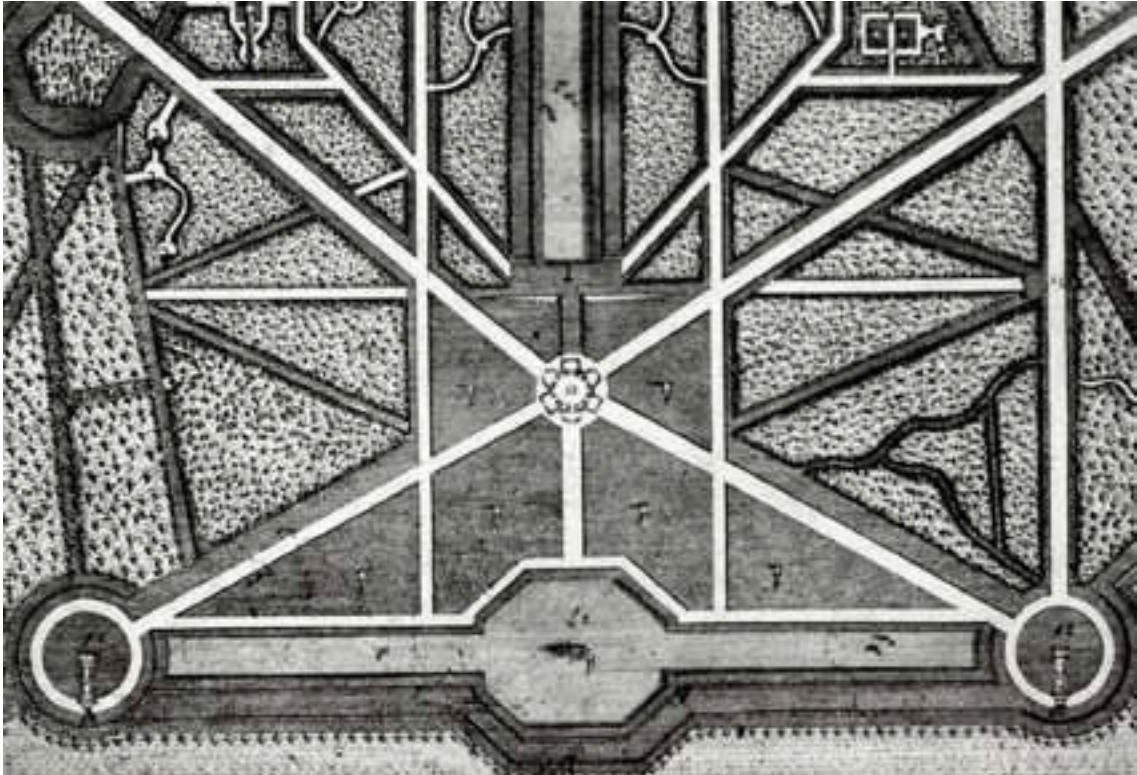


Figure 68 Detail from Rocque's map of 1735 (The Bodleian Libraries, University of Oxford, Gough Maps I, folio 16b)

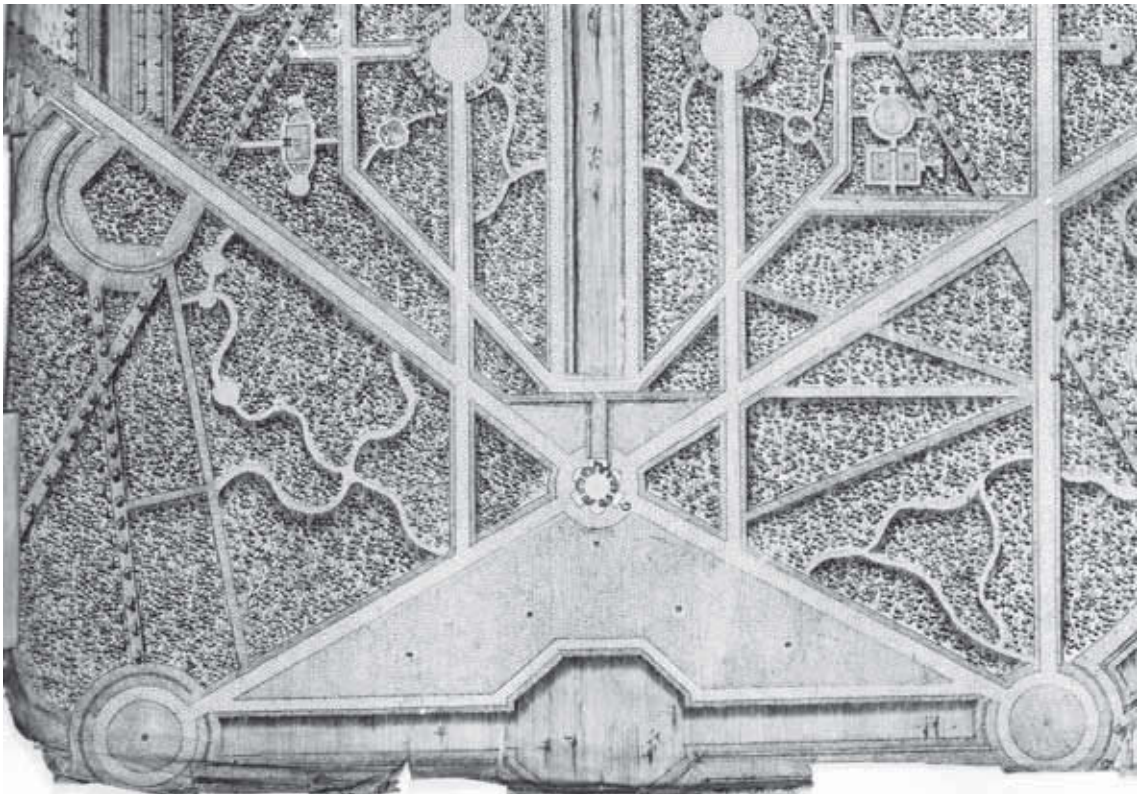


Figure 69 Detail from the 1737 Rocque map (© English Heritage Archive, Map Room AL0990, 7)

parch mark than earthworks, was another parchmark. This was narrower, slightly curved and not aligned on the pavilion. It appears to mark the line of a path shown on a map of about 1800 (Figure 102) but it is uncertain how long it lasted as later maps are not accurate, though it appears to be shown on an enclosure map of about 1809 (Figure 104). This parchmark was not associated with any earthworks, which seems to support the suggestion above that this area had been levelled at some time. Overall fewer earthworks were visible to the west of the pavilion than to its east.

Probably the most prominent earthworks around the pavilion, apart from the remains of the north-east ride, were three pairs of parallel gullies, which defined low, slightly cambered, ridges south of the pavilion and roughly aligned on it [20]. They had the appearance of former rides or walks, very similar to those to the north-east and north-west of the pavilion (above) but they were clearly visible in a 1952 Aerofilms image of this area. This shows several of the gullies as excavated trenches, presumably for the insertion of drains, together with scars on the lines of the other gullies and spreads of material, probably from their excavation. They are actually relatively modern and probably relate to drainage, though it is unclear why they were arranged in pairs in this way.

Drainage of this area appears to have been an on-going concern. The outfall of Long Canal was replaced in the early 1950s as has already been noted [18] and this could be seen as an alignment of service access points, faint earthworks and the faint scar of a drain [shown as a dashed line]. There were numerous other service access points across the area, some of which had associated earthworks, and several drain/service scars most of which aligned with one or more of the access points. To the north-east of the pavilion, these formed a clear, though fragmentary, herringbone pattern. A narrow but clear gully ran away from the pavilion to the south-east [21], towards the entrance to the north-east path [6] where it became rather amorphous. This seemed to be contrary to the general drainage pattern and was most probably a service trench.

Scattered across the area where numerous hollows ranging from less than a metre to several metres in diameter. Several of these were related to the drainage pattern described above, probably the result of settlement in trenches or small areas of seepage and erosion. Many could not though, and these were probably the remains of tree boles or shrubs grubbed out in the post war era. From the mid-18th century the woodland



Figure 70 Detail from a 1952 Aerofilms photograph of the Great Gardens from the SSE whilst work was underway on the Pavilion and Broad Water (© English Heritage Archive, Map Room AL0989, 1)

panels extended much closer to the pavilion than they did at the time of survey but they were patchy in the 1952 Aerofilms photograph and had been completely removed by 1968 (MP WRE0015, EHA Map Room).

As with the path to the north [2], the diagonal north-east ride [6] appears to have grown over by 1800 and been reinstated by about 1830 (BLARS L33-7, L33-208). Again, slight scarps around the approach to it probably relate to its reinstatement, perhaps where trees were grubbed out and levels tidied up. A slight south-facing scarp to the north could not be explained.

To the south of this area a low-flat topped ridge ran off to the south-west along the edge of the woodland [22], continuing beyond the survey area. It had a short, steep, south-west facing scarp and ended in an abrupt lobe at the point where the woodland fringe turned to the north. The northern side of this feature was not visible due to the dense vegetation. This feature appeared to be aligned on one of the windows of the pavilion and a faint south-facing scarp ran out onto the open ground apparently continuing this alignment. It seems likely that this was the remnant of one of the extended rides showing on the 1730s Rocque maps, though the faint scarp closer to the pavilion could have been picking up an earlier part of the path.

A west-facing scarp ran south of the point at which the main path bank terminated, approximately on the line of the woodland margin running off to the north [23]. This ran as far south as the earthworks of the 1950s drainage works, but to the south of these there was a low ridge on the same alignment [24]. No features of any historic significance lay on this line, though there was a path here on the 1735 Rocque map it had gone by 1737, and it seems likely that these features mark the extent of levelling activity to the west, probably associated with post-war drainage concerns. The area to the west was largely featureless but there were several small scarps, hollows and mounds to the east, none of which formed coherent features.

As noted already, the highest point in this area was along the forest ride to the north-west of the pavilion and the area to the west of the pavilion appears to have been graded at some time. It is not certain how far this work extended but there was a rise in the north-west of the open area marked by a south-east -facing scarp [25], which continued into the woodland beyond the survey area though there were some rather amorphous east facing scarps along the woodland fringe. Due to partial visibility it was not possible to make sense of these. A broad open hollow to the south of these [26] could not be explained either.

To the south of the pavilion was a small complex of earthworks amidst three pine trees [27]. To the north was a low ridge cut by a narrow gully and to the east were several west and south facing scarps but none could be related to any historic features. Running south-west from these was a broad open gully. This was on the line of the inlet to a semi-circular pond shown on the Laurence map and in the Angelis view of the 1720s. This was the precursor to Broad Water but positioned about 50m to the north of it.

To the south of these was a broad mound [28]. This had a tree throw on the top of it which had had another tree replanted in it, but the mound was clearly too large to have

been created by or for a tree. Although the perspective is a little askew in the Angelis view, it seems likely that this was the location a bench upon a mound, so it seems likely that this mound originated in this phase. A second bench, also on a mound, was placed symmetrically to the east but this area was excavated to create Broad Water.

Phased summary

Before 1702

It is not certainly know when Long Canal was first constructed (above) but it was in this phase or a little earlier. The general fall of the land means that a dam of some kind must have always been necessary to retain the water in the canal and the Kip and Knyff view of the house appears to show a scarp running along the eastern side of the canal. A dam must also have wrapped around its southern end and it is possible that this original structure showed through later developments [15] but this is rather speculative. As far as is known, in this phase the gardens only extended as far as the end of Long Canal, the area beyond was probably not even a part of the park and appears to be agricultural land in the Kip and Knyff views.

1702-20

At the beginning of this phase, gates were erected at the end of Long Canal to provide a focus for the main north/south garden axis but no evidence for this was seen due to later developments.

The pavilion was erected in 1709-11 and this is probably the point at which this area first became incorporated into the grounds of the house. The Laurence map records the area in about 1719 and a sketch of the area by Angelis survives that was originally drawn in about 1721 – although it was probably updated in 1727 it shows the gardens largely as seen in the Laurence map.

To the north of the pavilion, the Laurence map shows a path running directly to Long Canal. Although the Angelis view is from the south-west, this doesn't show any other paths and the ground appears to slope uniformly away from the south end of the canal. It therefore seems likely that the north/south causeway linking the pavilion to the dam [8] is in essence a feature of this period but the main dam structure was later.

The rides running towards the pavilion from the north-west and north-east [3] are also first shown on the Laurence map and must have originated in this period, though they have clearly been in use for over two centuries and must have been much modified.

Two other rides ran in towards the pavilion from the south-east and south-west, opposite those to the north but no features could definitely be related to these, though a faint scarp [22] might have picked up the line of part of the south-east ride. The south-west ride had probably been removed by work in around 1800 and by modern grading of the open area near the pavilion but elements of it may survive in the woodland which extended further south to the west than it did to the east.

To the south of the pavilion, the waterway that was later developed to become Broad Water, flowed 50m to the north of its present line. In this phase it consisted of a semi-circular pool, presumably designed to reflect the pavilion as there were seats to the south of it, with an inlet from the south-west and the outlet to the north-east. The shallow gully recorded to the south-west of the pavilion [27] probably marked the inlet but no trace of the pond or the outlet was seen. To the south of this a substantial mound [28] appeared to be shown on the Angelis view as the location of one of the seats mentioned above.

About 60m east and west of the pavilion, north/south rides ran from south of the pavilion, tying in the enclosure to the south of the waterway where the seats were situated and framing the garden here, all the way north to pick up the eastern and western walkways within the walled garden (above). These probably lay within woodland and no evidence for them was seen but it is worth noting that the Atkins topographic survey and the lidar data picked up ditches in the woodland panels that align with the edges of the western ride.

1720-40

These phases saw extensive developments in this area shown on Tillemans' sketches of about 1729 (Figure 71) and, although several elements were short-lived, the basic layout survived to be shown on the Rocque maps of 1735 and 1737. It is clear that by the end of this phase more land had been taken into the gardens. This allowed the southern diagonal rides to be extended a considerable distance and at their ends circular features were laid out around central statues. The waterway near the pavilion was replaced with an east-west canal aligned on these circular features, with a central elongated octagonal pool. This lay well to the south of the former waterway, on the same line as modern Broad Water with the octagonal pool reflecting the broader area immediately to the south of the pavilion. The other paths and rides remained on the previous alignments but were extended where necessary to interconnect with the new features.



Figure 71 Tillemans' sketch of the pavilion area from the south-west (© English Heritage Archive e850339).

The Rocque maps were the first to show a clear east/west dam and causewayed approach to the pavilion. However, the causeway looked longer and the dam narrower than was seen at the time of survey. Its south face ran east/west, approximately on the line of the current position of the statue of William III. It is therefore possible that east-west element of the faint scarp suggested as being from the late 17th century [15] actually dates to this period and that the curve around to the north, which was the faintest part of the scarp, was actually a separate feature.

The walks to either side of Long Canal [1] first appear on the 1719 Laurence map but there is no evidence that they were raised at all and they appear to just run out into the area around the pavilion. The 1735 Rocque map seems to show raised terraces here but these only extended as far south as the end of Long Canal. It is on the 1737 map that gravelled paths are first shown running around the south end of Long Canal and also connecting the two diagonal paths [2].

To the south-east of the pavilion the south-east ride aligned on it was extended into the area newly taken in to the grounds in this period (the south-west ride already extended beyond the survey area by this phase). This was seen as a low flat topped ridge running along the woodland fringe and extending south-east beyond the survey area [22].

1740-97

There are no known visual sources for this period and it is therefore difficult to be certain that any features recorded are from this phase. However, the two diagonal paths running away north-east from the pavilion, to the north [2] and south-east [6] had grown over by a map of about 1800, a process which must have begun during this period.

1797-1859

The map of about 1800 showed the paths running alongside Long Canal extended southwards to curve around the pavilion and would have required ramps to drop from the top of the dam to the level around the pavilion. It is possible that these were first laid out in the later 18th century, but there is no evidence for this. The northern parts of these path extensions were visible as a parchmark on the top of the dam and as a faint earthwork to the west of the William III statue. All surface evidence for their presence petered out several metres short of the south facing back scarp of the dam, presumably obscured by later development. Another parchmark, to the west of the pavilion was seen which seemed to mark the line of a path shown on the same map. This could also have been of either phase. During the latter part of this phase, both the overgrown paths mentioned above were reinstated and probably associated earthworks were recorded. Those to the north [16], on the dam, were the most prominent, probably because there was a need to accommodate a more significant change of levels.

1859-1946

As far as can be determined from the sources this period was largely one of stasis in the area of the pavilion. The layout shown on the copied map of about 1830 remained substantially unaltered into the post-war period.

1946-2005

At the start of this phase the woodland still approached quite close to the pavilion, much as it had since about 1800.

From the late 1940s through the early 1950s there was extensive work on and around the Archer Pavilion which was recorded in several photographs including from the air (Figure 72 and Figure 70). Work included repairs to the south end of Long Canal [19] and the replacement of the outfall pipes [17, 18]. To the south of the pavilion, the substantial double gullies [20] were also features of this period, probably associated with drainage. The eastern most of these cut through a west-facing scarp [23] and low ridge [24] though likely to have related to levelling of the area to the west. This must have predated the work of the 1950s and elsewhere it is known that ploughing took place in the late 1940s (above). As this area was open this might also have occurred here and the location of trees seen in the Aerofilms photograph would suggest that this would mark the likely possible extent of ploughing here.

The dam [5] was extended to east and west and it is likely that it was also increased in depth with material added to its south face, work which was being planned in 1963 (MP WRE0066, EHA Map Room). Drainage of the lower area appears to have been continuing a concern and the survey recorded numerous features associated with drains. Most of these ran across the formerly wooded areas and are therefore likely to post-date their clearance. At least one service trench was also noted [21].

By November 1968, the area around the pavilion appeared much as it did at the time of survey. The woodland near the pavilion had been grubbed out creating



Figure 72 Works to the Archer Pavilion, 1952 (© English Heritage, EHA Map Room AL1241 p100)

a large approximately square area with the pavilion at its centre and leaving behind a scatter of hollows (English Heritage Archive, Map Room WRE0015).

New north/south rides had also been inserted into the woodland picking up the lines of the woodland edges to east and west of the pavilion, approximately on the lines of the rides noted above, but closer to Long Canal [4]. The dam extensions (below) cut across the entrances to these paths and were roughly modified to accommodate the changes in level so the paths were probably earlier than the extensions.

The 'bastion' garden

At the end of the ride running north-west from the Archer Pavilion, and south of the Evergreen Garden, was an open area between the woodland to the east and Old Park Water and The Serpentine, separated by a weir, to the west. On the Rocque maps this appears to be the site of a bastion garden, shown as a pentagon within a circular feature. The area was surveyed to assess its survival.

[Numbers in square brackets refer to Figure 73]

Description

The current track from the pavilion [1] ran into the survey area from the south-east and curved away northwards to run alongside Old Park Water. Immediately to the north and east of this was the woodland fringe, forming the limit of survey here. The woodland fringe was broken about half way along the section of track surveyed where a woodland walk [2] ran off to the NNE. The track ran on a broad low bank that had a secondary bank upon it, apparently formed from modern makeup. Both the primary and secondary banks had level surfaces and on the curve, where the natural ground level was lower, the overall height and breadth of the bank increased to maintain this. The lower area aligned with the woodland walk which suggested that the original line of the walk continued beneath the track, and predated it.

Old Park Water formed the limit of survey to the north-west. To the north it ran fairly straight but within the survey area it curved away to the south-west. It was considerably higher than The Serpentine to the south, which it flowed into, and a substantial brick-built sluice accommodated this change of level. A large south-facing scarp ran away from the sluice to the east defining a substantial terrace that effectively acted as a dam retaining the southernmost section of Old Park Water that curved away to meet the sluice [3]. The lower ground level rose to the east and so the height and gradient of the scarp gradually decreased with distance from the sluice. At its east end it turned to the south and curved around gently back to the west ending a few metres short of The Serpentine, forming an open bowl. There was no obvious explanation for this bowl and it was quite vegetated so difficult to see its overall form but to the south it cut a slight scarp suggesting it had been cut back to the east. It may have been that the material for the terrace retaining Old Park Water was quarried from the area to the east and south and thrown up to the north and west. The section of the riverbank north of the terrace was reinforced with a wall, presumably to assist with waterproofing and to prevent

scouring where the current was faster on the approach to the sluice. The reinforcement of the bank and/or the dumping of small amounts of silt along this edge during clearing operations probably created a south and east facing scarp that ran along behind this wall and petered out to the north.

The area between the riverbank and the northern section of the track was under short grass and contained numerous small and somewhat irregular scarps but was essentially a broad shallow gully running north/south [4]. The ESE facing scarps to the west seemed to be related to the building up of the riverbank here but the west facing-scarps to the east were on a slightly different alignment to the track and not obviously related to it. The complexity seen in the various scarps probably resulted from various dumping/building up episodes and equally settling/erosion. None was obviously significant in itself and they could have taken place over a relatively short period or one of many years. The gully ended a few metres short of the terrace scarp associated with the sluice where south-facing scarps curved around from the track towards the sluice. It seemed likely that

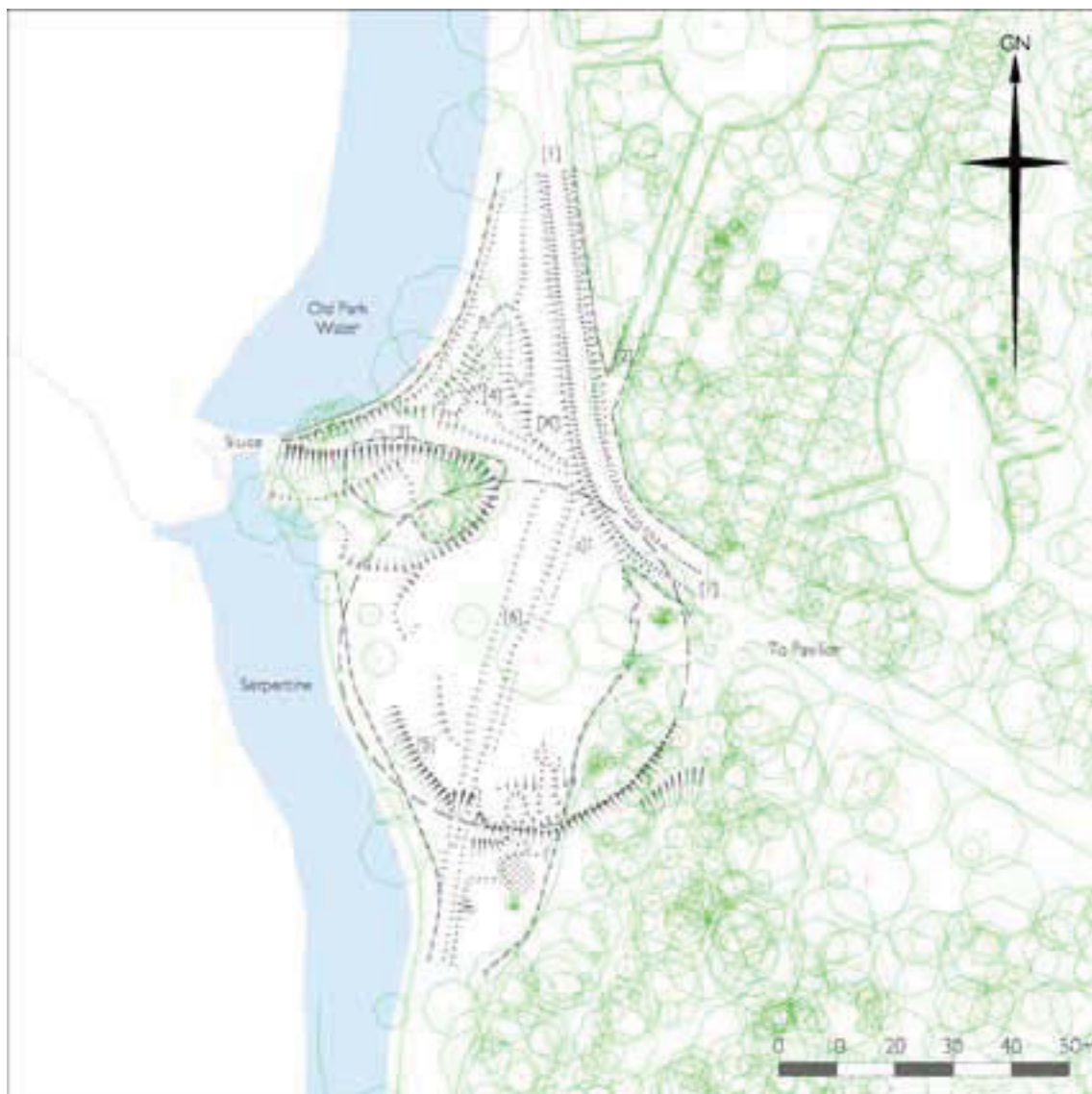


Figure 73 The 'bastion' garden earthworks (base map Atkins Mapping Solutions 2007 © English Heritage)

a path had run from the track to the top of the sluice where it would have been possible to cross out into the park beyond.

To the south was a relatively featureless area of short grass and two or three isolated trees that fell gently towards the south. To the south of this a well-defined scarp [5] that curved around from south-west to south-east with a maximum height of about 0.7m in the centre and petering out to the west as the lower ground level rose. To the east, it ended at a NNE/SSW forest walk where it had been slightly truncated. A second scarp here appeared to be unrelated but could not be traced any distance due to heavy vegetation cover. This was in the correct location and of the correct size to be related to the possible bastion garden feature seen on early maps.

To the north, a slight gully ran from the main track south and over this feature [6]. This was the result of modern vehicle traffic breaking away from the track to run along The Serpentine and around to the Archer Pavilion from the south-west. To its immediate east was an intermittent low bank that aligned with the woodland path to the north (above) and probably marked a former continuation of this path line. To the south of the curving bastion scarp the modern track ran on a clear ridge but it seemed more likely that this was also a remnant of the earlier path rather than directly associated with modern traffic which simply appeared to be eroding and compressing the ground.

The area between the traffic route and the woodland fringe had small complexes of earthworks both above, north, and below, south of the main bastion scarp. Those to the north comprised two short gullies running back from the south-facing scarp, probably the result of former path eroding the edge here. Beneath these was a north-facing scarp that petered out to the west, ran into dense woodland to the west, and was perhaps related to the main bastion scarp, effectively defining a slight bank. However it did not run parallel to the main scarp and no other evidence for similar scarps was seen elsewhere. In fact to the west a faint scarp that curved around on a similar line but faced in the opposite direction – south and east. The earthworks to the south were rather muddles and consisted of some scarps associated with the erosion of the bank noted above and where the modern vehicle traffic had run through the main scarp and others associated with vegetation. A substantial tree had relatively recently been felled and there was a large area of broken ground where the trunk and roots could be seen to have rotted in situ [crosshatched]. The only coherent scarp in this area ran north/south parallel to the low bank thought to be from the former path line and had a right angled eastward return to its north. This could not be related to any other features however.

As with most areas there were also a few small hollows scattered across the survey area marking former shrub or tree growth and loss. There were fewer here than many other areas however and it must have been open for much of its history.

Discussion and conclusions

The 1719 Laurence map showed this area to be outside the gardens; the precursor to Old Park Water and The Serpentine was a much narrower stream running on a straight course from NNW to SSE immediately to the east.

By the time of the Rocque maps Old Park Water was a straight canal that ran into the survey area from the north. The line of the ride from the pavilion, to the south-east, continued right through the survey area, crossing the waterway probably by a bridge, and running out into the park.. The Serpentine ran on a similar line to that seen at the time of survey, though perhaps a little to the east and the transition between the two waterways must have been upstream of its current position, about 20m to the north-east. A brick lining to the channel has been observed here, particularly during dredging operations (Chris Slatcher, pers comm). The circular feature thought to be a bastion garden lay south of the end of Old Park Water, slightly to the east of its centreline, and east of The Serpentine, on the south-west side of the ride.

Between these two dates there was an intermediate layout in this area, not recorded on any maps but shown in Tillemans' sketches of the later 1720s. Figure 74 shows a sketched view from the north of the survey area, perhaps from around [X], looking south towards the south-west circle that remained visible on the Rocque maps a decade or so later. Figure 75 is the equivalent sketch looking back from the south-west circle northwards. Both show a large circular basin with a central obelisk on the site of the suggested bastion garden and that a straight canal ran directly between this and the circular feature to the south, a pre-cursor to The Serpentine. The straight canal to the north presumably also ran directly into this basin but was not visible in either sketch. The curved scarp recorded in the south of the survey area [5] was clearly originally related to the basin. It also seems likely that the east-facing scarps recorded to the north [4] marked the former edge of the northern canal.

The 'bastion' shown in the Rocque maps was very probably the reuse of the earlier basin, and calls into question the idea of a bastion at all. On plan the resemblance is superficial, the circular element was an outward facing scarp and the pentagon was probably not an earthwork but actually appears to have been an area of woodland. Most known garden bastions were later and geometric in plan with substantial angular terraces allowing views over open country (Meir 2006, 84). It is clear from this survey that the earthwork here was actually circular and not particularly large. Although it could have allowed some views out into the park it was not particularly elevated and the sketches show that it was within woodland at the time it was laid out, its open aspect was later. In fact the earthwork was probably originally a dam designed to retain water in the basin.

During the early 1730s the straight southern canal was removed and replaced by the more naturalistic The Serpentine, the obelisk was removed and set up in the park and the basin filled in and planted with trees. It appears that the Obelisk Basin and southern canal were in existence for less than ten years.

A circle was drawn based on the probably diameter of the 'bastion' feature shown on the Rocque maps, about 60m [dashed]. This was placed so as to fit the curved scarp but it was clear that this was only possible to the east. The western part of the scarp was on a rather different alignment and had probably been cut back at some time. This is most likely to have occurred when The Serpentine was created as the scarp here was on broadly the same line as this section of riverbank.

At some point later in the 18th century, probably during the 1760s under Capability Brown, the canal to the north was also naturalised with curving sweeps added to it rather than wholesale realignment. This was the point at which the south-west curve was laid out which required some infilling of the former course resulting in the gully noted above [4]. It was also the point at which the sluice and associated earthworks [3] must have been created. By the map of about 1800 (Figure 76) the area looked very much as at the time of survey apart from a small inlet to the east of the north end of The Serpentine, roughly the lowest part of the bowl noted above with the bulk of the scarp and terrace [3] shown as a sub oval block of woodland. This arrangement persisted until well into the 19th century only certainly taking its later form by the first OS maps of the late 1880s.



Figure 74 Tillemans' sketch from the west circle looking south (© English Heritage, e850340)



Figure 75 Tillemans' sketch from the south-west circle looking north (© English Heritage, e850328)



Figure 76 Detail of a pre-enclosure map of about 1800 (BLARS L33-7, photograph Patricia Payne © English Heritage DPI 10958)

SUMMARY OF GEOPHYSICAL SURVEY

A Ground Penetrating Radar (GPR) survey was conducted over an area of approximately 2.4 ha at Wrest Park in July 2010. This has been reported on in full elsewhere (Linford 2011, <http://research.english-heritage.org.uk/report/?14980>). What follows is a brief summary of that report.

Introduction

The aim of the geophysical survey was to assess the nature, extent and survival of the original house and whether any trace of the first walled gardens could be detected under the croquet lawns to the south. A combination of historic mapping, parch marks and slight earthwork traces has revealed the location of the original house, which has also been the subject of a partial earth resistance survey (Gater 1991), a trial magnetic survey in 1993 and more recently extensive earth resistance survey (Fadden and Turner 2001, 2004). It was decided that a Ground Penetrating Radar (GPR) survey might best complement the existing geophysical results. The site covered by the GPR survey extended over approximately 2.4ha, from the remains of the old house to the long canal, and was laid mainly down to well-kept lawns, interrupted by gravel pathways, planting and statues. The former walled gardens, south of Broadwalk, lay on a lower level and had been subject to ploughing trials in the 1950s followed by the establishment of a well-manicured croquet lawn.

Method

For a detailed methodology see Linford, 2011. A survey grid (Figure 77) was established over the site using differential global positioning system (GPS) and a roving GPS receiver was mounted on the GPR array to provide continuous positional control for the survey.

A radar system with a multi-element vehicle towed, air launched antenna array was used to conduct the survey collecting data (Linford *et al* 2010). Data were acquired at a 0.075m x 0.075m sample interval. Post-acquisition processing involved conversion of the raw data to time-domain profiles, adjustment of time-zero to coincide with the true ground surface, background and noise removal, and the application of a suitable gain function to enhance late arrivals. To aid visualisation amplitude time slices were created from the entire data set by averaging data within successive 1.2ns windows (Linford 2004). Each of the resulting time slices represents the variation of reflection strength through successive ~0.06m intervals from the ground surface, based on an estimate subsurface velocity of 0.117m/ns. One of these time slices is shown in Figure 78 superimposed over the base OS mapping.

An interpolated digital terrain model (DTM) was created using data captured by a GPS receiver mounted on the GPR antenna array at an approximate sample spacing of 1.5m x 2m. Rapid topographic survey data collected in this manner will be of limited accuracy, compared to a static measurement, but can still provide a useful ground surface model for the correction and presentation of the GPR results. Figure 79 shows a false perspective view of the GPR data with the time slice shown in Figure 78 draped over the DTM.

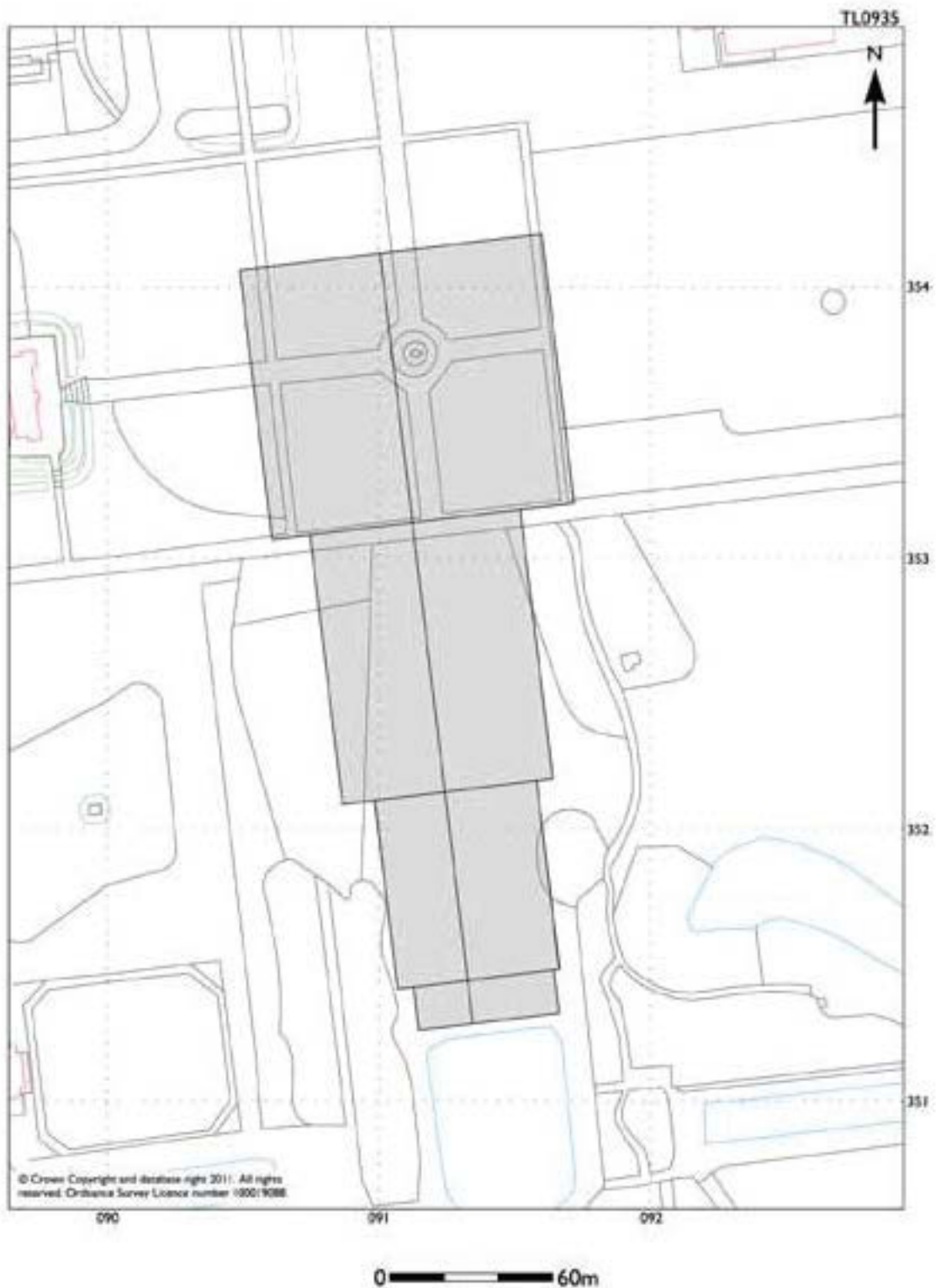


Figure 77 Geophysics survey grid (base map © Crown Copyright. All rights reserved. English Heritage 100019088, 2014)

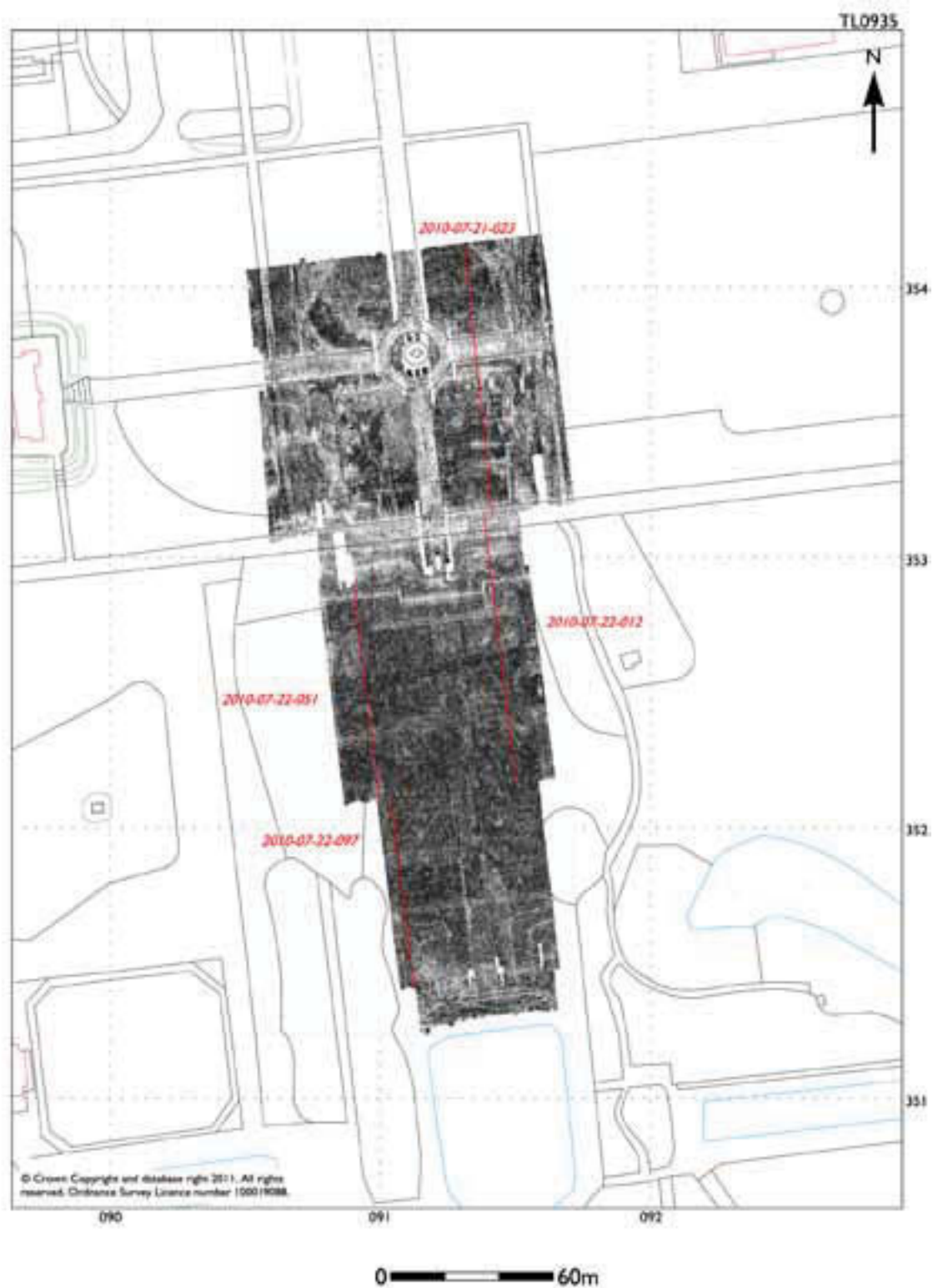


Figure 78 Time slice based on returns between 10.2 and 11.4ns (estimated to be between 0.61 and 0.68m depth), lighter colours are higher amplitude reflectors darker colours lower amplitude reflectors. Red lines are sections shown in the main report (Linford 2011) (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014)

Digital Terrain Model, July 2010.

GPR amplitude time slice from between 10.2 and 11.4ns (0.61 to 0.68m) draped over the DTM

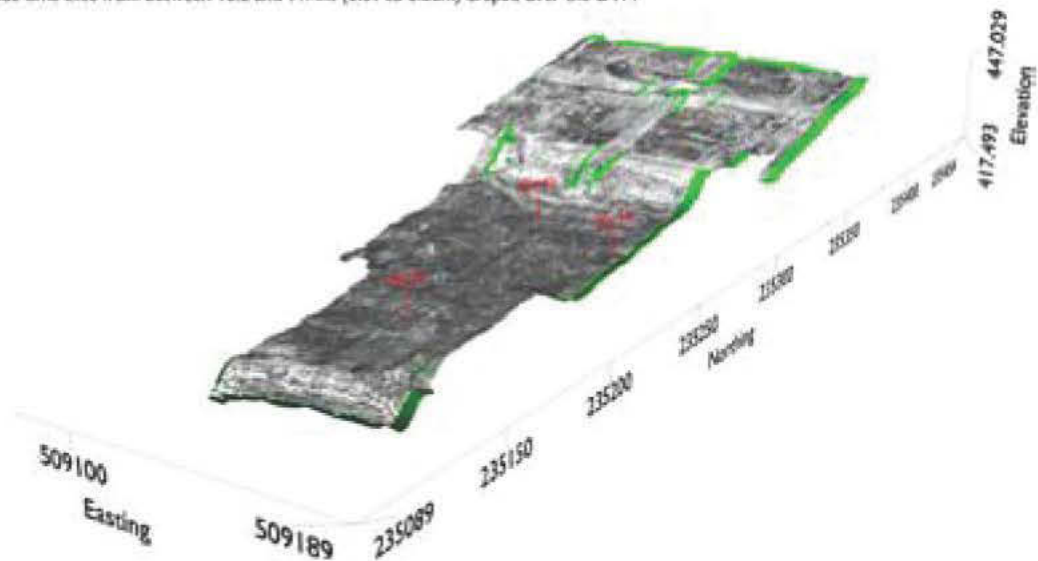


Figure 79 False perspective view of Figure 78 draped over the DTM, the vertical scale has been exaggerated by a factor of 8.

Results

Graphical summaries of significant anomalies superimposed on the base Ordnance Survey map data, are provided in Figure 80 and the features identified are summarised in Table 1.

Table 1 – Significant GPR anomalies

GPR No	Feature	Group?
1	Wall-type responses	Old House? (the chapel)
2	Wall-type responses	Old House?
3	Wall-type responses	Old House?
4	Wall-type responses	Old House?
5	Wall-type responses	Old House?
6	Wall-type responses	Old House?
7	Wall-type responses	Old House?
8	Probable rubble spread associated with former building remains	
9	Wall-type anomalies	
10	Evidence for building remains extending under the main extant pathways	
11	Broad, linear anomaly respecting the orientation of overlying modern path - likely to represent drainage or perhaps water supply conduits - particularly where a supply to an extant water feature seems plausible	
12	Evidence for building remains extending under the main extant pathways	

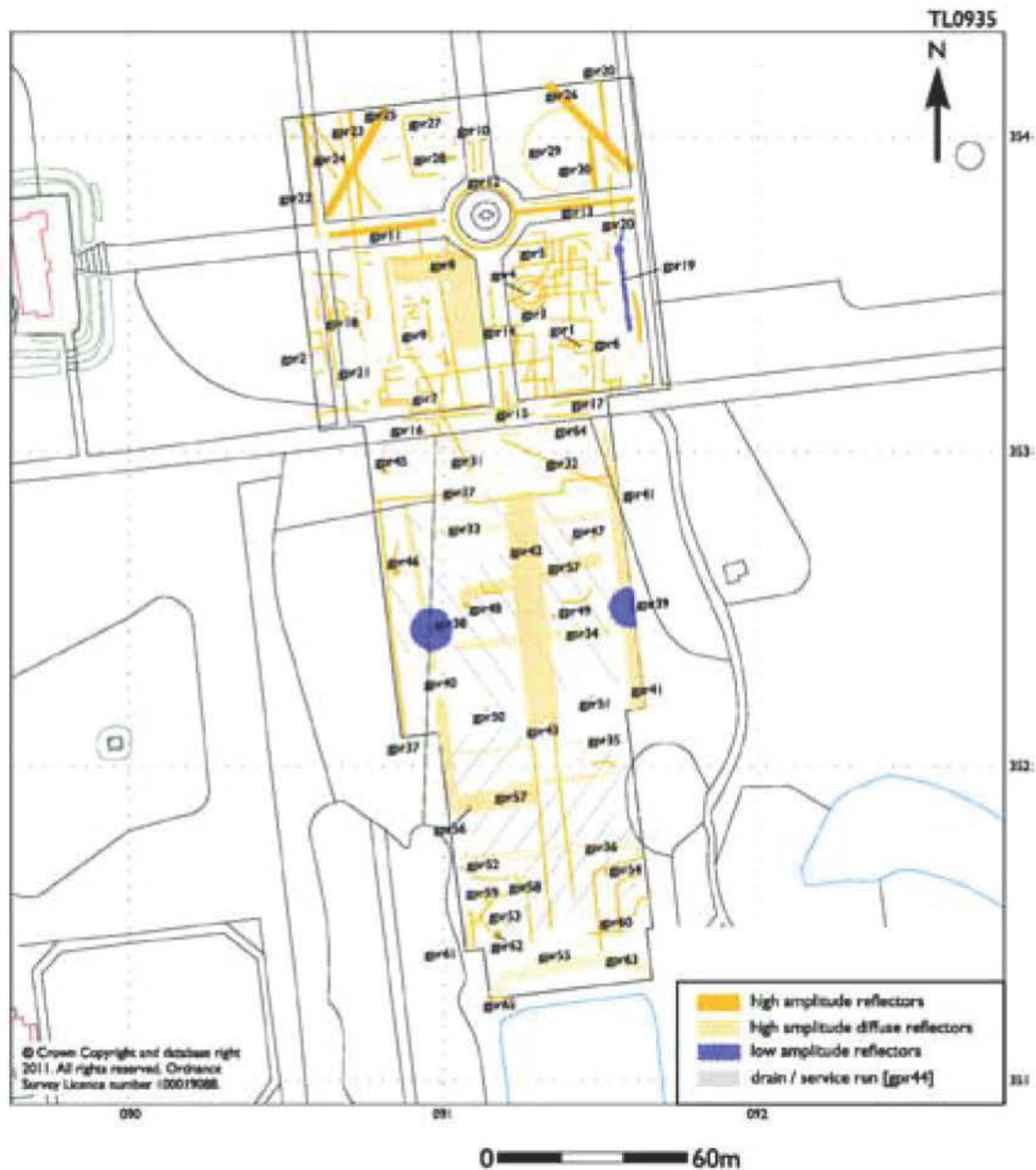


Figure 80 Interpretation. (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014)

GPR No	Feature	Group?
13	Broad, linear anomaly respecting the orientation of overlying modern path - likely to represent drainage or perhaps water supply conduits - particularly where a supply to an extant water feature seems plausible	
14	Evidence for building remains extending under the main extant pathways	
15	Evidence for building remains extending under the main extant pathways (Great Dining Room)	

GPR No	Feature	Group?
16	Evidence for building remains extending under the main extant pathways	
17	Evidence for building remains extending under the main extant pathways	
18	Two 3m square wall-type structures aligned approximately east-west and, possibly, associated with some fragmented linear responses found further to the west. Previously identified as the remains of a bridge crossing a former moat. Convincing evidence for a former moat in this area is difficult to ascertain from the GPR data, suggesting that a more open interpretation as the remains of a building is equally valid	
19	A low magnitude linear anomaly cut by two wall-type responses may represent a ditch or moat (although this appears to continue to the N as a positive reflector [gpr20], perhaps suggesting a service trench or robbed-out wall	
20	Positive reflector, perhaps a service or wall	
21	High magnitude anomaly similar to [gpr22] running beneath the extant gravel path to the west, crossing the east-west metalled path from The Orangery	A previous garden design of paths in the area to the N of the fountain? (Could represent service trench or wall though)
22	High magnitude anomaly similar to [gpr21] running beneath the extant gravel path to the west, crossing the east-west metalled path from The Orangery	
23	Linear response parallel to [gpr21] and [gpr22]	A previous garden design of paths in the area to the N of the fountain?
24	Diagonal anomalies - part of a pattern [gpr24-26]	
25	Diagonal anomalies - part of a pattern [gpr24-26] visible as both parch-mark and slight topographic feature	
26	Diagonal anomalies - part of a pattern [gpr24-26] visible as both parch-mark and slight topographic feature	
27	Several apparently structural elements that, in part, extend from the lawn beneath the central walk from the main house [gpr10]	
28	Several apparently structural elements that, in part, extend from the lawn beneath the central walk from the main house [gpr10]	
29	Several apparently structural elements that, in part, extend from the lawn beneath the central walk from the main house [gpr10]	
30	Several apparently structural elements that, in part, extend from the lawn beneath the central walk from the main house [gpr10]	
31	Linear anomaly, drain or service	
32	Linear anomaly, drain or service - may provide the electricity supply to the croquet clubhouse in the woods to the east of the survey area	

GPR No	Feature	Group?
33	Very near-surface band of amorphous response	Appear to represent the divisions between the individual playing surfaces of the croquet lawn; observations in the field suggest this may be due to the extremely short cropped grass over the playing surfaces or, perhaps, localised compaction of the soil from the intensive lawn care
34	Very near-surface band of amorphous response	
35	Very near-surface band of amorphous response	
36	Very near-surface band of amorphous response	
37	The edging wall of the lower terrace with a return along the western extent of the survey area	
38	The central plinth of a fountain base shown on the 1719 Laurence plan of the garden. Surrounded by circular anomalies	
39	The central plinth of a fountain base shown on the 1719 Laurence plan of the garden. Surrounded by circular anomalies	
40	Some evidence for the north/south path leading to the fountains shown on the Laurence plan	
41	Some evidence for the north/south path leading to the fountains shown on the Laurence plan, perhaps better preserved than [gpr40]	
42	A subtle linear anomaly running for approximately 100m south from the Broadwalk	The central north/south path that forms a consistent feature of all the historic garden designs; the change in response along [gpr42-43] does not appear to be related to the position of the present day croquet lawns or the width of the path across the lawn left for visitors between the playing surfaces.; may suggest that surviving edging walls have, in part, been removed, perhaps during the intensive ploughing trials conducted during the 1950s
43	A pair of wall-type responses leading towards the long canal	

GPR No	Feature	Group?
44	The whole of the lower terrace is cut by a 'herring-bone' pattern of field drains spaced at approximately 6m intervals between 5.6 and 15.0ms (0.34 to 0.9m), which appear to be contemporary with the historic garden and have survived the more recent episodes of ploughing. The drains appear to fall towards the middle of the lower terrace where the two alignments meet, although there is no evidence here for a central east-west collect	
45	Likely plinth for statue or other ornamental garden feature	
46	Likely plinth for statue or other ornamental garden feature	
47	Likely plinth for statue or other ornamental garden feature	
48	Likely plinth for statue or other ornamental garden feature	
49	Likely plinth for statue or other ornamental garden feature	
50	Likely plinth for statue or other ornamental garden feature	Pair positioned symmetrically approximately 16m to either side of the central north/south axis of the design from the house
51	Likely plinth for statue or other ornamental garden feature	
52	Likely plinth for statue or other ornamental garden feature	
53	Likely plinth for statue or other ornamental garden feature	
54	Likely plinth for statue or other ornamental garden feature	
55	Likely plinth for statue or other ornamental garden feature	
56	Likely plinth for statue or other ornamental garden feature	
57	Extension to the network of paths associated with the Laurence plan perhaps representing the east-west path from the North Broad Water	Appears to coincide with a fountain base or statue plinth [gpr56] on the alignment suggested for previous garden design
58	Edging walls	As the central walk continues further south to meet the long canal a series of linear anomalies indicate the location of additional surviving garden features depicted on the 1735 Rocque plan of the garden
59	Edging walls	
60	Edging walls	
61	Path	
62	Circular garden feature	
63	The sharp slope down to the edge of the long canal itself produced a complex response related, no doubt, to the underlying construction of the retaining terrace. Similar to 64	
64	The sharp slope down from Broadwalk produced a complex response related, no doubt, to the underlying construction of the retaining terrace. Similar to 63	

GPR No	Feature	Group?
65	One linear wall fragment may suggest some relic of the original bounding wall surrounding the long canal recorded by Rocque plan of 1735	

SUB-SURFACE INTERVENTIONS

By Paddy O'Hara.

The following notes document a variety of small-scale interventions undertaken under archaeological supervision during the re-presentation programme at Wrest Park. The locations of the interventions are shown in Figure 81.

Walled Garden

A new visitor centre was to be built in the north-east compartment of the walled garden. Two trial pits were excavated in advance to provide a clear understanding of soil type, underlying geology and the nature and extent of the garden wall's foundations.

Trial pit 1

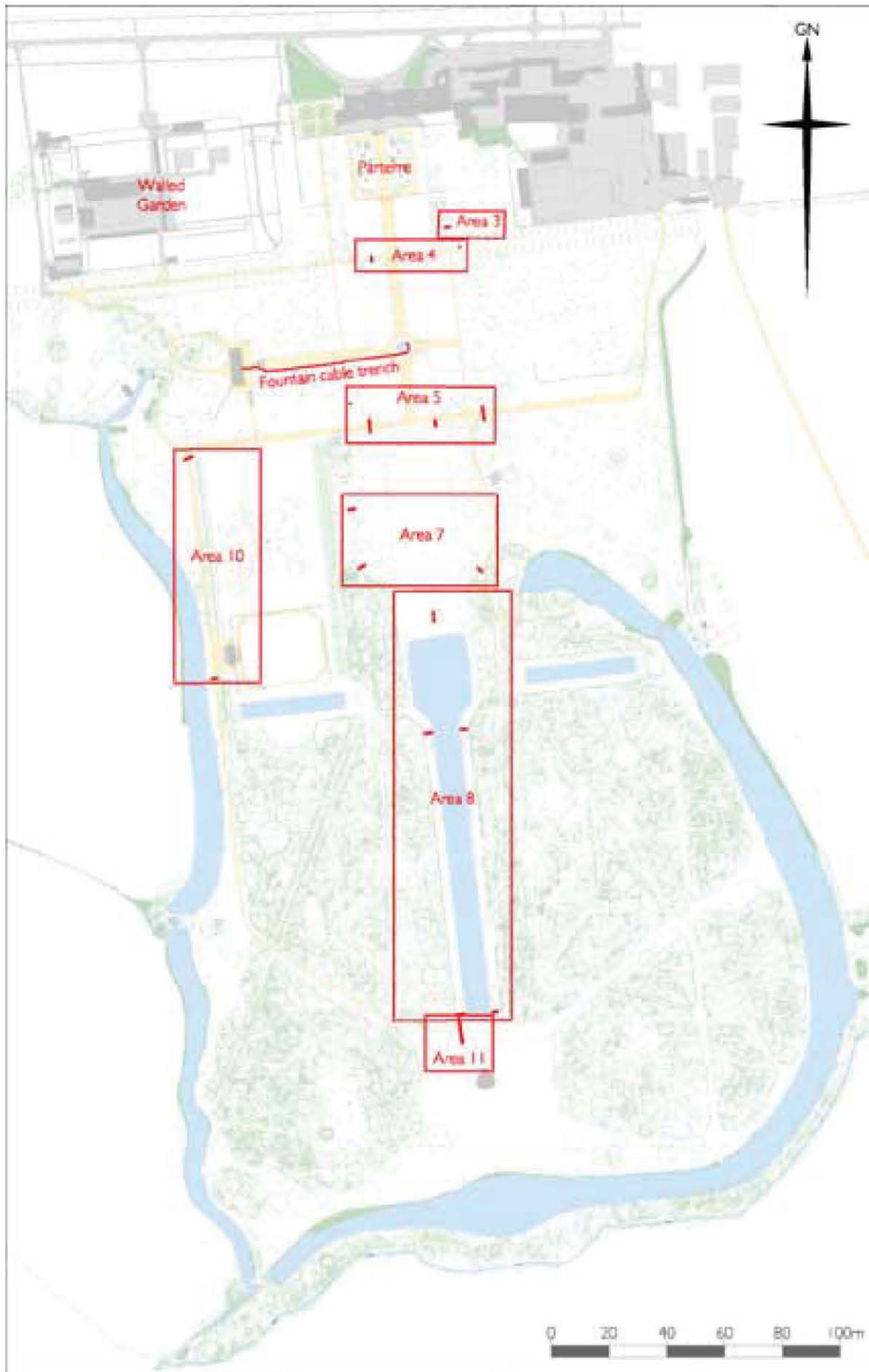
A 1m square trial pit was excavated against the south-facing side of the north wall of the walled garden (TL 08940 35571). Below the grass, a dark brown rich loamy clay topsoil was revealed. There was extensive disturbance to this layer caused by rabbits digging runs against the wall face. The topsoil sealed a layer of friable yellowish-brown sandy loam that contained occasional pieces of building debris. This in turn sealed a substantial layer 0.45 m deep of sandy loam of a slightly lighter colour and characterised by an increase, in particular, of mortar flecks and lumps, brick, limestone, and the occasional piece of coal. Two pieces of clay pipe stem and a fragment of willow pattern were consistent with a building date of the first half of the 19th century. This final deposit in the sequence rested on a hard orangey brown sand at a depth of 0.98m, the bedrock.

The wall face exposed below the turf line continued in a Flemish bond for a further four courses below the surface. The brickwork foundations then stepped out from the wall line by 0.1m and the bonding changed to an English bond. After a further three courses the foundations stepped back by 0.05m and continued down for a further four courses. The final two courses of brick, still in an English bond, were stepped out again and were heavily encrusted in a hard whitish mortar. A void was apparent between the face of the foundations and the natural. This void was tested to a depth of 0.25m before again hitting bedrock.

The building sequence assumed is that the foundations were constructed within a shallow trench 0.25m deep excavated into the natural. The two layers described above were backfilled against the foundations as they rose.

Trial pit 2

A second 1m square trial pit was opened against the eastern edge of a concrete raft visible above ground (TL 08905 35561), which supported a late 20th century timber clad building. Below the turf this raft sat within a larger footprint. The pit was extended to examine this wider footprint and revealed the building's service cabling laid in a shallow trench and protected by a backfill of clean gravel. The gravel was capped by a Terram membrane that had become torn over time. Water had percolated freely through the



gravel and waterlogged the underlying deposit, which sat directly on the stepped-out base of the concrete raft.

Paths

A key element of the representation programme was to improve access to the gardens. As part of this plan, a circular route suitable for passenger buggies was to be laid out. To inform this part of the programme 17 trenches covering 125 m² were excavated to locate and establish the width and nature of the historic paths. The trenches were machine cut to a sufficient depth to reveal the historic fabric of the path, troweled clean, recorded and photographed.

In some locations the currently gravelled paths were later manifestations of earlier pathways. The aptly named Broadwalk excavation showed it to have been fully 12m wide when originally it provided access to the south front of the earlier house. In other locations the paths had been lost beneath grass and topsoil. The grassy swards running either side of the Long Canal revealed a gravel path 7m wide.

Area 3 South-east of the French Garden

A north/south aligned path parallel and adjacent to the eastern avenue of beech trees is shown on the 1st Edition OS of 1882. The path was centred on, and provided access through the gated entrance which lead to the Petit Trianon and the formal gardens. A trench, machine cut to a depth of 0.1m, located a compacted mix of small flints and gravel. This layer had a cambered profile with a maximum depth of 0.1m. It spread over 3m.

Area 4 Butcher's Row

Butcher's Row can be seen in the Kip and Knyff engraving of 1708. It is now one of the two main east-west axial routes across the formal garden. As laid out it provided access to the north front of the manor house which the Earl of Kent had remodelled in 1676. In 1835 when Earl de Grey built his new mansion 200 metres to the north he also laid out new formal gardens. He incorporated Butcher's Row in the new scheme albeit with a narrower width.

West

Two trenches were machine cut at right angles through the present day path and into the adjacent lawn. The surface of the path to the west is currently laid to sharp whitish grey flint gravel. This modern metalling is 0.8m deep and sits for the most part directly above a layer of orangey brown stones and gravel. The upper surface of this compacted stony layer dips from its centre point both south and north. To compensate for this falling away

Figure 81 (opposite) Locations of archaeological investigations. (base map Atkins Mapping Solutions 2007 © English Heritage and © Crown Copyright. All rights reserved. English Heritage 100019088. 2014. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™)

of the ground surface a levelling deposit of brown earth separates this layer from the current gravel surface. To the south the stone and gravel layer extends beyond the path. To the north this earlier layer appears to have been truncated.

East

The continuation of the path to the east has not been maintained but it is clearly still in regular use as the compacted wheel ruts attest. Below 0.1m of topsoil a stony gravel layer as seen in the previous trench was excavated. The profile of this remnant path had a similar profile and levelling layer, and also extended south beyond the extent of the modern path.

Area 5 Broadwalk

The Kip and Knyff engraving shows the Broadwalk as a terraced walk immediately to the south of the original house. As with Butcher's Row the Broadwalk was incorporated into De Gray's new formal garden and is still the primary east-west axial route. Three trenches were machine cut across the Broadwalk.

East

A trench 13m long was machine cut across the Broadwalk and into the lawn on either side. The surface of the Broadwalk comprises 80% inclusions of a fine to coarse sub angular flint in a matrix of yellowish brown clay sand. The lawn edges have clearly encroached on both sides of the Broadwalk. The interface between the gravel and the deposit below is very uneven, the result of successive relaying and patching. The underlying deposit of larger stones and gravel is seen in section as having a shallow cambered profile 0.4m deep at its maximum. As the deposit dips to both north and south it thins to 0.15m and seals the fills of two roadside drainage ditches. To the north the gravel does not extend beyond the outer edge of the drain but to the south it runs over the top of it. The drains were only partially excavated. The one to the north was sharply defined and 0.4m wide; it was packed with angular ironstone slabs, brick, tile and mortar, in a dark yellowish brown silty loamy sand. The larger pieces of ironstone were laid flat creating voids loosely packed with other rubble to function as a land-drain. The drain to the south was 0.6m wide and was filled with loosely packed angular ironstone slabs. Patches of mortar were also seen in this fill possibly the result of the drain having been cut through the made ground of the terracing immediately to the south. The distance between the inner face of the two ditches was 8m but the total extent of the gravel above was 40 feet. Below this deposit and therefore unexcavated a cut feature some 7m wide ran parallel east west co-linear with the Broadwalk its fill was characterised by patches of a stiff grey blue silt clay.

Central

A second smaller 5.5m long trench was machine cut across the southern edge of the Broadwalk along the central north south axis of the garden. The feature identified as a drain in trench 5 east was again seen in this trench. As in the previous trench the gravel surface of the path had been laid over the feature. It was not clear from its fill of

large ironstone slabs and cobbles if it were indeed a drain or merely a rough form of revetment to the terrace.

West

A trench of similar dimensions to area 5 east was machine cut and revealed the same gently cambering profile below the current path surface. The roadside drain to the north was again in evidence and was filled with ironstone cobbles. The feature seen in the two trenches to the east was not seen in this trench.

Area 7 Horseshoe Paths

The paths describing a horseshoe shape with the open end of the shoe terminating on the Broadwalk can be seen on the Rocque plan of 1735. Today they are visible in places merely as a slightly rise in the grass to the east and west of the manicured lawns of the Croquet Court.

Three trenches each 6m long were machine cut at points to the NW, SW and SE of the Croquet lawn. The distinctive stony gravel layer with a gently sloping profile was noted 0.15m below the topsoil.

Area 8 Long Canal

By 1676 the 11th Earl of Kent having extensively remodelled his house now turned his attention to an extensive campaign of landscaping. Running north/south away from the house, the Long Canal was excavated to create the principal focal point to his formal garden. This considerable expanse of water was laid out in keeping with the fashion of the day, French in style and typified by the work of Le Notre and exemplified by Versailles.

Soon after its completion garden design reacted to the political change brought about by the Glorious Revolution of 1688. Whilst the emphasis was still formal and rectilinear, the new Dutch style was more modest and less triumphal.

The 12th Earl on succeeding his father in 1702 continued his work and their progress is captured in two engravings by Kip and Knyff. The earlier version of 1706 clearly shows the Long Canal with a greater width than we currently see and yet the second version just two years later shows today's narrower rendition. Given the propensity of Kip and Knyff to flatter their clients it seems strange that the 1708 version should down play the extent of the Canal. It is suggested that the well documented resources spent on labour in this area of the garden were employed to reduce the size of the by now unfashionably large Versaille type motif. The Archer Pavilion built at the south end of the Long Canal further enhanced the long vista south. By 1719 the Canal had been further deformalized by the addition of the 'spade' shape at the northern end and with the addition of two wings of water leading from it to east and west. Finally the restrained improvements carried out for Amabel Gray by Capability Brown in the 1760's left us with the Long Canal as we see it today.

A 9m long trench was excavated on a north south alignment to the north of the north 'spade' end of the canal. At a depth of 0.1m the topsoil gave way to an increasingly stony layer which ran the length of the trench but without obvious definition it was difficult to conclude that a path had ever existed in this location.

Four further trenches were excavated at points SW, NW, SE and NE around the perimeter of the canal. The trenches were machine cut to a depth of 0.35m at right angles away from the canal edge, the profiles revealed were consistent across all four. A dark yellowish brown loamy silt topsoil of 0.15m depth sat above a dark yellowish gravel deposit of maximum depth of 0.1m.

The gravel layer in turn was laid in part on a largely stone free deposit of sandy silt clay loam and in part on a grey stiff gault clay extending into later plantings of laurel. The gravel sat conformably on an engineered layer of stiff locally derived clay. Projecting the line of this path south toward the pavilion proved the existence of an earlier gravelled path (see Area 11) that descended gradually to encircle the Pavilion and return to the Long Canal.

It can be seen in section that the break in slope toward the canal side coincided with the petering out of the gravel layer. It may be assumed that this marks the inner canal side edge of the historic path. The landward edge was less definable and the SE trench was hand excavated to fully realise the extent of the gravel spread. This gave a path width of 7m. It is clear that the historic laurel planting has migrated over time into the line of the canal path.

Area 10 perimeter path

A trench was excavated across the path that runs to the rear (west) of the Bowling Green alongside Park Water. The perimeter road is laid to a fine to coarse angular gravel. On either side of the road the turf and topsoil has encroached and the roadway itself is deeply rutted by vehicular traffic. Immediately below the gravels a layer of black asphalt was encountered. This in turn sealed a much narrower deposit of yellowish brown sand. This much later treatment removed any earlier evidence of an historic path and reflects its previous use as the major route around the estate.

Area 11 south-west of Long Canal

A trench 26.5m long and 0.6m wide was excavated to a depth of 0.25m. The trench was machine cut due south at right angles from the SW corner of trench 8SW (see above). The same deposits seen in 8SW continued for approximately 7.5m namely a topsoil 0.1m deep overlying a gravel layer of 0.15m deep. In turn the gravel sealed the distinctive stiff grey brown gault clay. At a distance of 7.5m the clay layer visible in the base of the trench abruptly gave way to a brownish gravel layer. The trench was excavated on level ground for a further 19m and stopped where the ground level begins to fall away through 45 degrees toward the Archer Pavilion and Broad Water to the south. At the southern end of the trench over the final 1.5m the brownish gravel layer gives way to a layer of dark loamy silt. This loamy silt appears to be a re-deposited topsoil and its occurrence is

consistent with work that was undertaken in the 1960s when the south end of the canal was reinforced by material derived from this area.

Coring

Note that prior to the excavations above coring was undertaken at the south-west corner of Long Canal by Matt Canti to establish path depths and surfaces, and dam construction (see Appendix 8).

The plinth for the statue of Diana

English Heritage has recently purchased the statue of Diana the Huntress which was commissioned for Wrest Park in the early 18th century. Sold before the Second World War it is now proposed to return the statue to its last documented site at the head of the west end of My Lady's Water (TL 09195 35085).

The 1st edition OS map (1882) shows a niche opening to the east cut into the yew hedging. The hedging was allowed to grow out and was no longer a suitable backdrop to the statue and was removed.

This was the subject of a watching brief which located the by now rather ephemeral remains of a brick plinth. All that remained was a flimsily mortared raft of brick just one course deep. English Heritage engineers are bridging this brickwork to allow a stronger plinth to be constructed at the exact location.

The sundial plinth

In the grassed D-shaped area that extends south from the Broadwalk terrace contractors in the course of ground works encountered brickwork (TL 09133 35309). Work was halted and an area of turf was removed which immediately revealed a plinth of brickwork of 1.85 m squared (6ft square). The brickwork was constructed with an ordered perimeter, the east and west sides of which were comprised of eight bricks each placed lengthwise. The sides to north and south were comprised of fourteen bricks each again with the same north south orientation. The main body of the plinth contained within this ordered surround was a seemingly randomly laid collection of brick mixed with occasional roof tile. The northern half of the raft was partly covered by the vestigial remains of a greyish white mortared surface. The bricks are a soft reddish rubbing brick very badly eroded 0.23 x 0.11 x 0.06m (9 x 4½ x 2½ inches). Inspection along the southern edge of the plinth revealed that the structure was substantially built attaining a depth 0.36m, six courses deep.

This plinth is probably the original site for the sundial placed to the south of the house when it was remodeled in the later 17th century.

The Fountain and path

The Fountain (TL 50911 23537) forms the focal point of the axes from the house down the Long Canal, and from The Orangery across to the Atlas Pond area. As part of the

representation of the garden The Fountain will be returned to full working order and be powered by electricity. To facilitate this a narrow bladed bucket was used to machine a trench 0.4m wide x 0.25m deep to carry electric cabling from The Orangery to the Fountain some 165m to the east. The trench was dug away from the NE side of The Fountain where the pump requiring the power source is located. It circumnavigated the perimeter of The Fountain hard against the outer coping stones. In its course it encountered previous pipe work and made ground associated with the construction of The Fountain. The trench was then excavated due west through the lawn parallel and 2m to the south of the gravelled path that connects The Orangery steps to the Fountain. In the course of this work two brick built barrel drains were found TL 0909 3537 and TL 0907 3537 running north south across the line of the trench at a depth of 0.15m. Where these drains were encountered they were left in situ and the cabling was allowed to pass over the top of them. The drains were of similar construction poor quality brick of $9\frac{1}{8} \times 4\frac{1}{2} \times 2\frac{3}{8}$ inches with very wide joints filled with a lime mortar. Once the trench crossed the narrower north south path TL 0906 3536 the trench was stepped out by a further metre to allow clearance of the root system associated with the small avenue of trees that line the path to The Orangery. In this length of trenching an area of blue grey gault clay was noted at the base of the trench and extending for a distance of 3m at TL 0902 3536. On reaching the rising ground leading up to The Orangery the trench was excavated hard against the terrace steps. Once at terrace level the trench was machine cut through the gravel and made ground to reach the east wall of The Orangery.

The parterre

Earl de Grey left two drawings probably in his own hand. The first was coloured and this Baroque design was apparently supplanted by a second drawing which bears close resemblance to the planting scheme seen in the suite of photographs taken for *Country Life* in 1904. After the First World War, the family connection was lost and the estate sold to an industrialist. In common with many grand estates the maintenance of the gardens could not be sustained. The house and gardens were acquired by the crown in 1946 and photography from 1948 shows the extent to which elements of the design had become lost and the design simplified. In 2006 the Agricultural Research Institute closed and English Heritage has since committed itself to re-present both house and garden.

It was decided that the planting scheme should be renewed in all but the two central beds and that the grassed areas and some of the more ephemeral beds should be completely stripped in advance of replanting. An archaeological watching brief was undertaken with the hope that lost elements of the original plan could be captured and used to accurately present the parterre as designed.

A detailed measured survey provided a base map upon which to plot the excavation results and a team of archaeologists from Albion Archaeology under the direction of the author of this note excavated the parterre over a three week period in October 2011.

As constructed the intricately designed flowers beds were enclosed by tightly clipped low box hedging. The hedging in turn was separated from the backcloth of the lawn by white gravel.

Turf was stripped from the eastern panel and the overburden removed by mechanical digger. Further manual excavation was undertaken to a level at which the original planting pockets could be seen. Their presence was determined by the survival of a thin residual drift of white gravel formed of crushed Matlock Spar.

The design survived best in the larger centre left and centre right beds where the white gravel holds close to the hedging. The corner beds survived less well, those closest to the house had lost much of their detail and over time the box edging had been allowed to grow away from its original planting. Those to the south of the parterre furthest from the house were completely lost and at some stage during the 20th century had been replanted to a different pattern. Also completely lost were the scrolling trumpet shapes and strings of circular beads that wove the planting and the statuary together. Excavation results on the western panel mirrored those of the eastern panel.

The design vision states that the restoration will be based on Earl de Grey's original design. Further to the recovered lost elements excavation also revealed evidence that showed how the original design had been changed between design and execution. De Grey's drawing shows panels that are twice as long as they are wide (2:1) but when constructed the ratio was 2.33:1; with the central path the panels creates a perfect square. This discrepancy begs the question, did De Grey originally have in mind a wider parterre and hence a larger canvas to work on? This may support the suggestion of a redesign discussed above (Analytical Earthwork Survey).

In addition to and because of this change to the basic dimensions there were changes to the design. Nearest to the house the bell flower motifs emanating from the inner corners



Figure 82 Oblique aerial photograph of the parterre following topsoil removal (© UpperCut Productions for English Heritage).

closest to the terrace steps were altered. De Grey planned for a single line of three flowers growing out of the parent plant and arching toward the central path. As planted a more complex design sees two stems, one with four flowers to the outside of a second stem with two flowers. Both of these stems lead the eye inwards toward the statuary.

On completion of the excavation the site was flown over by an Unmanned Aerial Vehicle with a mounted camera (Figure 82). The resulting photogrammetry was plotted to provide the landscape architects with drawings upon which to model the historically authentic framework for the parterre's representation (Figure 83).

The animal bone recovered during these works is reported on in Appendix 9 and geophysical survey following the excavation in Appendix 10.



Figure 83 Plot of the parterre layout. Left panel prior to excavation, right panel after excavation NTS

CONCLUSIONS

The Story of Wrest Park

One of the primary aims of the project was to better understand the development of Wrest Park. This project has allowed a much more detailed and nuanced understanding of its development, both chronologically and spatially.

Early medieval

Although the place name Wrest Park most probably originated in the middle Anglo-Saxon period, the 'long eighth century' from about 675 to 825, there is no evidence for it having any significant status before the 12th century. Place-name evidence suggests that it was marginal within an Anglo-Saxon 'multiple estate' and it was not mentioned in Domesday Book, probably being a sub component of one of the Silsoe manors. At this time, and for the next two centuries, the Barony of Cainhoe and Cainhoe Castle a kilometre to the north, dominated the area.

Wrest Park was first mentioned in the late 12th century, a time when place name evidence indicates an increasing density of population seen in the various 'bury' and 'end' place names in the area, which seem to indicate either settlement expansion, a need for greater administrative resolution, or both. In addition, this period saw the origins of moated sites, most as manor houses, and usually in relatively marginal positions within existing estates. Wrest Park is known to have been moated and it seems highly likely that its origins as a manor house lay in this period. Earthwork survey has identified what was probably the north arm of the moat and hints of the other arms. There are numerous other examples in the vicinity, many of which have been mapped as part of the aerial photographic survey. The best and most developed example is at Upbury in Pulloxhill a few kilometres to the south-west, which provides a possible parallel for Wrest Park before its medieval, and Tudor, form was obscured by later developments.

The rise of an elite estate

Wrest Park seems to have risen rapidly to local prominence through the 13th century, a period when Cainhoe was in decline. By the late 15th century, it was the most significant manor in the vicinity and the main English seat of the Lords Grey of Ruthin. At about this time the family acquired Ampthill and the new castle there, and began developing this as a lordly seat, perhaps with plans for it to replace Wrest Park. However in 1503 the estates came into the hands of the spendthrift Richard, the 3rd Earl de Grey, were sold off for a pittance and had to be bought back by his successors who spent most of the rest of the century rebuilding their fortunes. Were it not for Richard it seems possible that the family seat would have moved to Ampthill Castle, Wrest Park would have been abandoned becoming simply another earthwork site, and it is even possible that the Bedford family would not have developed Woburn. Instead the family retreated to Wrest Park which was developed in a piecemeal fashion. By about 1600 there was a complex of buildings including the house with various wings and halls, chapel, kitchen, gatehouse, stables, kennels and a dovecote, all enclosed in a moat, and perhaps including a garden moat likely featuring orchards and vineyards, or other encircling waterways.

Many elements of the house of this period were detected by the aerial photographic, earthwork and geophysical surveys, perhaps most clearly the 14th century chapel. Beyond these were various other elements of designed landscape including a medieval park probably associated with a warren a little to the south-west of the house.

The 17th century

The origins of the designed landscape seen today can probably be traced back to the mid-17th century. There are records of various land rentals, purchases and exchanges that suggest the consolidation and expansion of holdings around Wrest Park house. The intention seems to have been to place Wrest Park more at the centre of a designed landscape that enclosed it and separated it from its surroundings. Prior to this the medieval park was a little way to south-west of the house but it is likely that the house itself sat within, rather than isolated from, the surrounding agricultural landscape. The earthwork survey picked up some evidence for this landscape in the form of faint terraces to the north of the Orangery and across the central panels of the South Lawns and perhaps the site of a small building and yard. In the 1650s there was a record of the rental of a warren, hunting stand and bowling green complex on the ridge to the east of the house clearly putting the house in a more central position relative to its surrounding landscape. It was also at this time that the first walled garden to the south of the house originated and, although this was said to have been levelled in the 1680s to create a new garden in the same area, earthwork survey has suggested that elements of this garden, or possibly even earlier layouts may survive.

In the 1670s the house was aggrandised by the addition of a classical north wing. It is likely that the Great Court was added to the north of this at the same time and originally this had an outer square of paths with crossed paths within. Much of the new north wing of the house was clearly visible in the aerial photographic, earthwork and geophysical surveys though the earthwork survey was somewhat unclear due no doubt to demolition debris. All three techniques also picked up elements of the Great Court, the western wall being the clearest but also parts of the eastern wall and parts of the outer paths. There may also have been a building on Cain Hill at this early date – there was the mention of an oven to be built in Hill House in the agreement to build the north wing and levelling work on the hill was mentioned in the early 18th century.

In the 1680s the earlier walled garden was swept away and replaced by a new garden occupying roughly the same position south of the house. The broad layout of this garden was that shown in the two Kip and Knyff bird's eye views of the house and park of about 1704. There was a central path with a main cross path about two-thirds of the way south creating four panels, two larger to the north with central circular fountains, and two smaller to the south that containing 'wildernesses', hedged labyrinths. The central area was blank to earthwork survey due to ploughing in the 1940s and later use as croquet lawns but surprisingly geophysics clearly demonstrated that even here the central path and part of the cross path survived. Outside this the evidence was clearer, the eastern fountain was picked up by all three techniques and parts of the western were recorded by aerial photography and geophysics, the later also picking up evidence for paths running north and south from both. These latter two also picked up evidence for walls at the

north end of this area, presumably associated with the changing levels from Broadwalk down into the garden. The other outer walls were not located; the southern area had been substantially modified in later periods, the eastern was not surveyed for earthworks or accessible to geophysics, and although some earthworks on the approximate line were surveyed to the west, they were rather uncertain and the approximate lines of both east and west walls were overlaid by the later Horseshoe Paths. The Chapel Garden and Orange Garden to the east of the walled garden, house and court were first mentioned in the 1690s. Only the aerial photographic survey covered this area and what was plotted was probably from later periods.

The 18th century

In 1702 Henry, later Duke of Kent inherited the estate and from this point the records increase markedly in both quality and quantity for several decades. This may have led to an over-emphasis on this period; it is clear that the house, gardens and park had been developing almost continuously for at least half a century by this point, even leaving aside the medieval and Tudor layout. The house, gardens and park were recorded in great detail by Kip and Knyff in two views from about 1703 or 1704, which have been confirmed to be accurate by all the field evidence. Much of what is shown must have been from earlier periods but house accounts make it clear that the Duke was busy even at this early stage in his tenure. There are records of the filling of the moat (and/or the garden/orchard moats) but it seems likely that much of it had been filled already (access to the surrounding gardens would have been rather awkward otherwise); the short canal/pond to the west of the house may well have been its last remnant. The most significant new features were the two canals to the east of the house and the orchard between which suggests some expansion east of the existing gardens here. The southern canal, Mill Pond, was later adapted to form the north-east end of Broadwater, but part of its former layout was visible in the lidar data as a low area extending further north and a linear feature recorded on aerial photographs may be related. Frustratingly, it is not known when Long Canal originated though it was certainly in existence by this date; various dates have been proposed and it seems most likely that it was based on existing fishponds that were modified to create something close to the later layout before 1685. However, the Carew poem of 1639 mentions a lake and boatman and the accounts mention works to the canal soon after the Duke inherited so there is broad scope for its development. The layout within the Great Court was changed from square to circular between the two views but it was only aerial photography that picked up any evidence for this layout. To the west of the house and court was the service area with various buildings. All three surveys picked up clear evidence for the Porter's Lodge and bridge which allowed access from the kitchen court to the east, across a canal/pond to the service area to the west, and the laundry to the west of the pond. The earthwork survey also picked up some evidence for the walled kitchen garden further west again. In the wider landscape the park had expanded and certainly enclosed the house and gardens in all directions. The main approach was along an avenue from the north but there were various other avenues in the park, many of which persist on the same lines today.

The Duke's developments over the next 15 or 20 years were recorded in Laurence's map of 1719 and Angelis' views of the early 1720s. Field evidence suggests that the

former was not particularly accurate but supports the evidence in the latter. There were few developments to the house and court but the service area was modified to create a rectangular enclosure divided into three compartments, some evidence for which was recorded during the earthwork survey. This had an entrance to the south-west and the aerial photographic survey recorded some suggestions of an approach to this entrance, though perhaps of a later date. Overall though, this period saw the expansion of the gardens in a predominantly formal style and further expansion of the park. Within the gardens one of the key developments was the extension of Broadwalk to east and west which necessitated the removal of the canal in the Chapel Garden. This was replaced with a square feature that was recorded from lidar data as a sunken area. Cross-wings and a basin were added at the north end of Long Canal, which survive in modified form, and the large woodland panels to either side of Long Canal with their formal walks and garden compartments were created. The ditches within the woodland panels recorded from lidar data during the aerial photographic survey preserve the alignment of many of these features. A range of important buildings also date to this period, the most prominent surviving example being the Archer Pavilion. This had a semi-circular basin to its immediate south with seats on mounds to the south; evidence for the inlet to this basin and the western mound was recorded during the earthwork survey.

The 1720s have been characterised as a period of stasis in the gardens brought on by various misfortunes that befell the Duke but this does not appear to be the case. Pieter Tillemans recorded the southern parts of the gardens in several views drawn during the late 1720s. These show that by this date the gardens had expanded further to the south-east, south and south-west. The earlier basin had been filled and replaced by a formal canal with an octagonal basin very much on the line of Broadwater. To the west was another formal canal with the obelisk basin at its north end. Evidence for this basin still survives and was recorded during the earthwork survey though it had been thought to be a remnant of a bastion garden. It seems highly likely that the other encircling waters were also enhanced at this time as the former rather narrow waterways would have looked rather incongruous.

The years around 1730 probably mark the high point of the formal gardens at Wrest Park. Batty Langley's *Principals of Gardening*, published in 1728 advocated informality in gardens changing fashions almost overnight, and the Duke's second marriage in the early 1730s and increased income meant that he was able to develop the gardens along these new lines. Progress was however rather slow. Two maps by John Rocque drawn in 1735 and 1737 record the development of the gardens over the years before the Duke's death in 1740. The 1735 map shows that to a large extent much formality remained. The most significant change was the removal of the obelisk canal and its replacement with a more naturalistic Serpentine. The Obelisk was re-erected in the park at the end of the avenue opposite Cain Hill House. The 1737 map shows that 'de-formalisation' had become rather more widespread with the removal of many of the straight walks in the woodland panels and their replacement by more sinuous paths and some simplification elsewhere. Much formality remained though. Being characterised by removal of features rather than new additions this period had left little evidence other than in elements of the surviving layout.

Jemima, Marchioness Grey inherited in 1740 but the rest of the century is rather poorer in records that allow works to be located with any accuracy such as the maps and views produced for the Duke. Jemima did, though, leave a substantial archive of letters that give a clear impression of her attitudes towards the gardens and some idea of the developments in the grounds. It is clear from these that she loved Wrest Park and continued her grandfather's removal of many formal elements of the gardens, developing areas on the margins such as the bathhouse grounds, and the Chinese bridge, inserting new features such as the hermitage and the Mithraic glade and altar. She also developed the south front of the house adding various rooms to improve its balance. To the south of this the last vestiges of formality in the central area where the walled garden had been was swept away and replaced with open lawns within the Horseshoe Paths which were recorded during the earthwork survey. Lancelot 'Capability' Brown was employed during the 1760s and again as late as 1780. He seems to have softened the grounds, particularly the encircling waters and some of the woodland areas and to have opened up many of the formal avenues in the park. He was also probably responsible for the removal of the Great Court and its replacement with a sweeping drive with a lawn and ha-ha allowing uninterrupted views out into the park. Again, many of the changes in the grounds were negative and left no evidence other than their persistence within today's layout. The line of the ha-ha was visible during the earthwork survey, as was the western part of the curving drive approaching the north front of the house. Nearer to the house both the aerial photographic and geophysics surveys picked up the edging of this drive and the aerial photographic survey plotted an amorphous linear feature to the east that suggested its line here.

The 19th century

Jemima died in 1797 and her daughter Amabel, Lady Polwarth, inherited. She seems to have been less enthusiastic about the estate than Jemima and she seems to have made few changes to the grounds though they were well maintained. From the 1820s, as Amabel's eyesight began to fail, her nephew Thomas, later Earl de Grey, took over managing the estate. His first significant project was to oversee the design and construction of the Silsoe Lodges in a French style. Following his inheritance in 1833 he quickly set about construction of the present house in a complementary style on a site to the north of the old house. As this was completed he demolished the old house and had the site levelled and grassed over creating the South Lawns. As has been discussed above much evidence for the old house was recorded during the surveys for this project, but the process of demolition and levelling somewhat obscured the remains from earthwork survey. The area between the old and new houses effectively became a part of the gardens rather than the park and existing avenues were incorporated into the designs, presumably to lend an air of maturity to the new gardens. The area around the new house became a formal garden closely associated with the layout of the house. For example, the Italian Garden to the west was carefully laid out to be symmetrical about the centreline of the house, and the terrace south of the house and the balustrade wall to the south of this were carefully set out to frame views down Long Canal to the Archer Pavilion. Prior to this though, the earthwork survey identified a probable intermediate period between the construction of the new house and the laying out of these gardens. The service buildings appear to have been redesigned which affected their

relationships to the house slightly, and the parterre layout in the French Garden was also redesigned. Excavation has shown that this redesign was also tweaked, probably at the execution stage, to fit the actual space better. To the west of the site of the old house Earl de Grey replaced the greenhouse with the Orangery and at some point, perhaps in the 1850s the Fountain was installed. This shifted the focus of the South Lawns southwards; previously diagonal paths had met to the north but these were probably grassed over at this time. These paths were clearly visible to all three of the main survey techniques employed. The other main change under Thomas was the creation of the Evergreen Garden to the south of the Orangery in the 1850s. The main features of this were recorded during the aerial photographic survey but earthwork survey added considerable detail.

The 20th century

Much of the rest of the history of Wrest Park is one of stasis and decline. Although it was well maintained most of the time there were few major developments to either the house or the grounds. It is likely that many of the specimen trees were planted in the second half of the 19th century and the Rose Garden south of the Italian garden was probably laid out late in this century. The traces of the beds of this garden were recorded during the aerial photographic survey and with greater accuracy and detail during the earthwork survey which was later used as the basis for its reinstatement. In the early 20th century the house was rented to the American ambassador who used it for hosting garden parties, and was visited by the King. In the First World War it became a convalescent home for injured troops but this ended following a fire.

In 1917 the estate was sold and much of the parkland became separated from the house. The core was acquired by George Murray, an industrialist from the North East, who set himself up as a country squire. This seems to have palled fairly rapidly and by the early 1930s he had bought a smaller house in Hertfordshire and put Wrest Park up for sale. This was unsuccessful and he began to sell off statuary and other assets such as trees in the gardens and park for timber. In 1939 the house and garden was bought up by the Sun Insurance Company to act as its wartime headquarters. The remaining parkland was sold off separately, reinforcing the separation of the house from its wider landscape. Parts of the gardens were used to grow food, the walled garden was used as a base for the Women's Land Army and 'Lumber Jills' worked in the gardens and park further denuding the already depleted woodlands. Aerial photographs from this period have allowed the plotting of various wartime features such as dormitory huts along the eastern half of Butcher's Row.

Following the war the house, gardens and parts of the park were sold to the Ministry of Works and leased to the National Institute for Agricultural Engineering, later the Silsoe Research Institute. Ploughing experiments were conducted in the gardens and are shown in a Pathé newsreel from 1949 when the King was visiting. This ploughing explains the blank areas seen during the earthwork survey in the central parts of the Horseshoe Lawns, north of the Evergreen Gardens, and probably parts of the South Lawns. Despite this, geophysics has confirmed the survival of earlier features beneath the Horseshoe Lawns as to a lesser extent has aerial photography which also suggests survival in other

ploughed areas. Since the 1980s, there have been various episodes of 'restoration' none of them very accurate or coherent, and in some places planting was reduced to ease maintenance, for example in the Italian Garden. Since coming into full English Heritage control in 2006 the development programme has been much more structured and many garden elements have been, and are being, reinstated to create a much more coherent landscape.

Methodological approaches

Aerial photography transcription

The aerial photographic component of the survey of Wrest Park was based on a combination of aerial photographs and airborne laser scanning (lidar). Both sources identified different aspects of the former gardens and surrounding features, building up a more comprehensive picture of the detectable remains. Within the gardens aerial photographs proved the most informative source, particularly where buried traces of former garden layouts, paths and wall foundations were revealed by parching in the lawns, features with little or no surface presence and therefore undetectable by lidar. The strength of the lidar images was their ability to reveal features beneath tree cover and detect very slight earthworks. This proved most useful within the Woodland Panels and on Cain Hill, identifying paths, drains and former planting regimes obscured by mature tree growth, and detecting the lines of former paths, walks and pre-emparkment boundaries in the outer park surviving as slight earthworks.

The aerial photographs provided a record of the area from the 1940s to the present day, and recorded parts of the former house and gardens and traces of earlier (later prehistoric to medieval) settlement beyond the park. In particular, the early sites visible as cropmarks have been recorded for the first time on recent photographs, all but one site being new discoveries. The lidar survey enabled the detection of slight earthworks which could not be seen easily on aerial photographs. Of particular interest were the extensive faint earthwork banks (former field boundaries and headland banks pre-dating emparkment) recorded from lidar images, both in and around the park. Within the gardens the aerial survey identified a significant number of garden features including traces of the former house and remnants from earlier phases of the evolving garden from the early 18th century onwards. No identifiable traces of a medieval moated manor house could be detected, presumably lost through the various episodes of later garden landscaping. In the adjacent parkland, traces of 18th and 19th century formal planting and tree lined walks were identified on the aerial photographs and lidar images.

The survey of the wider area illustrated the archaeological and historical landscape within which Wrest Park sits. Hints of some of the earlier settlements in the area were revealed as cropmarks. Although the medieval phases of Wrest Park are now obscured, the surrounding medieval landscape including other probably contemporary 'high status' manorial sites survive well, dispersed across the area outside Wrest Park's park, hinting at what may have been removed when the park was established.

Analytical earthwork survey

The analytical earthwork survey demonstrated the survival of numerous archaeological features within the grounds from their first laying out to their remodelling at the time of survey. It is also likely that features predating the gardens have been identified in the form of possible medieval cultivation ridges/terraces and even perhaps the site of a small building.

The survey has also been able to demonstrate the accuracy of some sources, such as the Kip and Knyff views and sounded a note of caution about others such as the Laurence map. Not only this, but it has been possible to show that some sources were design views and contained features that were never laid out as intended. Perhaps most significantly the survey identified an original layout for the parterre that was never built. Conversely, the survey has revealed features that were created, but that do not appear in any sources; that were apparently short-lived and/or fell between surveys.

Geophysics

The GPR survey successfully identified a wealth of archaeological activity associated with both the original site of the house and surviving remains from earlier garden designs. It builds on the body of historical plans and depictions of the garden designs together with the long-term observation of recurrent parch marks and previous geophysical survey over parts of the site. The current survey adds considerable detail to this record and provides a common geo-referenced data set for comparison with the recent, much wider topographic survey of the site. In particular, the GPR survey has provided a significant enhancement of detail over the site of the former house to complement both of the previous earth resistance data sets from this area. A number of significant anomalies, apparently related to former garden designs, have also been identified on the lower terrace where the survival of near-surface remains was doubtful due to earlier episodes of ploughing and landscaping for the croquet lawns. Further extension of the GPR survey may well be warranted; however, the presence of mature trees limits access in parts of the site and hampers accurate positional control through use of a GPS receiver. It is worth pointing out though that the GPR survey used older GPS equipment and newer receivers might allow better penetration beneath tree cover, particularly when the trees are bare. The equipment can also be configured to collect data without the use of GPS though this would slow down data capture as would negotiating the trees themselves.

Excavation

The archaeological investigations at Wrest Park were tightly focussed on specific questions. These included investigation of sub-surface deposits in the walled garden prior to the construction of the visitors centre, the location and nature of historic paths to inform the setting out of new more accessible paths and watching briefs on minor works such as statue reinstatement. As such, the conclusions of each intervention were specific to that intervention's aims and objectives with limited wider relevance.

Comparing techniques

One of the secondary benefits of the range of methodological approaches undertaken during this project was the ability to make comparisons between the approaches used and the results of each. Archaeological aerial photography mapping and interpretation covers large areas relatively rapidly and cost-effectively but has limitations in terms of locational accuracy and resolution, discovery biases and in the interpretation of the evidence revealed (Bewley 2001). At the other end of the spectrum, excavation covers small areas in great detail and provides dating evidence not available with other techniques, but at a high cost in terms of time, effort and money. Other techniques sit somewhere between the two.

By incorporating the results of the main field techniques in a Geographical Information System (GIS) it has been possible to directly compare their results. Figure 84 shows the results of aerial photograph plotting (green), GPR survey (red) and analytical earthwork

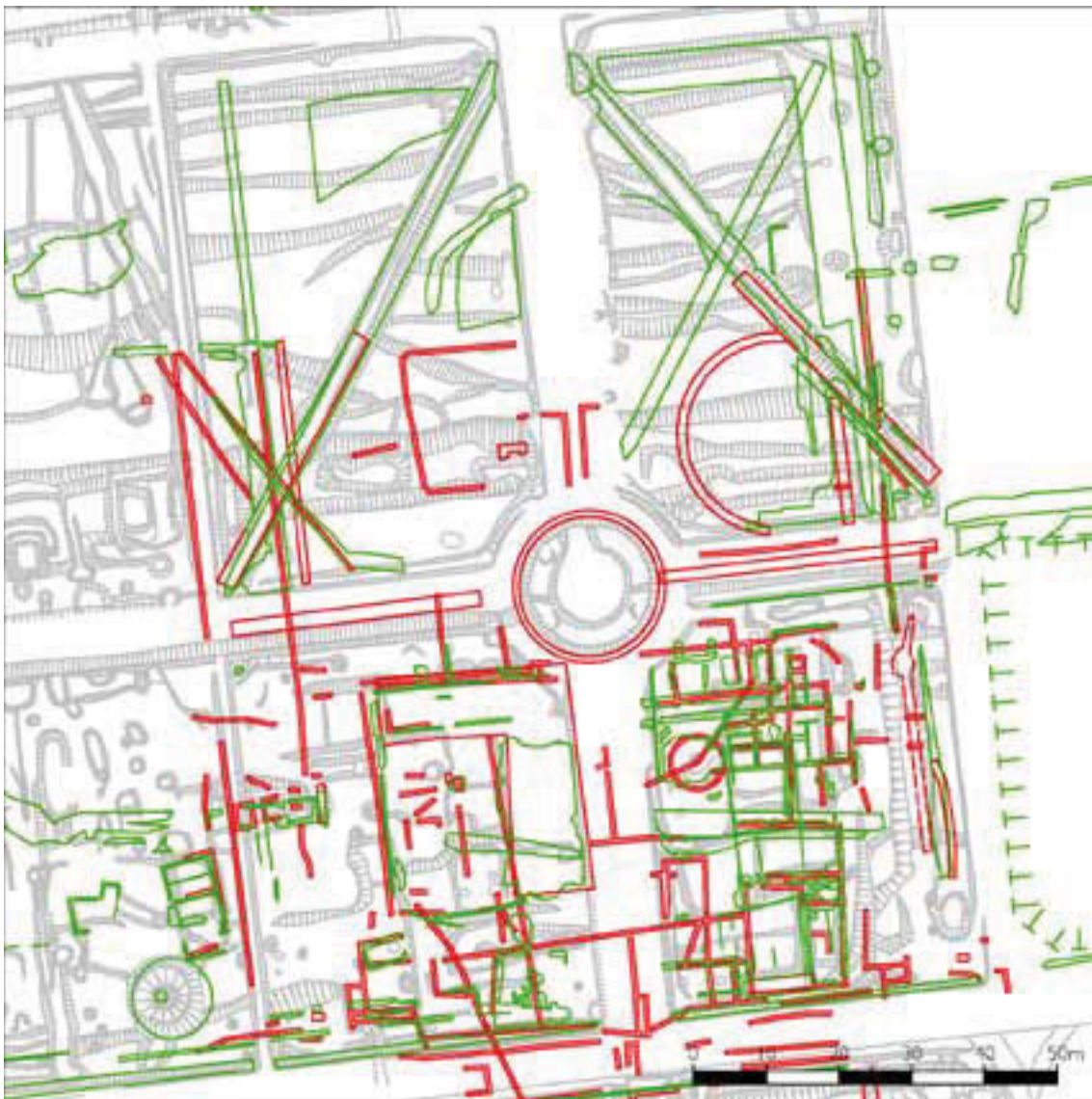


Figure 84 A comparison of different techniques, old house and Great Court area: geophysics - red, aerial photography - green earthwork survey - grey

survey (grey), across the south lawns and adjacent areas. Aerial photography covered the whole area shown but visibility of features in wooded areas was limited. Earthwork survey did not cover the area to the east due to time constraints and geophysics only covered the south central area due to time constraints, problems of negotiating trees with bulky equipment and limitations of using GPS under tree cover. These restrictions are of interest in themselves and clearly need to be taken into account in selecting techniques.

Across the central block, where all three techniques were applied, it is clear that in some places all three techniques were recording the same features. This was clearest with some of the main elements of the old house buildings and the later diagonal paths across the central lawn panels. These were probably the most substantial remaining sub-surface features such as wall foundations or more recent features that overlie others and have been less affected by developments since they were laid out.

In other places two of the techniques were in agreement and examples can be identified of all three possible pairings supporting one another. The clearest of these correlations was between the aerial photography and the geophysics results. This is likely to be because in many cases they were both plotting the same things; well-defined subsurface features such as buried wall foundations or drainage. The occasions when earthwork survey correlated with just one of the other techniques were relatively rare. It seemed to be the case that where this occurred earthwork survey was identifying rather diffuse features also picked up by aerial photography alone, perhaps scatters of demolition debris or similar, or more discrete features only identified by geophysics such as walls missed by aerial photography.

There were also numerous features picked up by one technique alone. It was rare for aerial photography to pick up a feature not identified by at least one of the other techniques and across the south lawns this was limited to a few linear features. Most of these seemed to be extensions of features also identified during the geophysical survey, or in some cases earthwork survey. The most prominent shown on Figure 84 was a diagonal feature running north-east to south-west across the east central panel of the south lawns. This looked very like a path line but no evidence for this was seen by the other techniques or is known in any secondary sources. It was also the only technique to identify evidence for the circular drive within the Great Court, though geophysics did not cover the area where this showed up. Incidentally, a comparison of the features identified by GPR survey, which was located by GPS and therefore likely to be accurately located to within a few centimetres, with the aerial photography mapping suggests that the latter had a margin of error of less than 1m.

Geophysics picked up numerous discrete features or additional elements of features not identified by other techniques. This is not surprising given the resolution and the depth of ground penetration possible using GPR. The survey was also able to cover extant paths which effectively concealed evidence from other techniques (though in some cases, such as the path east/west of the fountain, earthwork survey picked up hints of features).

In contrast, earthwork survey identified a range of larger, less well-defined features than

the other techniques. In particular neither aerial photography nor geophysics identified the broad east-west gully north of the old house thought be the northern arm of the former moat, or the fall off of the eastern side of the main building platform. It was also able to access areas not, or only partially, available to other techniques.

REFERENCES

Albarella, U and Pirnie, T forthcoming *A Review of the Animal Bone Evidence from Central England (PrN 4605). Final draft report*. Unpublished report submitted to English Heritage.

Albarella, U and Pirnie, T, 2008 *A Review of Animal Bone Evidence from Central England*. London: English Heritage. <http://ads.ahds.ac.uk/catalogue/collections/blurbs/768.cfm> [accessed February 27th, 2014].

Anon, 1900 *Gardeners' Chronicle*.

Anon 1904 'Wrest Park in Bedfordshire, the seat of Earl Cowper', *Country Life*, 9 Jul 1904, 54-64 and 16 Jul, 90-98

Anon, 1908 *Gardeners' Chronicle*.

Anon, 1908 *Gardeners' Magazine*, **51**, 833-836

Abdy, J and Gere, C 1984 *The Souls*. London: Sedgwick and Jackson

Adkins, R, Adkins, L and Leitch, V 2008 *The handbook of British Archaeology*, revised and updated edition. London: Constable

AHP (Architectural History Practice) and Way, T 2007 'Conservation Statement, Wrest Park Bedfordshire'. Typescript report for English Heritage

Albion Archaeology 2007 'Hydrology Restoration: Archaeological Survey. Wrest Park Gardens, Silsoe, Bedfordshire. Old Park Weir, 8 May 2007'. Typescript report for English Heritage

Albion Archaeology 2008 'Wrest Park Gardens, Silsoe, Bedfordshire: Hydrology Restoration Scheme, Woodland Panels, Desk-Based Assessment'. Typescript report for English Heritage

Albion Archaeology 2009 'Woodland Panels Drainage Ditches, Wrest Park, Bedfordshire: Archaeological Investigation and Monitoring'. Typescript report for English Heritage

Albion Archaeology 2012 'Wrest Park, Silsoe, Bedfordshire: Landscape restoration works; archaeological observation, investigation and reporting'. Typescript report for English Heritage

Alexander, M and Small, F 2010 'Wrest Park, Bedfordshire: Understanding the Landscape - Stage I', English Heritage typescript report

Atkins Mapping Solutions 2007 'Topographic survey of Wrest Park', AutoCAD drawing file for English Heritage

Bailey, M 2002 *The English Manor*. Manchester: University press.

- Bennison, B R 1992 'The brewing trade in north-east England, 1869-1939', PhD thesis, University of Newcastle
- Bernard, GW 1982 'The fortunes of the Greys, Earls of Kent in the early 16th century', *Historical Journal*, **25:3**, 671-685
- Bewley, R 2001 'Understanding England's Historic landscapes: An Aerial Perspective', *Landscapes*, **1**, 74-84
- BGG (Bedfordshire Geology Group) 2011 'Geological Maps of Bedfordshire' <http://www.bedfordshiregeologygroup.org.uk/maps.html> (accessed 11/10/2011)
- Boase, T, forthcoming *The Housekeepers Tale*. London: Aurum Press
- Bradshaw, R 2011 *A History of Silsoe*.
- Cabe Halpern, L 1995 'The Duke of Kent's garden at Wrest Park', *Journal of Garden History*, **15(3)**, 149-178
- Cabe Halpern, L 2002 'Wrest Park 1686-1730s: Exploring Dutch Influence', *Garden History*, **30 (2)**, 131-52, The Garden History Society
- Callou, C 1997 *Diagnose Différentielle des Principaux Éléments Squelettiques du Lapin (Genre Oryctolagus) et du Lièvre (Genre Lepus) en Europe Occidentale. Fiches d'Ostéologie Animale pour l'Archéologie Série B: Mammifères 8*. Paris: Centre de Recherches Archéologiques du Centre National de la Recherche Scientifique
- Carter, P 2006 'Grey, Henry, Duke of Kent (bap. 1671, d. 1740)', *Oxford Dictionary of National Biography*, Oxford University Press, online edn [<http://www.oxforddnb.com/view/article/11538>, accessed 1 Oct 2013]
- Cirket, A F (ed) 1980 'The earl de Grey's account of the building of Wrest Park House', *Miscellanea: Publications of the Bedfordshire Historical Record Society*, **59**, 65-87
- Cocroft, W 2009 'Wrest Park, Bedfordshire, historic landscape investigation: Research Execution Stage 1 Project Design'. English Heritage typescript report
- Cocroft, W 2010 'Wrest Park, Bedfordshire, historic landscape investigation: Research Execution Stage 2 Project Design'. English Heritage typescript report
- Cocroft, W 2011 'Wrest Park, Bedfordshire, historic landscape investigation: Research Execution Stage 3 Project Design'. English Heritage typescript report
- Collett-White, J 1991a 'The Old House at Wrest Park – I', *Bedfordshire Magazine*, **22/176**, 322-7
- Collett-White, J 1991b 'The Old House at Wrest Park – II', *Bedfordshire Magazine*, **23/177**, 4-12

Colvin 2008 *A Biographical Dictionary of British Architects 1600-1840*, 4th edition. New Haven and London: Yale University Press

Cox, B 1976 'The Place-Names of the Earliest English Records', *Journal of the English Place-Name Society*, **8**, 12-66

Darvill, T 2008 *The concise Oxford dictionary of archaeology*, 2nd edition. Oxford: University Press

Davis, J P S 2007 'Report on the Garden Ornaments at Wrest Park, 1700-1917'. Typescript report for English Heritage

de la Bedoyere, G 2010 *Roman Britain: a new history*. London: Thames and Hudson

DIA (Donald Insall Associates), Way, T, The Landscape Agency, Julia Holberry Associates and Eustace, K 2009a 'Wrest Park, Bedfordshire: Conservation Management Plan', revised, original 2005. Typescript report for English Heritage

DIA (Donald Insall Associates), Way, T, The Landscape Agency, Julia Holberry Associates and Eustace, K 2009b 'Wrest Park, Bedfordshire: Options Appraisal and Master Plan'. Typescript report for English Heritage

Doubleday, H A and Page, W (eds) 1904 *The History of the County of Bedfordshire*, Volumel. London: Archibald Constable

Driesch, A Von Den 1976 *A Guide to the Measurements of Animal Bones from Archaeological Sites*. Cambridge, Mass.: Peabody Museum of Archaeology and Ethnology, Harvard University

EH (English Heritage) 1999 'Draft Unadopted Conservation Plan for the gardens'. Typescript report

Eustace, K 2008 'Chronological introduction of sculpture and garden ornament at Wrest Park', in DIA et al 2009, 265-76.

Fadden, K and Turner, M 1997 'An Archaeological Evaluation of a collapsed culvert in the grounds of Wrest Park, Bedfordshire'. Ampthill and District Archaeological and Local History Society, typescript report

Fadden, K and Turner, M 2004 'The Search for a lost Moat A Resistance Survey of the Old House at Wrest Park TL 092354'. Ampthill and District Archaeological and Local History Society, typescript report

Fadden, K and Turner, M 2010 'Geophysics carried out by the Society in the gardens of Wrest Park Silsoe, Bedfordshire.'. Ampthill and District Archaeological and Local History Society, typescript report

Fox-Davies, A C 1909 *A Complete Guide to Heraldry*.

Gardiner, M 2011 'Late Saxon Settlements', Hamerow et al (eds), *The Oxford Handbook of Anglo-Saxon Archaeology*, 534-555

Gater, J 1991 'Report on Geophysical Survey, Wrest Park'. Geophysical Surveys of Bradford

Gelling, M 1984 *Place-names in the Landscape; the geographical roots of Britain's place-names*. London: Dent

Gelling, M 1997 *Signposts to the Past*, 3rd edn. Chichester: Phillimore

Gelling, M and Cole, A 2003 *The Landscape of Place-names*, reprinted with corrections. Stamford: Shaun Tyas

Geological Survey of Great Britain (England and Wales) 1992 *Leighton Buzzard*, England and Wales Sheet 220, Solid and Drift edition. 1:50000 series., Ordnance Survey, Chessington, Surrey

Grant, A 1982 'The use of toothwear as a guide to the age of domestic ungulates', in Wilson, B Grigson, C and Payne, S (eds) *Ageing and Sexing Animal Bones from Archaeological Sites*. Oxford: BAR British Series 109, 91-108

Grey, Thomas Earl de 1846 'History of Wrest Park House'. Reprinted in *Miscellanea: Bedfordshire Historical Record Society*, **59**

Gunn, S J 2011 'Grey, George, second earl of Kent (d. 1503)', *Oxford Dictionary of National Biography*, Oxford University Press; online edn, [<http://www.oxforddnb.com/view/article/11532>, accessed 30 Sept 2013]

Hamerow, H, Hinton, D A and Crawford, S (eds) 2011 *The Oxford Handbook of Anglo-Saxon Archaeology*. Oxford: University Press

Hann, A 2013 'The First World War hospital at Wrest Park', *Conservation Bulletin*, **71**, 32-3

Harris, T 2012 *My Silsoe*.

Hasted, E 1797 *The History and Topographical Survey of the County of Kent*, 2nd Edn, Vol 1. Facsimile 1972, Maidstone, UK: EP Publishing and Kent County Library

Heward, J and Taylor, R 1996 *The country houses of Northamptonshire*. Swindon: RCHME

Hooke, D 1989 'Pre-Conquest Woodland: its Distribution and Usage', *Agricultural History Review*, **37**, 113-129

Hooke, D 2011 'The Woodland Landscape of Early Medieval England', Higham, NJ and Ryan, MJ (eds) *Place-names, Language and the Anglo-Saxon Landscape*, Boydell Press, 143-74

Horne, P 2009 A Strategy for the National Mapping Programme English Heritage Internal report <http://www.english-heritage.org.uk/professional/research/landscapes-and-areas/national-mapping-programme/nmp-future/>

Horrox, R 'Grey, Edmund, first earl of Kent (1416–1490)', *Oxford Dictionary of National Biography*, Oxford University Press, 2004 [<http://www.oxforddnb.com/view/article/11529>, accessed 14 Feb 2014]

Internet Archive http://www.archive.org/stream/selectionfrompoe00careiala/selectionfrompoe00careiala_djvu.txt accessed 13/02/2012

Jack, R I 1965 *The Grey of Ruthin valor: the valor of the English lands of Edmund Grey, Earl of Kent, drawn up from the ministers' accounts of 1467-8*. Sydney: University Press

Jack, R I 2008 'Grey, Reynold, third Baron Grey of Ruthin (c.1362–1440)', *Oxford Dictionary of National Biography*, Oxford University Press, 2004; online edn, Jan 2008 [<http://www.oxforddnb.com/view/article/11553>, accessed 14 Feb 2014]

Kelsey, S 2008 'Grey, Henry, 10th earl of Kent (bap. 1594, d. 1651)', *Oxford Dictionary of National Biography*, Oxford University Press; online edn, <http://www.oxforddnb.com/view/article/11536>, (accessed 24 August 2013)

Landsberg, S nd [1995/6] *The medieval garden*. London British Museum Press

Liddiard, R 2003 'The Deer Parks of Domesday Book', *Landscapes*, **1**, 4-23.

Liddiard, R 2006 'Early Castles in the medieval landscape of East Anglia', *Chateau Gaillard*, Caen: Centre du Recherches Archéologiques et Médiévales, **22**, 243-50

Linford, N 2004 'From Hypocaust to Hyperbola: Ground Penetrating Radar surveys over mainly Roman remains in the U.K.'. *Archaeological Prospection*, **11 (4)**, 237-246

Linford, N 2011 *Wrest Park Silsoe, Bedfordshire: Report on Geophysical Survey, July 2010*. Portsmouth: English Heritage, RDRS 28-2011

Linford, N, Linford, P, Martin, L and Payne, A 2010 'Stepped-frequency GPR survey with a multi-element array antenna: Results from field application on archaeological sites'. *Archaeological Prospection*, **17 (3)**, 187-198

Lister, A 1996 'The morphological distinction between bones and teeth of fallow deer (*Dama dama*) and red deer (*Cervus elaphus*)'. *International Journal of Osteoarchaeology* **6(2)**, 119-143

Lowerre, A 2005 *Placing Castles in the Conquest: Landscape, lordship and local politics in the South-east Midlands, 1066-1100*. Oxford: John and Erica Hedges Ltd, BAR British Series 385

LUC (Land Use Consultants) 1993 'Wrest Park Masterplan (2) for Restoration and Management', typescript report for English Heritage

MacDonald, K 1992 'The domestic chicken (*Gallus gallus*) in sub-Saharan Africa: a background to its introduction and its osteological differentiation from indigenous fows (*Numidinae* and *Francolinus* sp.)'. *Journal of Archaeological Science*, **19**, 303-318

MAGIC (Multi-Agency Geographic Information for the Countryside), <http://magic.defra.gov.uk/website/magic/> (accessed 11/10/2011)

Mawer, A and Stenton, FM 1926 *The Place-names of Bedfordshire and Huntingdonshire*. Cambridge: University Press

Meir, J M 2006 *Sanderson Miller and his Landscapes*. Chichester: Phillimore

Mills, A D 2003 *Oxford Dictionary of British Place Names*, 3rd edn. Oxford: University Press

Morris, J (ed) 1977 *Domesday Book: Bedfordshire*. Chichester: Phillimore

Muir, R 2004 *Landscape Encyclopaedia: A reference guide to the historic landscape*. Macclesfield: Windgather Press

Oliver, R 1991 *Ordnance Survey of Great Britain. England and Wales. Indexes to the 1/2500 and 6-inch scale maps*. Newtown: David Archer. Reprinted with a new introduction; first published about 1905-6.

Page, W (ed) 1908 *The Victoria History of the County of Bedfordshire*, Volume 2. Archibald and Constable

Panich, P 2001 'The Countess of Kent', *Gastronimica*, **1(3)**, 60-66

Parfitt, S A, Barendregt, R W, Breda, M, Candy, I, Collins, M J, Coope, G R, Durbridge, P, Field, M H, Lee, J R, Lister, A M, Mutch, R, Penkman, K E H, Preece, R C, Rose, J, Stringer, C B, Symmons, R, Whittaker, J E, Wymer, J J, and Stuart, A J 2005 'The Earliest Record of Human Activity in Northern Europe', *Nature*, 438, 1008-1012

Parsons, DN and Styles, T 2000 *The Vocabulary of Place-Names (Brace-Caester)*. Nottingham: Centre for English Name-Studies

Pattison, P 2004 'Archaeological Landscape Investigation at Wrest Park, January 2004'. English Heritage, internal typescript report

Paying, S J 1989 'The Ampthill dispute: a study in aristocratic lawlessness and the breakdown of Lancastrian government', *English Historical Review*, **104**, 881-907

Poetry Foundation (The), 'Thomas Carew 1595-1640', <http://www.poetryfoundation.org/bio/thomas-carew>, accessed 20/3/2013

Popkin, P, Baker, P, Worley, F, Payne, S, Hammon, A 2012 'The Sheep Project (1): determining skeletal growth, timing of epiphyseal fusion and morphometric variation in unimproved Shetland sheep of known age, sex, castration status and nutrition'. *Journal of Archaeological Science*, **39(6)**, 1775-1792

Rixson, D, 2000 *The History of Meat Trading*. Nottingham: Nottingham University Press

Silver, I A, 1969 'The ageing of domestic mammals', in Brothwell, D and Higgs, E (eds), *Science in Archaeology*. London: Thames and Hudson

Soil Survey of England and Wales 1983 *Soils of England and Wales: Sheet 4 - Eastern England*. Harpenden: Soil Survey of England and Wales, Lawes Agricultural Trust

Soil Survey of England and Wales 1983 *Soils of England and Wales: Sheet 6 - South-east England*. Harpenden: Soil Survey of England and Wales, Lawes Agricultural Trust

Strong, R 1998 *The Renaissance Garden in England*, 2nd edition. London: Thames and Hudson

Swatland, H J, 2004 *Meat Cuts and Muscle Foods*, 2nd ed. Nottingham: Nottingham University Press

Sykes, N, Carden, R F, Harris, K, 2011 'Changes in the Size and Shape of Fallow Deer—Evidence for the Movement and Management of a Species'. *International Journal of Osteoarchaeology*. DOI: 10.1002/oa.1239

Tomek, T and Bochenski, Z M, 2009 *A Key to the Identification of Domestic Bird Bone sin Europe: Galliformes and Columbiformes*. Krakow: Institute of Systematics and Evolution of Animals, Polish Academy of Sciences

Ulmschneider, K 2011 'Settlement Hierarchy', Hamerow et al (eds), *The Oxford Handbook of Anglo-Saxon Archaeology*, 534-555

Vincent, N 'Grey 2006 Sir John de (d. 1266)', *Oxford Dictionary of National Biography*, Oxford University Press; online edn, [<http://www.oxforddnb.com/view/article/11542>, accessed 5 Sept 2013]

Watkin, 1882, 'Roman Bedfordshire', *The Archaeological Journal*, **40**, 39

Way T 2009 'Wrest Park, Bedfordshire: Conservation Management Plan. Volume II – Appendix G: Gazetteer: The Landscape', revised (original 2005). Typescript report for English Heritage

Way, T 2012a 'Wrest Park: Report on the history and context of the "American Garden"'. Typescript report for English Heritage

Way, T 2012b 'Integrated report, catalogue, and index of entries relevant to Wrest Park

gardens and park drawn from: the correspondence of Jemima, Marchioness Grey and her daughter Amabel, (later) Countess de Grey (letters 1740-1832); the journals of Amabel, (later) Countess de Grey (Journals 1769-1827); and the letters of gardeners and stewards (1740-1839)'. Typescript report for English Heritage

Williamson, T 2007 *Rabbits, Warrens and Archaeology*. Stroud: Tempus.

Williamson, T, 2013 *An Environmental History of Wildlife in England, 1650-1950*. London: Bloomsbury

Zooarchaeology@Nottingham Deer Bone Database http://www.nottingham.ac.uk/zooarchaeology/deer_bone/search.php [accessed Feb. 20th, 2014]

APPENDICES

Appendix I Place names

Place-names are perhaps the earliest 'documentary' sources; the vast majority of English place names have their origin in the Anglo-Saxon period, a time when the dominant language was Old English (OE) though new place-name formations continued right through the medieval and post-medieval periods to the modern day.

Place-name study is not for the amateur as it is riddled with pitfalls (see for example Kitchen End Farm below) so what follows is based entirely on secondary sources. This means that many minor names, which may be interesting and informative, have been omitted. The main source for any area is the English Place-Name Society volume for the county in question. The Bedfordshire volume was one of the first to be published (Mawer and Stenton 1926) and consequently, despite its eminent scholarship for the time, the level of detail is lower than more recent volumes and much of what it contains is now considered out-dated. It has therefore been supplemented by modern sources such as national dictionaries (for example Mills 2003) or other specialist volumes (such as Gelling & Cole 2003).

For the location of places discussed see Figure 85.

River names

Perhaps the earliest place-name in the vicinity is preserved within the name Campton, 'the farmstead on the (river) Camel'; the first element is probably a lost British river-name possibly meaning 'crooked one' from a derivative of 'Celtic' **camn*, with Old English (OE) *tūn* (Mills, 96).

To the west and north of Wrest Park a group of place-names all contain the element *flit* (the River Flit, Flitton (TL 0593 58) and Flitwick, not on Figure 85), the origin and meaning of which is uncertain, though it seems highly likely to be a simplex river name. Mawer and Stenton have described it as 'difficult' though they seem confident that 'the names in question must have something to do with OE *flēot* or *flēote*, used of a small stream' (Mawer and Stenton 1926, 148-9). Modern authorities are less so; Mills says they are 'obscure in origin and meaning', Gelling does not mention them in here discussion of *flēot* (Mills 2003, 193; Gelling and Cole 2003, 16-17). In this, all the examples given survive in the form '-flet' or '-fleet' rather than '-flit', which suggests a different root. Flitton is not a *tun* name; early versions are *Flittan* (around 985) and *Flichtham* (sic) in Domesday Book, which in the 12th and 13th centuries became various versions ending in *-en*, only becoming *-ton* in the 14th century (Mills 2003, 193; Mawer and Stenton 1926, 148-50). Mawer and Stenton thought that the name meant '(at) the stream or streams' and it may be that the name means 'at the Flitt', leaving the meaning and origin of *Flitt* open.

Topographic place-names

Several names contain elements that refer to hills or high ground. The last element of Shillington (TL 127 341) is *dūn*: 'a low hill with a fairly level and fairly extensive summit

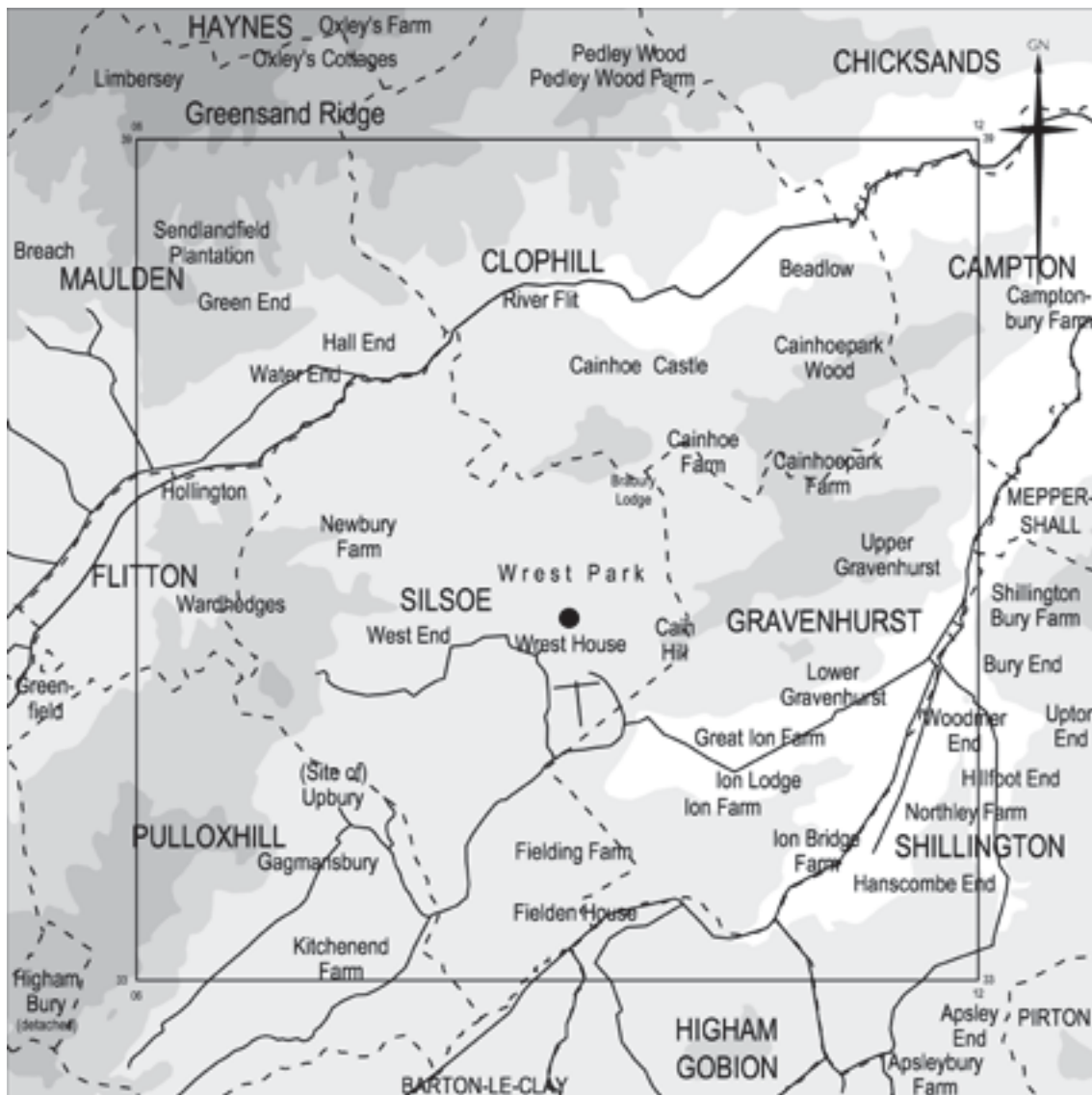


Figure 85 Place-names around Wrest Park. 19th century parishes are shown in dashed lines and their names capitalised. Solid lines are drainage. Topography is shown in 20m intervals, shaded from below 50mOD in white to over 110mOD darkest grey. The area shown measures 8km by 8km

which provided a good settlement-site in open country' (Gelling and Cole 2003, 164). The first element is unclear; Mills gives the full meaning as 'hill of the family or followers of a man called **Scyttel*, or perhaps an OE hill-name **Scyteling*, from OE *scytle* 'a bar or bolt' + suffix *-ing*' (2003, 418). Gelling though gives 'dart or bolt' with the modern form 'shuttle' (1997, 173), so perhaps pointed. Another *dūn* place-name is Maulden (TL 058 379, Maulden Wood, TL 064 387) 'hill with a crucifix', or more broadly with a 'Christian cross' (Mills 2003, 321; Gelling and Cole 2003, 170),

Some of the places nearest to Wrest Park feature the element *hōh*, 'heel', used for a spur of land the shape of the lower leg in a person lying face down, a ridge, the calf, which rises to a point, the heel, with a concave end, the instep (Gelling and Cole 2003, 186, 187). It is the second element in Cainhoe which survives in a group of names about 2 km to the NNE of Wrest Park House (around Cainhoe Manor Farm, TL 100 367) and

appears to have comprised a block of territory making up the southern part of Clophill Parish. This was originally the primary manor within Clophill, and included Cainhoe Castle the seat of the Barony of Cainhoe (Page 1908, 321). This area is rather open and undulating and does not fit the above description well. It seems possible that the place-name may originally have referred to Cain Hill, 1-2km to the south (TL 097 354) which certainly does when viewed from the north-west or south-east. The first element has been given as the personal name *Caega* but Gelling suggests it is an earlier hill name; 'the likeliest explanation ... is that *cæg* 'key' was used as a hill name' (Mawer and Stenton 1926, 147; Gelling and Cole 2003, 188) and it is probably best to prefer the more recent interpretation. Another *hōh* name is Silsoe, **Sifel's hōh*, 1 km to the west of Wrest Park House (TL 081 356). This appears to be a case where *hōh* is used of a low ridge without diagnostic shape (Mills 2003, 422; Gelling and Cole 2003, 188, 186). If this interpretation is acceptable then it is possible that too much has been made of Cain Hill above, but the topographic fit seems too good to ignore and there is a hill a kilometre or so to the west of the current village of Silsoe (TL 069 350) which seems to fit the description when viewed from the south-west or south-east. Perhaps the name has also shifted here, though not to the same extent.

A few names contain the OE element *hyll*, 'hill' but one without any clearly defining characteristics (Gelling and Cole 2003, 192). It occurs most often in minor names, typically with personal names or descriptive terms as qualifiers. Possibly in the former category is Pulloxhill (TL 061 337), 3 km to the WSW of Wrest Park House, perhaps **Pulloc's hill*, though Gelling is dubious about the personal name considering that 'the matter is best left open' (Mills 2003, 378; Gelling and Cole 2003, 195). In the latter group are Ampthill (not on Figure 85), 'Anthill' or 'hill infested with ants' (Mawer and Stenton 1926, 67-8; Mills 2003, 13; Gelling and Cole 2003, 193), about 6km to the WNW of Wrest Park House (TL 037 382), and Clophill, either 'tree stump hill' or 'lumpy hill' (Mawer and Stenton 1926, 147; Mills 2003, 122), about 2.5km NNE of Wrest Park House (TL 089 381).

Other names refer to dry ground in low marshy areas. The element *ēg* usually meaning 'low, dry land surrounded by marsh' (Gelling and Cole 2003, 37) is seen in Ion (TL 107 344), a simplex name meaning '(at the) island' or '(at the) islands' (Mawer and Stenton 1926, 151). It now occurs in a group of minor names, about 1.5 km to the south-east of Wrest Park House, that surround a low spur, almost an oval island, projecting into lower ground that would have been marsh before it was drained. Higham (Gobion) may be a topographic name. It is OE *hēah* 'High (or chief)' with OE *hām* or *hamm*, with a manorial affix from the Gobion family, here from the 12th century (Mills 2003, 241). The element *hām* is habitative, perhaps 'homestead' (Mills 2003, 241) as the modern word 'home' is derived from the same root (Gelling 1997, 112, though she prefers 'village'), whilst *hamm* is topographic, an enclosed area, usually land hemmed in by water such as in a river bend or dry ground projecting into a marshy area (Gelling and Cole 2003, 46). The only recorded versions of this name are in the form *-ham* (Mawer and Stenton 1926, 153) and in these cases 'it is often difficult to be certain whether the topographical or the habitative word is involved' though where the topographic term fits then it is probably to be preferred (Gelling 1997, 113, 114). This might be the case here but the hill upon which the settlement sits is oval and Gelling notes that *ēg* seems to refer to sub-

circular features and that where the dry ground was more linear in shape *hamm* tended to be preferred (Gelling and Cole 2003, 36). This may tip the balance in favour of *hām*.

Habitative place-names

As discussed above Higham Gobion might be a habitative name containing the element *hām*, perhaps 'homestead' and as such could be very early.

One of the commonest OE habitative elements is, *tūn*, 'farmstead'. The only place within the main study area that may contain this element is Hollington (TL 062 364), though this is now a minor place not mentioned in sources, so it is difficult to be sure. Upton End in Shillington (TL 129 347) may also be *tūn* a name, but according to Mawer and Stenton 'this apparently simple name is not easy' but they may be overcomplicating things. *Uppennende* appears in 1255 and 1294 and *Opton* in 1276 and they 'suggest that the hamlet was originally referred to as "at the end" (OE *uppan ende*)' and that later the name was corrupted to a fresh and more usual form'. However, they go on to say that an 'association with *up* is out of the question as this "end" is distinctly one of the lower "ends" of Shillington parish (Mawer and Stenton 1926, 177). This is incorrect, as it is at much the same elevation as the other 'ends' and if, applying Occam's razor, a simple interpretation of 'the end near the upper *tūn*' is accepted, then the *tūn* should be further from Shillington, that is to the north-east, where the ground rises to over 85mOD. This suggests *Uppennende* and *Opton* may have been separate places, the latter lost or renamed. There are some more certain examples a little further from Wrest Park though. To the north-east is Campton which as discussed above probably means the 'farmstead on the river *Camel*'. To the south a string of *tūn* names run along the foot of the scarp including Barton ('barley *tūn*), Hexton and Pirton (pear *tūn*).

Another common habitative element is OE *wīc* 'dwelling, (dairy) farm', probably important before AD 730 (Cox 1976, 66) and often thought to be indicative of a specialist settlement (Mills 2003, 193, 527). The only name known to contain this element in the area is Flitwick some way to the west (not on Figure 85) which Mawer and Stenton give as 'wīc by the stream', though Mills gives *wīc* 'with an uncertain first element' (Mawer and Stenton 1926, 150; Mills 2003, 193). Given the discussion of Flitt above 'wīc belonging to an estate called Flitt' is probable or perhaps 'wīc by the Flit'.

'Kitchen' is a much earlier name than is immediately obvious being OE in origin. It survives in Kitchen End Farm (TL 074 331), which again, as with Hanscombe End, implies that 'Kitchen' itself was elsewhere, probably to the south or east if it was named relative to Pulloxhill, perhaps on the low spur between the two streams north-east of Faldo Farm (around TL 075 326). In the 13th century, it appears as *Kechyng*, *Kechinge*, or *Kechingges* and Mawer and Stenton suggest 'the place of the followers of **Cuca*', an unrecorded personal name with the plural *-ingas* (Mawer and Stenton 1926, 161). It could also be a singular *-ing* name, meaning simply 'place associated with a person or thing', often a stream or creek (Gelling 1997, 120-1), so the first element could be the name of one of the streams in this area and since Cox dates these names to the period after AD 730 (1976, 65) of far less significance. Given a lack of early forms, this is impossible to resolve.

Other place-names

Hanscombe contains *camp* an OE loan-word from Latin *campus* meaning 'field'.

Hanscombe, the only Bedfordshire name in *camp*, is about three miles north of the Icknield Way, which leads west from the 'major settlement' at Baldock [Hertfordshire], again a situation on the outer fringe of an area where Roman finds are very common. ... the first element is the genitive of an Old English personal name (Gelling 1997, 77-8).

It survives as Hanscombe End, Shillington (TL 116 337), about 3 km to the south-east of Wrest Park House. The term 'end' seems to have been used to distinguish elements in a dispersed settlement pattern (below), which begs the question of the location of Hanscombe itself. Since the End was probably named from Shillington it was likely to have been to the south but the original settlement is apparently now lost, though Hanscombe may be the former name of an existing settlement such as Higham Gobion.

A few place-names contain the OE element *feld*, 'open land'. Fielden (House TL 091 335, Fielding Farm TL 091 339) is 'probably descriptive of the open country ... in contrast to the wooded country in the north of the parish' and Greenfield (TL 054 349) is 'self-explanatory' (Mawer and Stenton 1926, 162; *ibid*, 150). Sendlandfield Plantation, north-east of Maulden (TL 065 382), might be another *feld* name but it is not mentioned in any sources. The element *land* here may indicate enlargement of arable from woodland (as was the case in the Chilterns not far to the south-east, Gelling and Cole 2003, 312). Nearby, Breach (TL 050 380) may derive from OE *brēc*, 'land broken up for cultivation' or Middle English *breche* (Gelling and Cole 2003, 266) and is also suggestive of arable expansion, though again this is a minor name which does not feature in any sources.

Several place-names contain elements suggestive of woodland. One of the commonest terms *lēah*, can mean both 'wood or clearing', probably had the former where it occurs in isolation, in open country, and the latter where it is common, in wooded areas (Gelling and Cole 2003, xx; Hooke 1989, 113-129). Examples from this area include: Apsley (~ End and ~ Bury Farm, around TL 122 329), 'Aspen-tree *lēah*'; perhaps Northley Farm (TL 118 341), presumably the 'northern *lēah*'; Pedley (Wood Farm, TL 093 394), 'the *lēah* of *Pydda*' (Mills 2003, 15; Mawer and Stenton 1926, 148); and possibly Oxleys (Farm/Cottages, TL 075 398).

Another woodland name is (Lower/Upper) Gravenhurst (TL 111 352/113 360), 'wooded hill with a coppice or ditch' from OE *grāfa* or **grāfan* (genitive *-n*) with *hyrst*, a derivation expanded by Gelling who gives the first element as *grāfa* 'coppiced wood' derived from *grāfan* 'to dig' suggestive of a wood surrounded by a ditch and therefore managed. Gelling also notes that 'it seems likely that settlements with names in *hyrst* are of relatively late origin and may be in areas not recognised by the earliest Anglo-Saxons as appropriate to arable farming' (Mawer and Stenton 1926, 150-1; Mills 2003, 214; Gelling and Cole 2003, 228, 226; *ibid* 236, 234-5). This combination of two woodland terms is perhaps similar to the combination of hill terms discussed above for Cainhoe and Shillington, implying that one element was added when the sense of the first no longer applied or had been forgotten. This suggests that the combined name is relatively late

and perhaps a sense development from unmanaged to managed woodland. However, it could be that one element qualified the other, perhaps to distinguish between two coppices. Upper Gravenhurst was probably a part of Shillington at the time of Domesday Book so it seems most likely that Lower Gravenhurst was the original bearer of the name; the hill in question could be that to the north-west of the church.

Some names contain the elements *haga* and *hæg*, both meaning 'enclosure' (Mills 2003, 524; Hooke 2011, 165). Haynes is the parish immediately to the north of the study area on the greensand ridge. Mawer and Stenton suggest 'the original name may have been *haga-næss* ... a spur of land on which stood a "haw"'. Mills prefers simply 'the enclosures' but Gelling supports Mawer and Stenton, the spur here a tongue of land between two streams (Mawer and Stenton 1926, 151-2; Mills 2003, 234; Gelling and Cole 2003, 196-8), the area east of Haynes Church End which is closer to the church and more central within the parish than the modern settlement. Nearby, also on the greensand ridge is Limbersey (TL 060 394) which appears as *Limboldesheye* in 1285, probably 'Linbeald's (or Lindbald's) enclosure' from *hæg* (Mawer and Stenton 1926, 81). *Haga* appear to have been relatively permanent hunting enclosures, frequently banks probably topped by dead 'hedges' and seen by some as 'proto-parks'. *Hæg* appear to be similar, enclosures controlling the driving and capture of game animals, most commonly in the south of England Roe deer. Both 'seem to have been associated with what may loosely be termed "game reserves"' (Hooke 2011, 166-7) demonstrating that the forests of the greensand ridge were not used purely as wood-pasture.

Wardhedges (TL 067 357) appears as *wardegges/wardhegges* in the 13th century and means 'protecting hedges' from OE *weard* and *hecg*, 'it probably has reference to some game-enclosure' (Mawer and Stenton 1926, 150). This suggests it may be similar in meaning and origin to Haynes and Limbersey above, but Greenfield is not far to the south-west suggesting the area was relatively open, and it is on the parish boundary between Flitton and Silsoe so may refer to a boundary feature between the two, though since they formed a single parish until the 19th century this is perhaps less likely.

Wrest Park (TL 0903 55) would appear to be a 'difficult' name but it appears most likely to refer to vegetation:

OE *wræste*, 'delicate, noble' ... seems unlikely here ... Ekwall suggests some other derivative of the stem of OE *wriðan*, 'to twist'. Norw[egian] has (*v*)*reist*, 'ring made of withies'. An OE *wræst*, 'something twisted' may have existed, possibly in such a sense as thicket. [Old Norse] (*v*)*reistr* is used ... and an element *vrest* may occur in Swed[ish] names of lakes. It may be added that the ground round Wrest Park is much broken and 'twisted, contorted' might be apt in a purely topographic sense (Mawer and Stenton 1926, 162-3).

On balance it is very likely that it is OE, or perhaps Old Norse (ON) and the idea of a thicket or ring of withies seems plausible but the statement that the ground was 'much broken' seems unlikely as the site is on a rather level open watershed.

Several minor place-names in the area contain the element 'bury', usually with the name

of an earlier, perhaps more significant place, but peripheral to them suggesting secondary settlement. They include Apsleybury Farm (TL 119 323), Camptonbury Farm (TL 127 378); Higham Bury (TL 054 330) which was formerly a detached portion of Higham Gobion Parish (Ordnance Survey 1st edn 6" to 1 mile map 1883), and Shillington Bury (TL 124 355). Others are descriptive; the meaning of Newbury (TL 075 361) is probably obvious. Braybury Lodge (TL 095 543) suggests a place called Braybury, which could be a descriptor, perhaps OE *brād*, 'broad' or *bragen*, 'bleak, exposed', or OFr *brei*, 'mud', or refer in turn to a place called Bray (See Mills 2003, 73 for several Bray names or names containing the element). The meaning of the first part of Gaggansbury Farm (TL 073 340) is obscure but might be a personal name. The obvious derivation for Upbury (TL 074 343) seems unlikely as it is in rather a low area, it may derive from an OE personal name 'hutta' (BHER MBD244).

'End' is another common affix in the area usually referring to elements of dispersed settlement and again frequently attached to the names of other places, though it is worth noting that in this case they appear to look outwards rather than to the centre. So rather than the 'bury' of a place, they seem to indicate the 'end' of a place near another place. Examples include Apsley End (TL 122 329), Bury End (TL 125 349), Green End (TL 061 381?), Hall End (TL 076 375), Hanscombe End (TL 116 337) and Kitchen End Farm (TL 074 331). Bury End probably refers to Shillington Bury which suggests that in this case the 'end' name is later than the 'bury' name. Others are descriptive of location such as Hillfoot End (TL 122 343), Water End (TL 069 372), West End (TL 080 354), and, as well as Haynes West End and Church End to the north (not on Figure 85). Woodmer End (TL 118 348) might include a personal name.

Beadlow (TL 105 384) is not an OE name as it appears to be but is an Anglicisation of the French name *Beaulieu* which it is recorded as from 1254; it first appears as *Bedlow(e)* in 1578 (Mawer and Stenton 1926, 147). It must therefore have originated after the conquest though it probably replaced an earlier name.

Discussion

The early Anglo-Saxon period

Campton probably preserves the 'Celtic' river name Camel which would date back to at least the Romano-British period. Since *tūn* was not in general use until the 8th century (below), and since this was a minor stream of only local significance (see Baker 2006 157-8), this suggests the persistence of the river name for several centuries after OE began to be used in place-name formation, which implies Anglo-Saxon contact with a British population in the area to the west of Wrest Park.

Hanscombe contains the OE element *camp*, which suggests settlement expansion from a Romano-British core:

It seems possible that these names perpetuate the use of the term *campus* by Latin speakers in the late Roman period for stretches of uncultivated country in certain situations. [It] could be considered appropriate to settlements formed by extending the area of cultivation

into the *campus* in late Roman or immediately post-Roman times.
(Gelling 1997, 77-8)

Since here the first element is an OE personal name, Hanscombe probably dates back to the very earliest Anglo-Saxon period.

More generally though, Gelling has argued that the earliest Anglo-Saxon settlement names were topographic, many coined as early as the 5th century AD (Gelling 1997, 106-129). She specifically mentions the elements *dūn* and *ēg* in this context (Gelling and Cole 2003, xix) seen here in Shillington, Maulden and Ion.

The element *dūn* was probably used 'from the beginning of the OE period' for relatively high status settlements, but Gelling notes that since these sites were so favourable for settlement they couldn't have been unoccupied when OE speakers coined the names:

What we have here is not ... the coining of an OE hill-name which was subsequently transferred to a settlement. It is the application to ancient settlements of a new English name, the generic of which embraces both the habitation and the site (Gelling and Cole 2003, 165).

Within Shillington there is archaeological support for this view as a large number of Romano-British finds have been reported from the area (see above), but the full meaning of the name is uncertain. Maulden, with its cross, was probably an early Christian site notable as such to the pagan Anglo-Saxons.

Place-names with *ēg*, such as Ion, also seem 'likely to belong to the earliest stratum of OE toponymy' with many examples being dated as early as the mid 5th century (Gelling and Cole 2003, 37). In contrast to *dūn* they seem to have been used for a broader range of settlements, often to quite small areas of dry ground in otherwise wet areas which must have been quite low status places.

It is interesting that Ion and Shillington are adjacent to Hanscombe. It is tempting to see here an area of ancient (British) settlement on the *dūn* with secondary settlements being established in the early post-Romano-British period on the lower slopes (the *campus*) and on dryer spots in the surrounding marshy ground, with the original core acquiring a new OE name at some point. Taken with the names Campton and Maulden, which suggest that in the early Anglo-Saxon period two distinct groups were occupying this area, a consistent picture emerges. There was an established British population referring to the River Camel (Campton) and possibly Flit, worshipping at the site of the 'cross on the hill' (Maulden), and noting the arrival of the Anglo-Saxon who set up a settlement on the *campus* (Hanscombe). At the same time, Anglo-Saxons were perhaps making new settlements for themselves on the margins of established areas (Hanscombe, Ion) and in some cases taking over these areas for themselves (Shillington), as well as recording noteworthy features around them such as 'cross on the hill' (Maulden) and preserving earlier names in new settlement names (Campton).

There are a few names in the area that contain the element *feld* 'open country', identified by Cox as 'important in the formation of English place-names during the period c AD 400 to 730' (1976, 66). Although later *feld* came to mean communally cultivated

open arable, the places here seem more likely to refer to open pasture and hence to be earlier (Gelling 1984, 235-7). Greenfield is on high ground between Flitton and Pulloxhill in a situation where common pasture might be expected (as is Sendlandfield) and Fielden is on low-lying land in Pulloxhill that would have been suitable for summer pasture.

Other topographic place names, such as *hyll* and *hōh*, are less certainly early. Gelling notes that *hyll* names do not occur in early sources so probably belong to the later stages of OE name-formation, but also that there is a rather high proportion of names with obscure first elements which suggests the opposite (Gelling and Cole 2003, 192). It is possible though that they fail to appear in early sources precisely because they were used for minor places that would have been within larger estates and it is these that would have been recorded early rather than their component parts. The full significance of *hōh* is uncertain, including its relative dating and whether it had any habitative sense; as Gelling notes 'some questions raised by the corpus have not been solved' (Gelling and Cole 2003, 188). In the case of Cainhoe, the possible combination of two 'hill' names suggests that *hōh* was added later, which implies that it at the very least remained in use for some time and is a less reliable indicator of an early name. It also seems possible that both Cainhoe and Silsoe were originally the names of topographic features 1-2km from the settlement, which suggests that they may not have originally had any habitative sense.

On the other hand, there are place-names that are probably early, though not topographic. Higham Gobion, uses the habitative element *hām* ('homestead') or topographic *hamm* ('area enclosed by water'). Place-names with *hām* are thought to be amongst the earliest OE habitative names, guides to the 'process by which the English first made their homes in any area' and as early as *camp*, *ēg* and *dūn* (Gelling 1997, 112). It is equally possible though, that this is a *hamm* name, which whilst still relatively early probably continued in use for a longer period and as with *hōh* is probably therefore a less reliable indicator of early settlement.

Kitchen (seen in Kitchen End Farm) is also an early name containing either the element *-ingas* ('place of the people of') or *-ing* ('place associated with'). It was near Higham Gobion and a chronological place-name development has been proposed from *-hām* through *-ingāham* to *-ingas* (Gelling 1997, 112). If Higham is a *-hām* name and Kitchen an *-ingas* name then it is possible to suggest a similar pattern of settlement expansion here to that suggested for Hanscombe End and Ion (above), though perhaps somewhat later. This is all rather speculative though.

The overall impression of the period conveyed by the place-names is of relatively steady change. The landscape appears to have been fairly well settled and initial Anglo-Saxon settlement seems to be in marginal areas, only later taking over in core areas.

The Middle Anglo-Saxon period

In contrast to the above, the place-name evidence for this period suggests significant settlement expansion and the extension of arable into new areas.

'Place-names in *tūn* ... belong largely after c AD 730 (Cox 1976, 66)

and probably represent settlements of the middle Anglo-Saxon period. There are few immediately around Wrest Park, apart from Campton to the north-east and perhaps Hollington, which suggests that the landscape was well settled by this time. There are however a string of names to the south including Pirton, Hexton, Barton-le-Clay, and Westoning, perhaps new settlements were being established along the spring-line at the foot of the scarp in the 8th century.

Cox has suggested that *lēah* was of a broadly similar date to *tūn* (1976, 66). Several examples lie on the greensand ridge, such as Pedley, perhaps Oxley, and other examples further afield. These were probably pastorally based settlements in woodland, perhaps rearing pigs (Hooke 2011, 145-54). In the same area, though perhaps of a later date, are Haynes and Limbersey, probably settlements associated with hunting enclosures. Together these names indicate this was a well-wooded area with an economy based upon its exploitation. It seems to have been under some pressure though; Sendlandfield and Breach are suggestive of woodland clearance on its fringes. This was not the only area that the place-names suggest may have been under pressure from expanding arable. Place-names in *lēah* elsewhere, such Northley and Apsley to the east of Wrest Park, are isolated and more likely to indicate woods in otherwise open areas and Gravenhurst seems to have a sense development from a wooded hill to a hill with a managed wood.

Estates

To the west, Flitton and Flitwick on the River Flit are all related names. Although the meaning of 'Flit' is uncertain, as a simplex river name it is likely to be early. Flitton 'at the Flit' is also early implying primacy in the catchment and the element *wīc* in Flitwick suggests some form of dependency or subsidiary status, probably relative to Flitton and also in common use in the early Anglo-Saxon period. Taken together these suggest a block of territory that may have occupied much of the upper catchment of the Flitt. Such territories have been given various names by modern researchers; the term 'multiple estate' is preferred here (below). To the north and north-east there is little evidence of the estate's extent but it is at possible that the estate extended as far as the greensand ridge, probably important for its woodland resources, and so may have included Maulden. To the west Silsoe was perhaps part of this estate; the joint parish 'Flitton cum Silsoe' existed until the 19th century and it did not have its own parish church, just a chapel-of-ease of Flitton (Page 1908, 332). It probably did not extend far south though. Westoning (TL 028 327, not on Figure 85), was originally Weston, 'western farmstead' (Mawer and Stenton 1926, 141), and so probably part of an estate to the east rather than Flitton to the north.

The 'multiple estate' is one of several modern terms for what is thought to have been a widespread tenurial unit of the middle Anglo-Saxon period. It is to some extent a hypothetical model though, albeit one with substantial supporting evidence. They are thought to have typically been equivalent in size to several parishes, and comprised several smaller sub-units organised to provide a variety of resources for the lord's household. This would have been based at the estate's *caput* or head, the site of the manorial buildings including the lord's hall, which would have been close to the best arable land with its own open or infield/outfield system. The name of the *caput* was

usually applied to the estate as a whole, was often topographical in form, and due to its central role, also usually recorded earlier than other places within the estate. Not surprisingly the *caput* was likely to be in high status ownership and this status might persist for some time; they often become the heads of hundreds and remained important to the time of DB. Where they can be identified, there appears to be a strong association between *caputs* and earlier, late Iron Age or Romano-British, centres. The *caput* was at the centre of a network of dependent places which owed customary dues, both labour and produce, to the centre. Collectively they would have had access to a wide range of resources including arable, pasture, meadow and woodland to provide for the needs of the lord's household. Whilst the estate as a whole was well provided for, individual settlements may not have been, and some had to rely on redistribution by the *caput* to meet all their needs, which would have also served to reinforce the lord's status. In some areas of the country the various resources needed could be obtained from within a compact area leading to regular estates with *caputs* at their centres, in others, the need to ensure access to resources led to larger, more irregular estates or detached portions at some distance from the *caput*. The mother ('minster') church for the area was often close to the *caput* with any churches or chapels in other places being dependent upon this church often without baptismal or burial rights.

It seems likely that there were several 'multiple estates', around Wrest Park. As well as the Flit estate, another to the south has been hinted at with Westoning, probably part of an estate to the east. Higham Gobion is the obvious candidate for the *caput* of this estate. It is an early name that means 'High (or chief) homestead or enclosure' and although the existing settlement is on locally significant hill, 'chief' could fit at least as well in this context. Although the two places are 7.5km apart, Higham Bury, immediately east of Westoning and 5km from Higham Gobion, was a detached portion of Higham Gobion parish until the late 19th century, indicating that its territory probably extended at least this far. Barton-le-Clay lying between the two would have also been a part of this estate. Barton is 'a common name, usually OE *bere-tūn*, *bær-tūn* 'barley farm, outlying grange where barley is stored', and suggestive of dependant status (Mills 2003, 44).

There was probably another estate to the east, though the evidence is rather more circumstantial. It is likely that Shillington was an early centre with British antecedents and it remained a large parish until the 19th century, extending as far south as Icknield Way. This southern extension probably provided access to woodland resources on the hills to the south. Gravenhurst also appears to have been a part of this estate. Upper Gravenhurst did not have a parish church, and:

To supply the need of the inhabitants a chantry was founded before 1189 for a priest to administer sacraments and bury the dead ... 'for the easement of the parishioners because they were wont to go to the parish church of Shytlington which is a mile from the said church of Gravenhirste' (Page 1908, 335).

This arrangement probably included Lower Gravenhurst as at the time of DB Gravenhurst was a single holding, topographically the place-name suggests that Upper Gravenhurst was the primary settlement and the two forma single parish. Such customary associations could be long lived and it seems that Gravenhurst had

looked to Shillington as its caput. The Shillington estate can also be defined negatively by excluding Higham Gobion to the south and Campton/Meppershall to the north. Campton, Chicksands and Shefford formed a single large parish in the 19th century and as noted above Campton was probably an early centre on a river, similar to Flitton. Meppershall may have been associated with Campton as it contained a chapel belonging to Chicksands Priory established by the later 12th century (Page 1908, 293).

The estate pattern to the north of Wrest Park is far from clear. There is no obvious candidate for a caput nor any obvious dependencies and the place-name evidence suggests that this was woodland providing wood-pasture and hunting, probably divided amongst other estates such as Flitton and Campton, as well as others further afield.

The late Anglo-Saxon period

It is likely that during this period the large multiple estates outlined above were breaking up into the holdings detailed in DB and to a large extent preserved in the pattern of late 19th century ecclesiastical parishes.

By the time of DB all the suggested 'multiple estates' were split between hundreds; Flitton and Higham Gobion between Flitt and Redbournestoke, and Shillington between Clifton and Gravenhurst. Hundreds were sub-divisions of the shire and the division of a functioning estate between hundreds would be extremely unlikely as administrative functions devolved down through the shire and hundred to the estate caput. That parts of these estates could end up in separate hundreds means that they were separate by the time the hundreds were established. As to the date of the hundreds, Bedfordshire:

Emerged from the district assigned to the maintenance of the Danish army of Bedford in the late 9th century, but was formally organised later, probably about 1008. In the county hideage, held to have been drafted not much later, it is entered at 1200 hides; the 1086 hides also total approximately 1200 (Morris 1977, notes).

Domesday Book shows that there were 12 hundreds in the county and Flitt hundred answered for 97 1/3 hides, close enough to 100 hides to suggest both that Bedfordshire was deliberately created as a county of twelve regular hundreds and that Flitt hundred had probably not changed very much since they were established. It remains uncertain though when the Bedfordshire hundreds originated, though it must have been sometime between the late 9th century and the early 11th century. It may be in the context of these emerging estates that those places with *bury* names have their origins as manor houses or farms but their frequent association with moats suggests a later origin.

The medieval period

Major names with *bury* usually refer to a defended site, very often an Iron Age hillfort, Romano-British town or station, or Anglo-Saxon military stronghold (Parsons and Styles 2000, 74-5) but the minor places-names seen around Wrest Park do not seem fit this derivation. Shillington Bury is given the meaning 'manor farm' by Mawer and Stenton, and Gelling gives 'manor-house' as 'the likeliest meaning in numerous settlement-names ending in -bury', as does Mills (Mawer and Stenton 1926, 174; Gelling 1997, 143; Mills

2003, 522). The latter seems more likely as Apsleybury, Gagmansbury and Newbury Farms all appear to be associated with moats and there is another near Bury Farm to the south (TL 116 304). This association suggests that the meaning may have developed from OE 'defended place', through 'defended house', to 'manor-house'. It is not clear at what date these names might have been coined as the element originated in the OE period but 'the sense "manor house" may have persisted into Middle English' (Gelling 1997, 143) and the general sense 'estate, manor' is better attested in Middle English than OE (Parsons and Styles 2000, 77). Moated manor houses probably developed during the 12th century and had their peak between AD 1250 and 1350 (Darvill 2008, 285), so it seems possible that some 'bury' names, at least those associated with moats, probably date from a similar period, though prior occupation of the same site is obviously possible. This usage might have persisted for some time; the manor of Upper Gravenhurst was also known as Tewelsbury, a name first mentioned only in 1600 (Page 1908, 333).

The term 'end' also goes back to the OE period but again clearly remained in use in place name formation for many centuries. Discussing the colonisation of the Arden between Birmingham and Coventry, believed to have taken place in the mid-11th century, Gelling notes that the Birmingham area may have been colonised even later and that the district is 'marked by the use of Heath, End and Green in names of farms and hamlets' (Gelling 1997, 126). Whilst colonisation of the Wroteston Park area seems unlikely, given the number of habitative and quasi-habitative names of earlier periods it seems reasonable to suggest that many of the 'end' names here may have been formed at a similar date. They may well have been existing elements within a dispersed settlement pattern that were named as a need for greater administrative 'resolution' developed, though they could also have been new infill settlements within a less dense pattern. No doubt both occurred.

The 'end' and 'bury' names appear to be closely connected, though perhaps at opposite ends of the social spectrum. They seem to have similar relationships to more central places with earlier names, referring to peripheral settlements within the pattern of estates suggested by Domesday Book and ecclesiastical parishes. Linguistically they were formed in similar ways with similar proportions of other elements, most affixed to other place-names, some to descriptors and others perhaps to personal-names. Some evidence suggests that the 'end' names may date to the 11th century and the 'bury' names to the 12th or 13th centuries, though the relationship between Shillington Bury and Bury End suggests the reverse and there is unlikely to be a simple chronological relationship. A possible context for these names might be the steadily rising population and developing administrative sophistication of the centuries prior to the early 14th century which would have seen settlement expansion at the same time as a need for more locational accuracy and hence a need to define the settlement pattern with a greater resolution than before.

A note

The discussion above has suggested several possible 'lost' places. Kitchen End is suggestive of Kitchen elsewhere and Hanscombe End of Hanscombe. Less certainly, Upton End suggests Upton, and Braybury (Lodge) suggests Bray. This seems to be a rather high number from a small area. Perhaps these are not lost in the sense that at deserted medieval village might be, but record places renamed or subsumed within others. Upton for example could have been in Meppershall. This name contains the OE

element *halh* 'nook' (Mills 2003, 325), which might be appropriate for the northern part of the parish but Upton would suit the southern part better and it may be significant that this was the site of a motte and bailey castle.

The origins of Wrest Park

Finally, to return to the original question, when did Wrest Park originate? The only evidence for an early origin is the name itself. Although this is highly uncertain it seems likely to be OE or ON and therefore pre-Conquest. All the evidence though is that it was a minor place, probably a component of a larger estate, and a peripheral one at that. There is also no certainty that there was a settlement here, it could simply have been the name of an area or an estate resource, perhaps providing withies or summer grazing. By the middle Anglo-Saxon period Wrest Park was surrounded by 'multiple estates' but it is not certain which of these estates it lay within. Taking the place-name evidence as a whole it seems most likely that Wrest Park, at least as a significant place, only originated in the medieval period as part of the expansion of settlement suggested by the 'end' and 'bury' places.

Appendix 2: Domesday Book

Domesday Book recorded tenurial holdings within a feudal framework, who held what from, and who owed what to, the crown. It was a record of 'the imposition of feudal law and tenure on [William I's] kingdom' (Muir 2004, 65). Most were manors, 'territorial unit[s] of lordship which also served as the basic unit of siegnorial administration' with an associated package of rights and dues (Bailey 2002, 3). The names of the places given however were vill, in modern English perhaps 'townships', the lowest level of civil administration in late Anglo-Saxon England, and small areas (similar in size to the parish) rather than particular settlements. As such the two were not always the same. Therefore, a simple Domesday entry that recorded a single manor with a name only appearing in that entry probably corresponded approximately to a single vill but this does not mean that a nucleated village existed here at that time. Similarly a township could contain several manors, all sharing the same name, and a manor could cover several townships typically taking its name from the most important township where the lord's demesne was located.

Around Wrest Park, Domesday Book recorded entries for Clophill and Cainhoe to the north, Silsoe, Flitton and Pulloxhill to the west, Barton-le-Clay and Higham Gobion to the south, and Shillington, Gravenhurst, and Meppershall to the east. The most common form of entry is one manor to one named place (Barton-le-Clay, Clophill, Gravenhurst, Higham Gobion, Pulloxhill, Shillington and Flitton though this was not listed as a manor) but as noted above it is possible that these entries contained unnamed subsidiary vill. There are also two cases where there was more than one entry of the same name. Of the two entries for Cainhoe, one was a manor and the second was described as 'in Cainhoe', presumably a sub-unit of the vill held separately. The two entries for Silsoe were both classed as manors so would have been of similar legal status, but both were described as 'in Silsoe' indicating that this was the vill.

Wrest Park lay between the Domesday manors of Silsoe to the west, Cainhoe to the north, Gravenhurst to the east and Higham Gobion to the south, a situation rather similar to that noted for the Anglo-Saxon period above. These holdings seem to form two distinct groups. One held by Hugh of Beauchamp to the east and south and another largely held by Nigel d'Aubigny to the north and west. Hugh's two entries (Gravenhurst and Higham Gobion, Morris 1977, [23,23]; [23,21]) were straightforward and had probably been acquired immediately after the conquest (they were only valued at the Conquest and 'now'). The other entries were more complex; they seem to have been of lower status in the past (without any right to 'buy and sell'), had been acquired later (they were valued at the Conquest, 'when acquired' and 'now'), Silsoe was divided, and two of the three manors had identifiable subunits. This suggests that Wrest Park would have been more likely to have been within the latter group than the former.

Cainhoe was probably the highest status manor near Wrest Park though this is not reflected in its Domesday Book entry. It was held by Nigel, and comprised 4 hides valued at 60s (Morris 1977 [24,15]), but was the seat of the Barony of Cainhoe and was the site of Cainhoe Castle (above). This status was new; the castle was probably not built at an earlier Anglo-Saxon estate centre was constructed prior to 1100 on a site chosen to be geographically central to its builder's lands, close to communications routes, and with

views over the surrounding landscape, considerations that took priority over the size and value of the estate (Lowerre 2005, 217-8; 93; Fig 4.4, 93; Chapter 5; Chapter 6). The second entry for Cainhoe was a single hide without manorial status held 'in Cainhoe' by Thurstan (Morris 1977, [55,3]). A subsidiary unit such as this might be an ideal candidate for Wrest Park but the VCH states that this probably became Beadlow to the north of Cainhoe (Page 1908, 322).

There were two manors 'in Silsoe', one of four hides and another of two. The smaller entry 'in Silsoe' (Morris 1977, [24,16]) was held by 'a concubine of Nigel's' from him (one can only wonder what his family thought). This suggests a connection with Cainhoe that may have been of some duration; a thane called Aelfric held it at the Conquest, possibly the same person that then held Cainhoe, though in this entry the name was given as 'Aelfric Small'. Again, there was no mention of any right to 'grant and sell' suggesting limited rights and status. This might also be a candidate for Wrest Park but the VCH claims that it became the manor of Newbury (Page 1908, 328), modern Newbury Farm to the north-west of Silsoe which still has the remains of a moat.

Hugh held the larger Silsoe entry 'as one manor' (Morris 1977, [33,2]), presumably a reference to a ½ hide unit detailed separately which suggests that the details given covered both these parts but that the amalgamation of the two was relatively recent. Walter only had two entries in Bedfordshire and Hugh was a common name so it is not certain who he was or if he had any other holdings. It was held by a thane at the time of Conquest but there was no statement that he 'could grant and sell to whom he would' as seen in many other entries (such as both Cainhoe entries, Gravenhurst and Higham Gobion). This suggests that the manor had been held on limited terms such as for the life of the tenant, dependent on another manor and of relatively low status. In contrast the ½ hide unit was held at the Conquest by three Freemen with the right to 'grant and sell to whom they would'. At Domesday Hugh held this ½ hide 'from the King, as his men state' implying that it had been absorbed into the main manor since the Conquest.

The Victoria County History states that this entry was Wrest Park, but this seems unlikely. It was a large manor with land for 10 ploughs, 18 households, a mill, and woodland for 100 pigs, all valued at £8, the highest in the immediate area. Given the complete lack of evidence for Wrest Park having any significant status up to this point, and the dominance of the vicinity by the Barony of Cainhoe it seems unlikely that the main information relates to Wrest Park. It is far more likely that the manor was Silsoe as stated and that Wrest Park was a component of this manor, perhaps the ½ hide held by three freemen at the time of Conquest. If so then it is possible that Domesday Book is recording the period when Wrest Park first became inextricably linked with Silsoe, eventually to dominate it. If correct then no details of the estate can be separated from the overall entry.

Appendix 3: Selected historic images, maps and plans of Wrest Park

Numerous historic views, maps and plans exist of Wrest Park. The key examples are reproduced here with brief comments on their date, accuracy and contents.

The Kip and Knyff bird's-eye perspectives, 1703-4

Figure 86 and figure 87 overleaf.

These two views of Wrest Park were first published by Kip and Knyff in their *Britannia Illustrata or Views of Several of the Queens Palaces also of the Principal Seats of the Nobility and Gentry of Great Britain* (London 1707). Cabe Halpern suggests, based upon dateable details of the engravings, that the initial surveys and designs date from 1704, or shortly before (2002, 136). It seems likely that these views are quite accurate; for example, both the aerial photography/lidar and earthwork surveys recorded tree boles in exactly the arrangement shown in front of the northern court.

The two views do not agree in some details. The most obvious difference is the arrangement within the court to the north of the house where the long view shows a quartered circular feature but the closer view a quartered square with a central feature, presumably the sundial placed there in 1682 (Cabe Halpern 1995, 152). Also, in the wider parkland, the line of trees to the right of the long canal shown in the long view appears to have been omitted or is shown as a solid block of woodland in the near view, and the form of the woodland to the left is slightly different. The arrangement at the south end of the long canal is slightly differently as well. The details in the parkland might be due to differences in representation but the arrangement within the court is harder to explain. The presence of the sundial in the close view, and its apparent absence from the long view, suggests that the square layout is the earlier. The 1719 Laurence map (Figure 90) also shows the court having a circular drive.

Two anonymous sketches of Wrest Park, about 1712

Figure 88 and figure 89 overleaf.

The two sketches are very similar in style and are probably by the same artist and contemporary. Titles have been added in pencil, apparently in the same hand but perhaps at a later date. The Pavilion and Hill House were designed and built by Thomas Archer and 'substantially complete' by 1711 (Cabe Halpern 2002, 137) so these views are clearly later. The view of Hill House shows the planting on the 1719 Laurence map as incomplete, with the main avenues laid out but the blocks between unplanted. The view of the Archer Pavilion is similar with an avenue shown running up to the pavilion but again, without the infill planting to either side. According to Cabe Halpern 'the "new plantation", ... a significant area of newly planted forest trees in an area added to the garden on either side of the great canal' was completed by 1713 (2002, 137). It seems likely that this planting would appear in Figure 89, particularly to the right of the avenue, but open areas remain so it seems likely that this view, and perhaps therefore Figure 88, date to the period 1711-13. Note that the apparent date of 1713 top left is 17B, the Gough folio number.

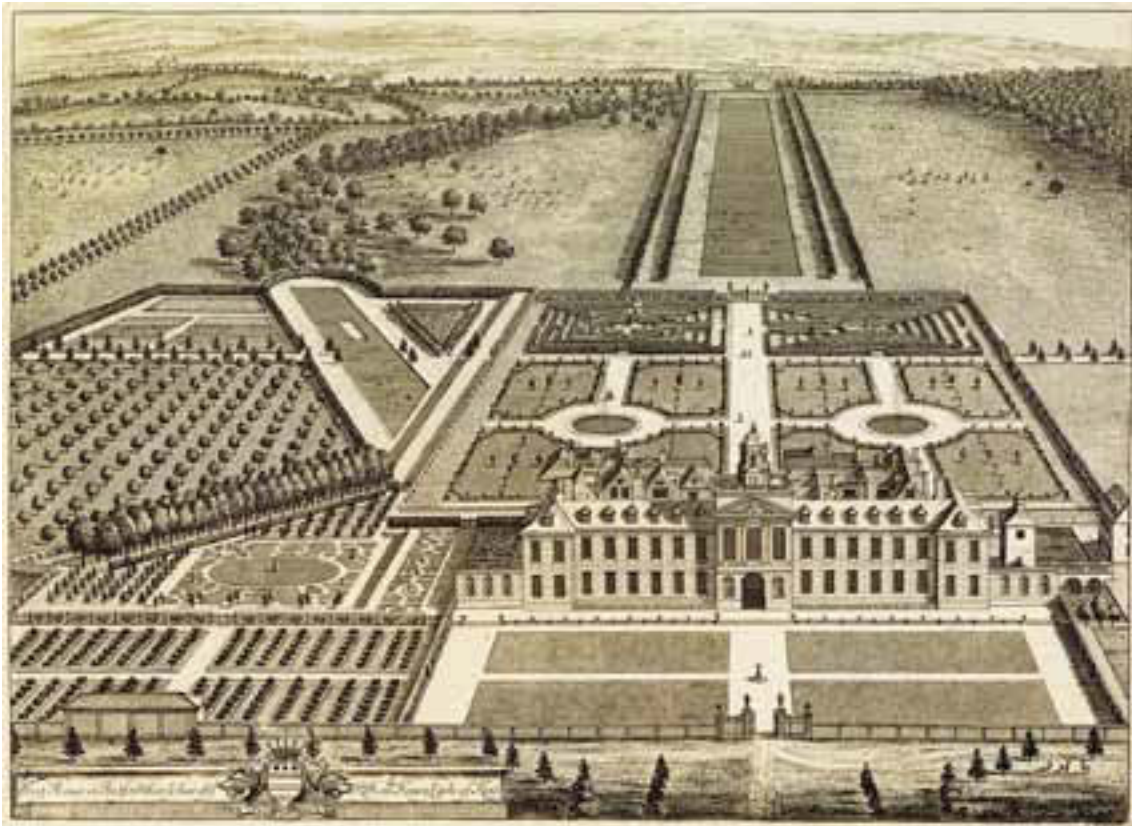


Figure 86 Kip and Knyff view of Wrest House and gardens from the north (Patricia Payne © English Heritage DP029357)

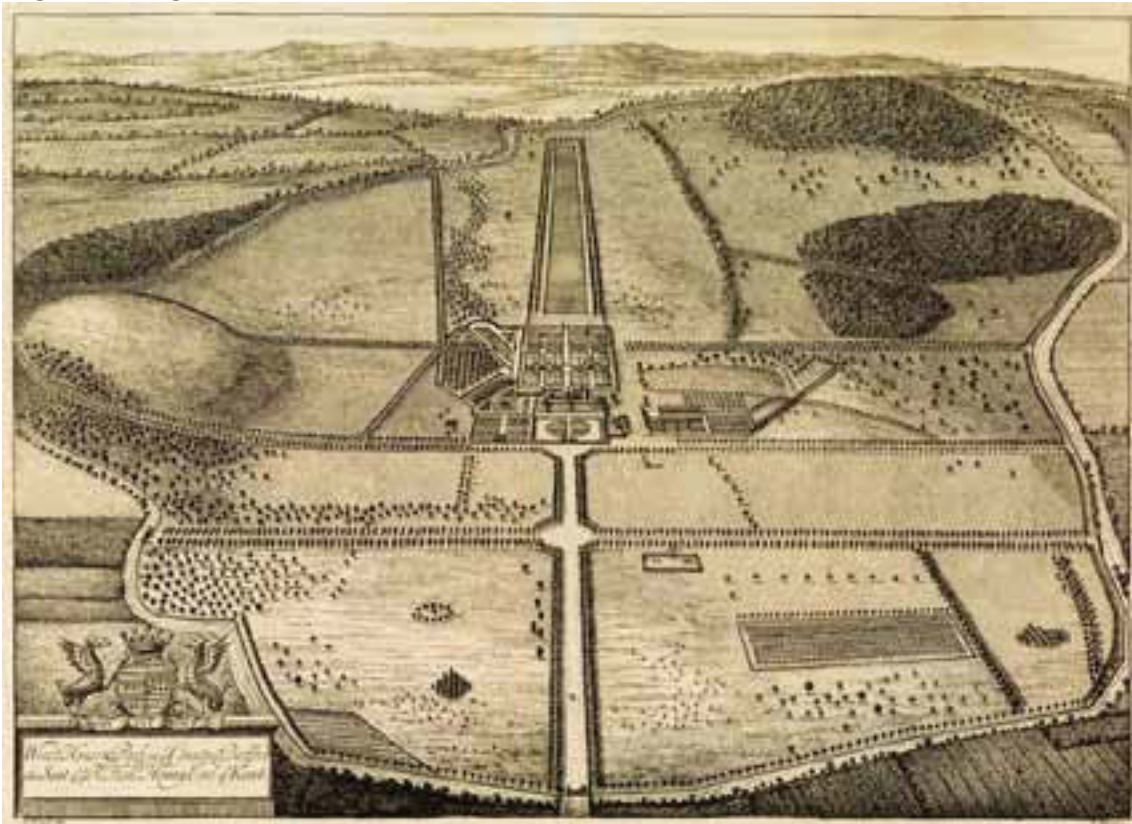


Figure 87 Kip and Knyff view of Wrest Park from the north (Patricia Payne © English Heritage DP029355)



Figure 88 Hill House (The Bodleian Libraries, University of Oxford, Gough Maps I, folio 17b top left)

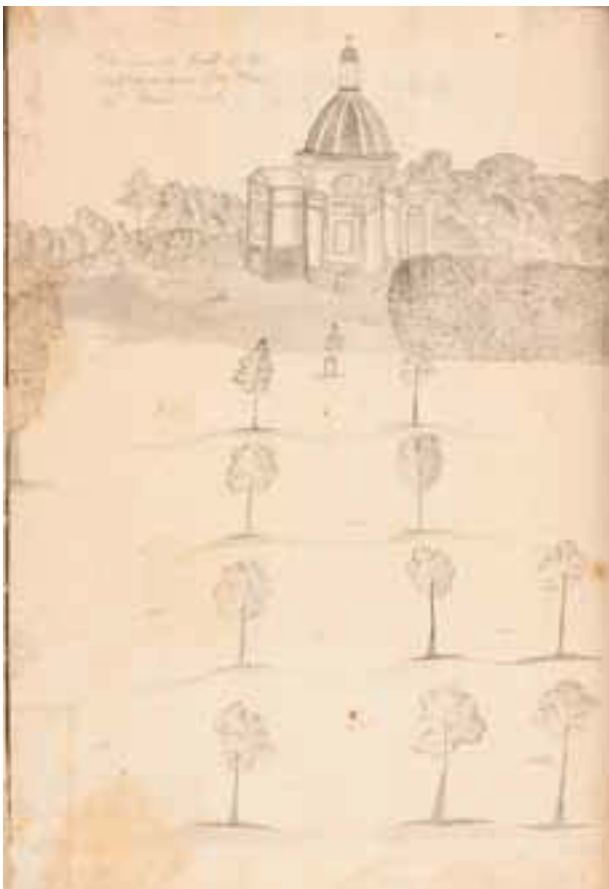


Figure 89 The Archer Pavilion from the north-east (The Bodleian Libraries, University of Oxford, Gough Maps I, folio 17b top right)

The 1719 Edward Laurence map

This map has been dated to 1719. In terms of accuracy it should be treated with a certain amount of caution. The surveys that recorded evidence for the arrangement of trees immediately north of the outer court shown on the Kip and Knyff views (above) found no evidence for the triple avenue or square open area to the north of the house and court. The plan also records several of the elements dated to this period including the cross canal (now Ladies lake and Bowling Green Canal), the Archer Pavilion, Cain Hill House, and possibly the Hutton Monument, but it omits others that should be present by this date such as Bowling Green House, Diana's Temple and the two Half Houses. Given the correlation with the earlier view in many other respects it seems more likely that these discrepancies are due to a lack of attention to detail rather than a more fundamental problem, such as this being a design plan or the date being incorrect.



Figure 90 Laurence's map of 1719 (BLARS L33/286 f3, Patricia Payne © English Heritage DPI 10990)

Peter Angelis' views of the earlier 1720s

These two views are very similar in style and would appear to be broadly contemporary. BLARS notes that they 'appear to have been at one time mounted on linen and possibly framed and hung up for they seem to have been exposed to the light for a considerable length of time, being quite brown, especially when compared with his other drawings'.

They show the layout of the gardens, particularly around the Archer Pavilion, almost as on the 1719 Laurence map above so probably date to soon after this. They have been credited to Peter Angelis (contra BLARS which attributes them to Tillemans), a Dutch artist who lived and worked in England 1719-27. In about 1720 he painted *Queen Anne and the Knights of the Garter*, now in the National Portrait Gallery, in which the Duke of Kent appears and it seems probable that the two met at court at about this time. A date in the early 1720s therefore seems probable.

In November 1727 there is a reference in the accounts to paying 'Seign Angelo for altering a large picture of Rest Garden/£2 2s/ More for making a smarl picture of the south part of them/£7 18s/} £10' (Eustace 2008, 4). It is not clear what these refer to as the two images above are similar in size (14x57 and 14x43 inches respectively), but this does give a clear date for when Angelis was working at Wrest Park.



Figure 91 Angelis' view of the gardens from the north (BLARS L33/128A, © English Heritage Archive, e850345/718)



Figure 92 Angelis' view of the gardens from the south (BLARS L33/127 © English Heritage Archive, e850341/6)

Two anonymous sketches, 1720s

The first drawing is almost identical to the view of the same building on the 1735 Rocque map below (Figure 99, bottom centre right), though it lacks the hedged(?) arcading shown in that image which suggests it is rather earlier – the area appears to be as shown in the Angelis' view above (Figure 91), though this lacks detail. The proportions shown in all are different to the existing building with the colonnaded porch being lower and the pitched roof higher, with the balustrade shown surmounted by figures rather than urns. This dates the drawing to before 1735, when the Bowling Green House was modified or rebuilt (Way 2009, 106). Note that the image on the 1737 Rocque map (Figure 100, bottom left) is much closer to the building seen today with a lower roof and urns on the balustrade. The emblem is the Order of the Garter, which the Duke received in 1712.

The second is almost certainly the 'hunting stand in the park' purchased with land in the 1650s (DIA et al 2009a, 47) which survived into the late 1720s at least (see Figure 96, on the skyline just right of Hill House). It is undated but very similar to Figure 93 and appears next to it in the Gough maps so is probably of a similar date. The emblem is probably that of the duke of Kent, there is a reference to the purchase of 12 ragged staves for keystones and door cases for Hill House in 1710 (Eustace 2008, 3).

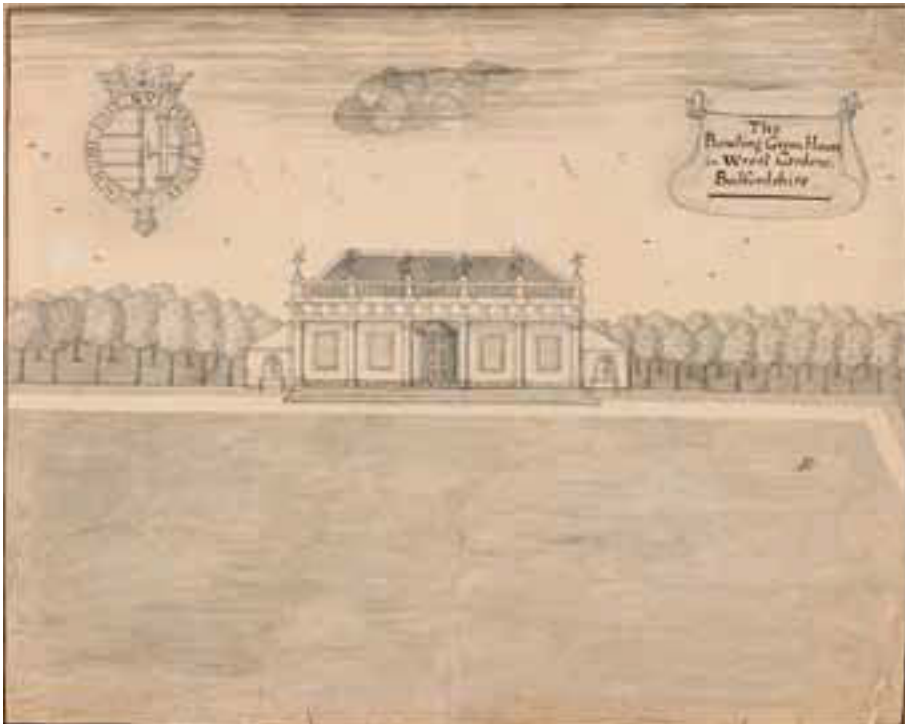


Figure 93 Bowling Green House (The Bodleian Libraries, University of Oxford, Gough Maps I, folio 17r, lower)

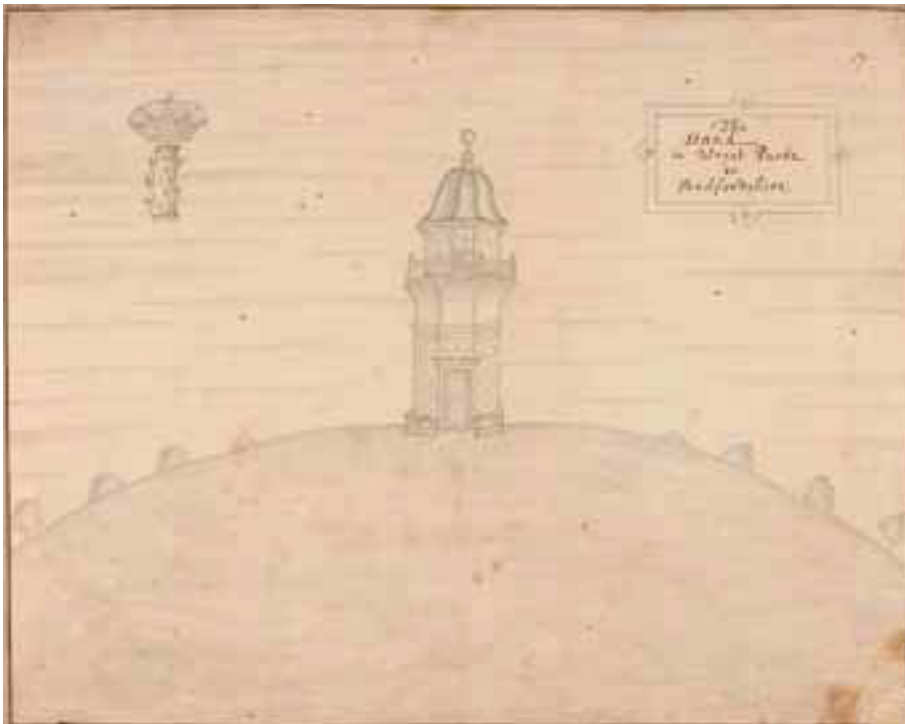


Figure 94 The Hunting Stand (The Bodleian Libraries, University of Oxford, Gough Maps I, folio 17r, top)

The Tillemans' views, late 1720s

The group of four drawings below are similar in style and content and are probably contemporary. There are another five drawings showing individual garden compartments, apparently in the same series. Figure 95 is signed 'Tillemans Fecit'. They have been dated to about 1729 or 1730 (Cabe Halpern 1995, 165-7).



Figure 95 Tillemans' view of the south gardens including the Archer Pavilion and Cain Hill from the south-east (© English Heritage Archive, e850328)



Figure 96 Tillemans' view of the south gardens including the Archer Pavilion and Cain Hill from the south-west (© English Heritage Archive, e850328a)



Figure 97 Tillemans' view of the south gardens from WNW of the Archer Pavilion looking south and south-west (© English Heritage Archive, e850340)



Figure 98 Tillemans' view of the Archer Pavilion from the south-west (© English Heritage Archive, e850339)

The 1735 and 1737 Rocque maps

The earlier map (Figure 99) is focussed on the house and gardens and only shows Cain Hill in the wider park, omitting the areas to the west and north. The plan includes numerous views of buildings and garden elements placed around the main map of the house and gardens. Many of the features on the map are numbered and named and are transcribed [and located] below.

1. Horse Pond Garden [the rectangular enclosure to the far east of the great court with the double rectangular ponds]
2. The Green House [the rectangular east-west building to the north-east of the Great Court]
3. The Great Court
4. The House
5. The Menagery [the square feature immediately to the east of the house complex]
6. The Terrass before the House [now Broadwalk]
7. The Parterre [now the Horseshoe Lawns]
8. The Millpond Ground [east of the Horseshoe Lawns]
9. The Million? Ground [the square enclosure immediately west of the Great Court]
10. The Landry [the large isolated rectangular north/south building west of the main house complex]
11. Porters Lodge [the small square building north-east of the laundry]
12. Old Orchard
13. The Grove by the side of the Terrass [the area south of the bowling green]
14. Bowling Green
15. Bowling Green House
16. Amphitheatre
17. Lady Duchess's Canal [the eastern cross canal]
18. The West Canal [the western cross canal]
19. John Denvells? Canal [the straight canal running SSE from the millpond ground]
20. Circular Canal [the curving canal to the south of this]
21. The Duke's Square [the western rectangle containing two squares within it]
22. My Lady Duchess' Square [the western square with a column]
23. The Long Canal
24. The Serpentine River [the sinuous waterway to the south-west]
25. The [Archer] Pavilion
26. The 2 Pillars [within the circular paths at the far south-east and south-west of the gardens]
27. The Octagon Canal [the cross canal south of the pavilion]
28. The Hill [Cain Hill]
29. Diana's Temple [just west of the small square area to the east of the eastern circular area east of Long Canal]

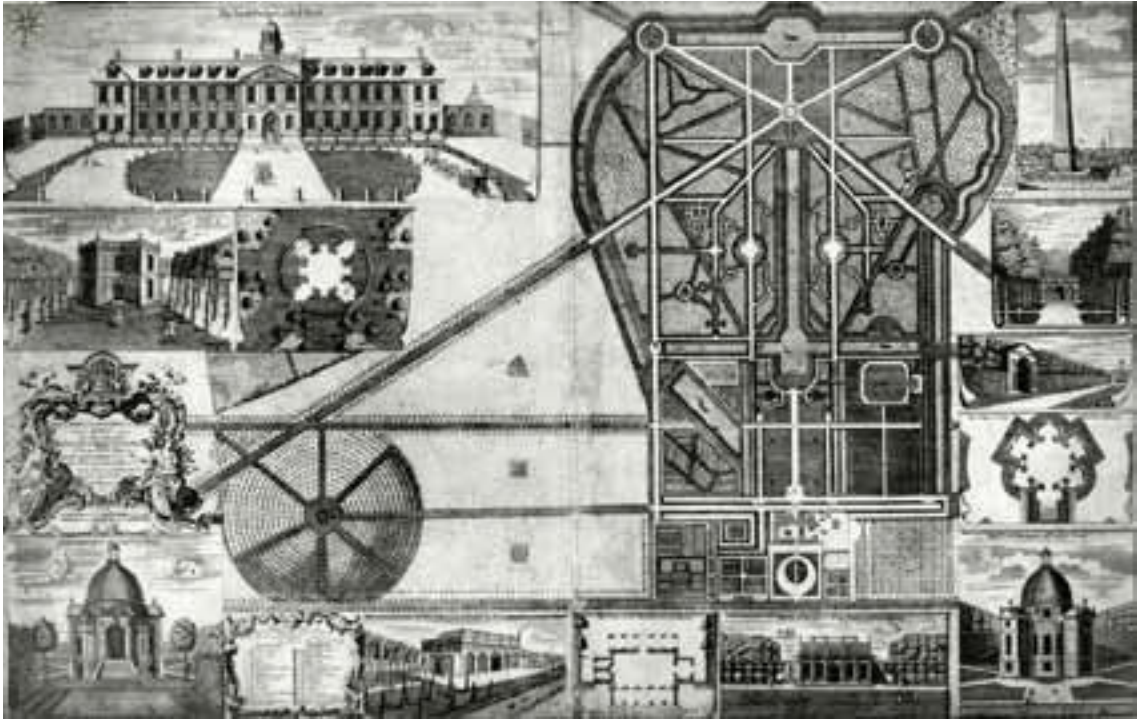


Figure 99 'PLAN and VIEW of the BUILDINGS and GARDEN AT REST' by John Rocque 1735, north to bottom (The Bodleian Libraries, University of Oxford, Gough Maps 1, folio 16b).

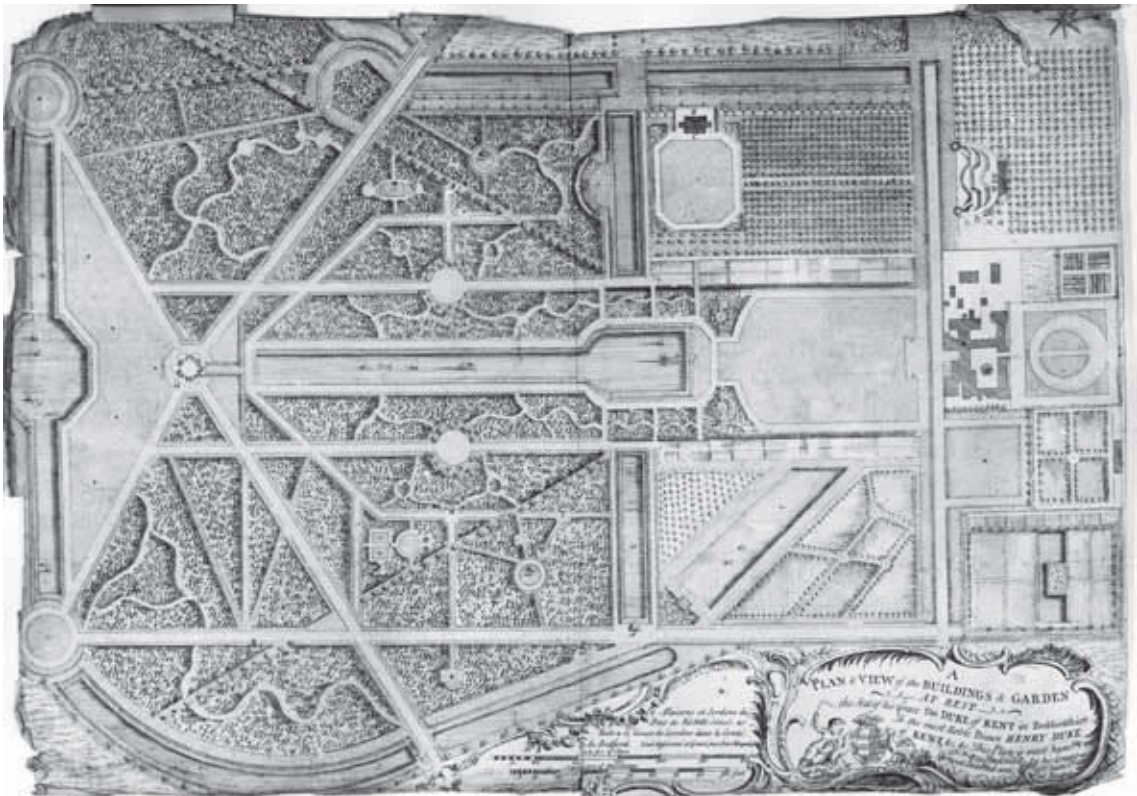


Figure 100 Photograph of a cropped version of the 1737 Rocque map with the surrounding images removed, north to right (© English Heritage Archive, Map Room AL0990, 7).

- 30. My Lady Duchess' Walk [the main north/south walk along the eastern side of the gardens]
- 31. The Alcove in Lady Duchess' Walk [to the south]
- 32. Hutton's Monument [the small square feature west of the pavilion and NNW of the south-west circle]

The later map opposite is even more closely focussed on the house and gardens and entirely misses out the park. The full version again is surrounded by various images of the house and other garden buildings and features.

A plan of the old house in about 1720, drawn late 18th or early 19th century

This is an undated plan of the layout of the old house at Wrest Park as it was 'supposed to have appeared in the Duke of Kent's time'. Although Henry held Wrest Park from 1702, he was only made Duke in 1710, and died in 1740. As far as can be judged the plan is the same as that shown on the Rocque maps of 1735/7, though it omits the service buildings.

It is clear from the title of the plan that it is not contemporary with this period but the plan shows many details which suggests that it may have been based on an actual survey of the standing buildings so probably predates their demolition in the late 1830s, it may

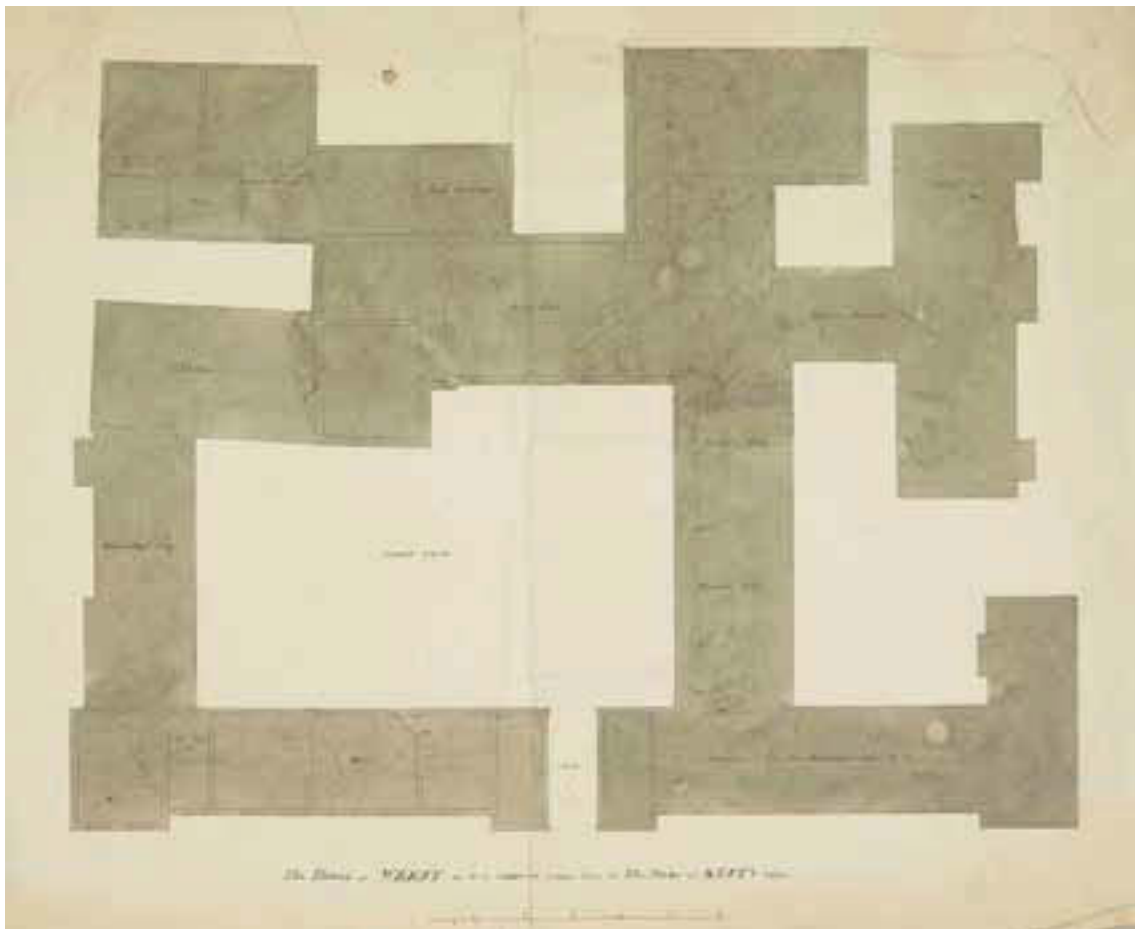


Figure 101 'The House at WREST as it is supposed to have appeared in The Duke of KENT's time', north at the bottom (BLARS L33/148, Patricia Payne © English Heritage DPI 10947)

also pre-date the demolition of the block to the north of the chapel (bottom left) in 1795. The information contained within the plan would appear to be consistent with the information within the 1831 sketchbook (below).

According to the sketchbook the chapel (the building centre left on a different alignment to most of the others) was the oldest part of the house. The block to the south (above and also on a slightly different alignment) was also 'old' and was improved sometime between 1655 and 1690. The north front was constructed at about the same time, between 1655 and 1695. The wing to the north of the chapel (below it) was built in expectation of a visit by Queen Anne (1702-1714) and demolished in 1795. The gap in the south front (top centre) was filled with the grand dining room in about 1750 and the western end of the south front (top right) was extended by 1795. Note the pencilled in outlines of these works.

Two pre-enclosure maps of the Wrest Park area, about 1800

Figure 102 and Figure 103 opposite.

These two maps appear to of similar dates as many of the details shown are the same. Both must post-date 1795 as they show the house without 'Queen Anne's Wing' which was demolished at this time. Figure 102 is described in the BLARS catalogue as 'pre-enclosure' with 'inclosure plotted on to it' so the original is likely to be the earlier of the two. The BLARS description of Figure 103 notes that it 'incorporates a non-completed draft award for Silsoe' so it was probably drawn as part of the preparation for the 'Inclosure Act' for Silsoe and related to the enclosure maps below. As such they must both predate the Act of 1809 (below).

Two enclosure maps of the Wrest Park area, about 1809

Figure 104 and Figure 105 overleaf.

According to the BLARS catalogue, Figure 105 is dated to about 1860 but this is clearly incorrect as it shows the old house rather than the new. Both are described as 'enclosure maps' and the VCH for Bedfordshire states that 'An Inclosure Act for Flitton and Silsoe with Pulloxhill was passed in 1809' (Page 1908, 325). It seems highly likely that these two maps relate to this Act but must have been drawn up prior to its passage through parliament.

In terms of content, these maps are clearly very similar to one another, and to the two preceding maps (Figure 102 and Figure 103). As discussed above they are probably later than these, and differences between the maps support this; for example, the circular feature shown on Figure 102 and Figure 103 to the north-west of the house appears to have been removed by the time of Figure 104 and Figure 105.

The second of the two enclosure maps (Figure 105) is sketchier than the first and appears to be less accurate. The buildings shown to the north-east of the house (close to the 'P' in 'Park') are not shown but two buildings to either side of the curving drive do



Figure 102 Detail of 'pre-inclosure map of Silsoe on which inclosure has been plotted', north to top right. (BLARS L33/7, Patricia Payne © English Heritage DPI 10958).



Figure 103 Detail of pre-enclosure map, north to top left. (BLARS L33/21, Patricia Payne © English Heritage DPI 10957)



Figure 104 Detail of an enclosure map, north to top left. (BLARS MA56/112, Patricia Payne © English Heritage DPI 10955)



Figure 105 Detail of an enclosure map, north to top left. (BLARS MA56, Patricia Payne © English Heritage DPI 10953)

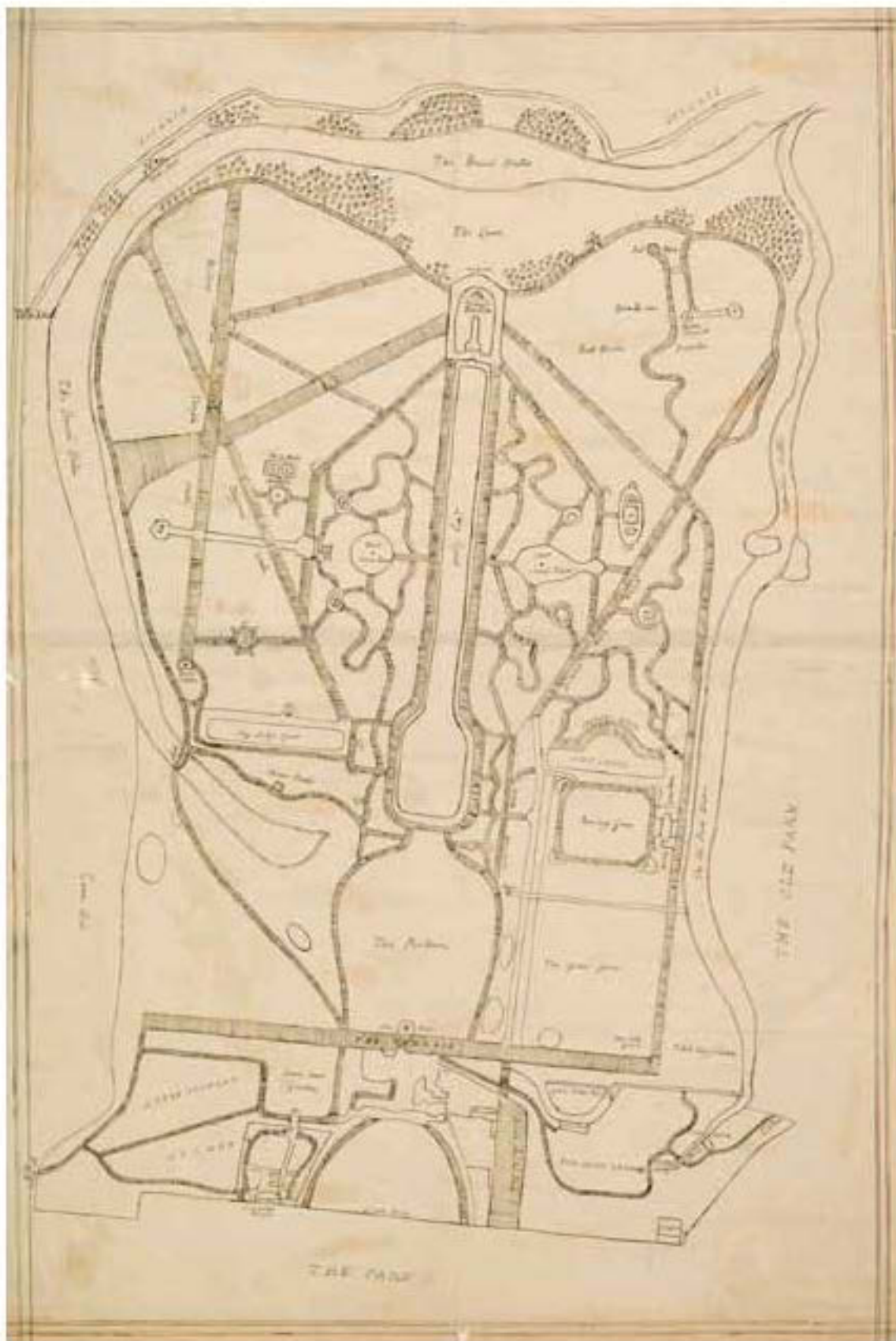


Figure 106 Hand drawn copy of a map of the old house and gardens, anonymous and undated (BLARS L33/208, Patricia Payne © English Heritage DPI 10948).

appear. Figure 115 below however shows a single building to the east of the curving drive in front of the house and a building out in the park to the north of this, but does not show a building to the west. Both patterns of removal cannot be correct but it is difficult to know which map is likely to be right, although the general appearance of the latter does not inspire confidence.

Copy of a map of Wrest Park House and gardens, original after 1828

Figure 106 above.

The date of the original map and this copy are unknown. The 'Rustic Column' is shown to the south-east of the east end of Ladies Lake (centre left). According to the 1831 sketchbook (below) it was moved here in 1828 so the original map must date to about 1830 since it shows the old house. There are some discrepancies between this map and that in the sketchbook (Figure 120). For example, this map shows a cow yard to the WNW of the old house which is missing from the sketchbook but omits the 'white seat' to the west of the house which is shown as X in the sketchbook and which was apparently set up there in 1795. Otherwise the two are very similar.

The 1831 sketchbook

See Appendix 4 below for a full discussion and transcript.

Buckler's sketches, 1831

Figure 107 and Figure 108 opposite.

These would appear to be the last images of the old house in anything like its former glory. See Butler's 1838 sketches below for the appearance of the house immediately before its final demolition.

Plan of the positions of the old and new houses, 1834

Figure 109 overleaf.

One of the few securely dated plans. It clearly shows the designs for the new house at an early stage (compare with Figure 110 below).

Anonymous bird's-eye view, probably after 1834

Figure 110 overleaf.

This shows a much more developed view of the design for the house and gardens than that shown above. It is certainly a design view however, as though the details of the house are accurate (including showing the conservatory with an unadorned lantern roof), the service areas are not shown as built. The relationship between the walled garden and the house is not as seen today and nor are its internal arrangements and the layout



Figure 107 Monochrome photograph of a watercolour sketch by Buckler entitled 'North East view of Wrest Park, Bedfordshire' dated 1831 (© English Heritage Archive, Map Room AL0990/66)



Figure 108 Monochrome photograph of a watercolour sketch by Buckler entitled 'South-east view of Wrest Park, Bedfordshire' dated 1831 (© English Heritage Archive, Map Room AL0990/67)

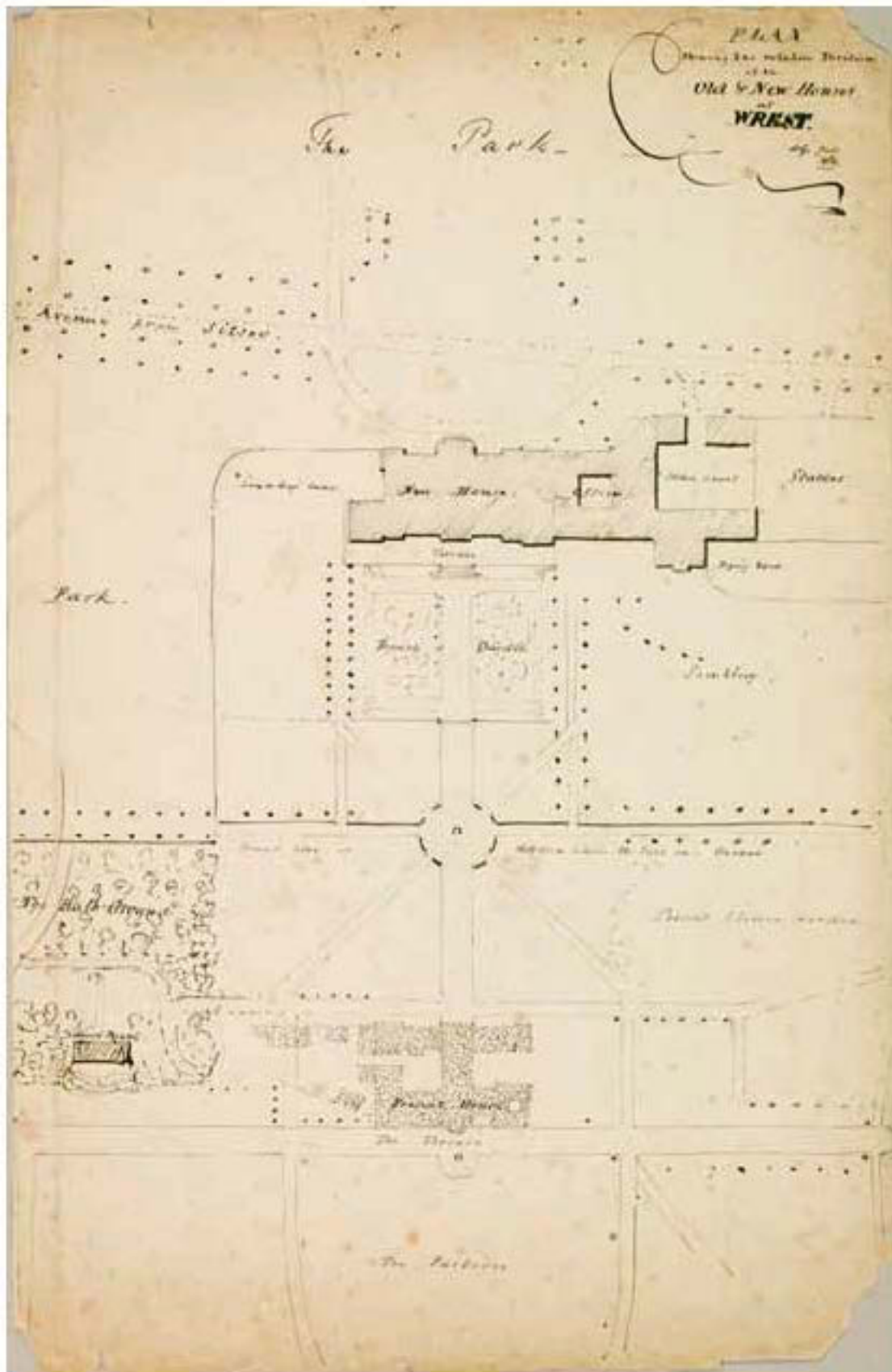


Figure 109 'Plan showing the relative positions of the old and new houses at Wrest', Earl de Grey 1834, (BLARS L33/150, Patricia Payne © English Heritage DPI 10942)

of the service buildings to the east is different. The layout of the gardens is also different to today but that could be due to changes in the layout for which the evidence has been lost. However taken together it would seem unlikely that the details in this view can be relied upon, particularly where not supported by other evidence.

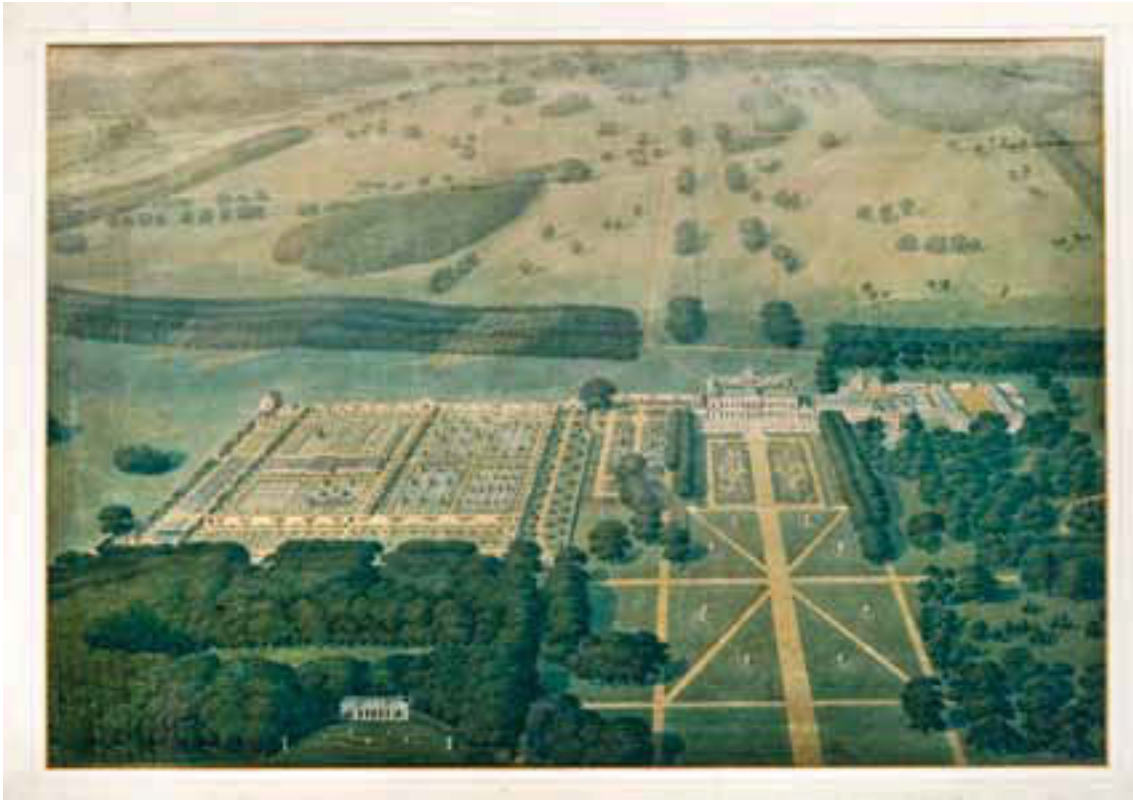


Figure 110 Bird's-eye perspective view of Wrest Park, probably after 1834 (from a private collection, image © English Heritage DP087433)

Parterre designs 1830s

Figure 111 and Figure 112 overleaf.

The first design, shown in Figure 111, would appear to be identical with that shown in Figure 110 above and so is probably broadly contemporary. It is well drawn and in good condition suggesting little use. The second design on the other hand (Figure 112), is rather more rushed than the first, not coloured and somewhat battered suggesting use. It is almost as implemented which suggests that it is later than the first. It is interesting to note that the former design approximately mirrors the design of the railings on the balconies and the terrace of the house, whereas the latter reflects the railings on the wall to the south of the parterre.

Buckler's sketches, 1838

figure 113 and figure 114 overleaf

These sketches of the old house at Wrest Park are clearly signed and dated by Buckler; 1838. Figure 113 shows a view of the old house from the north-east. It is clear that the



Figure 111 Watercolour design for the parterre, east panel, north and house to the left (BLARS L33/209/2, Photo: Patricia Payne © English Heritage DPI 10946)



Figure 112 Ink sketch of alternative parterre design, west panel, north and house to the left (BLARS L33/209/1 Photo: Patricia Payne © English Heritage DPI 10943)



Figure 113 Watercolour sketch entitled 'North east view of the remains of the old house, Wrest Park, Bedfordshire' and signed 'J Buckler 1838' (BLARS L33/218)



Figure 114 Watercolour sketch entitled 'South view of the remains of the old house, Wrest Park, Bedfordshire' and signed 'J Buckler 1838' (BLARS L33/216)

entire north front has been demolished as well as the chapel and the central block. All that remains are parts of the south and south-west ranges and the building housing the clock tower. Figure 114 shows a view of the old house from the south-west. It can be seen that only the western part of the south range and the grand dining hall remain. The wooden weatherboarding on the gable end visible to the left in Figure 113 shows where the connection with the demolished section had been rather hurriedly closed off.

Map of Wrest Park showing the old house with a plan of the new house added about 1840

Figure 115.

The original map is very similar to Figure 104. The building shown in red to the north-east of the house (to the right of 'DOMAIN') would appear to be one of the buildings shown on that map but only one of the two buildings shown to left and right of the curving drive in front of the house is shown here. This contradicts Figure 105 which shows both these buildings surviving but does not record a building in the park to the north-east. As noted above both patterns of removal cannot be correct and it is difficult to know which map is the more likely to be accurate but this is rather better drawn and inspires more confidence. In either case the original map probably dates to soon after 1809. To the north of the old house, a layout for the new house has been sketched in. This shows the house, walled garden and service buildings roughly as built (compare this plan to the view in Figure 110) so probably added after construction, perhaps in the late



Figure 115 Detail of map (BLARS L33/9, Patricia Payne © English Heritage DPI 10956)

1830s.

Two anonymous sketches of about 1840

Figure 116 and Figure 117 overleaf

These appear to be in the style of Earl de Grey. They seem to be actual sketches; compare Figure 116 with Figure 164 which shows a substantial wall with classical niche at the east end of the terrace (though the birds-eye perspective design view, Figure 110 omits this). If this is correct then they must post-date Buckler's sketches of 1838 as the old house has been completely demolished. Neither appears to show the parterre, perhaps recording a period after the house was complete but before the parterre was laid out, which is suggested by the redesign implied by the two parterre designs above.

Enclosure map of 1862/3

Figure 118 overleaf.

This is a rather simple map and shows little development in the landscape around Wrest Park other than the removal of the old house and its replacement with the new. In general it is very similar to Figure 115, including the representation of the new house.

Historic Ordnance Survey 6 inch and 25 inch maps 1882 - 1924

For completeness the details of the early editions of the 6 inch and 25 inch Ordnance Survey maps are given below (information from Oliver 1991, ix, 76)

All are Bedfordshire, 6 inch sheet nos 22SW and 26NW, 25" sheet nos 22.13, 14 and 26.1, 2, 5, 6.

1st edition/Epoch 1: survey 1876-82, relevant sheets published 1882 (26)/1883 (22)

2nd edition/Epoch 2: revised 1898-1900, published 1901

3rd edition/Epoch 3: revised 1921-4 (an incomplete revision with some further urban revision 1936-43), published 1924 (sheet 26 only)

Bedfordshire was revised/resurveyed on National Grid sheetlines 1968-80



Figure 116 *Wrest House from the SSW, anonymous and undated (BLARS L33/229, with permission)*



Figure 117 *The South Lawns from the SSW with Wrest House in distance, anonymous and undated (BLARS L33/230, with permission)*

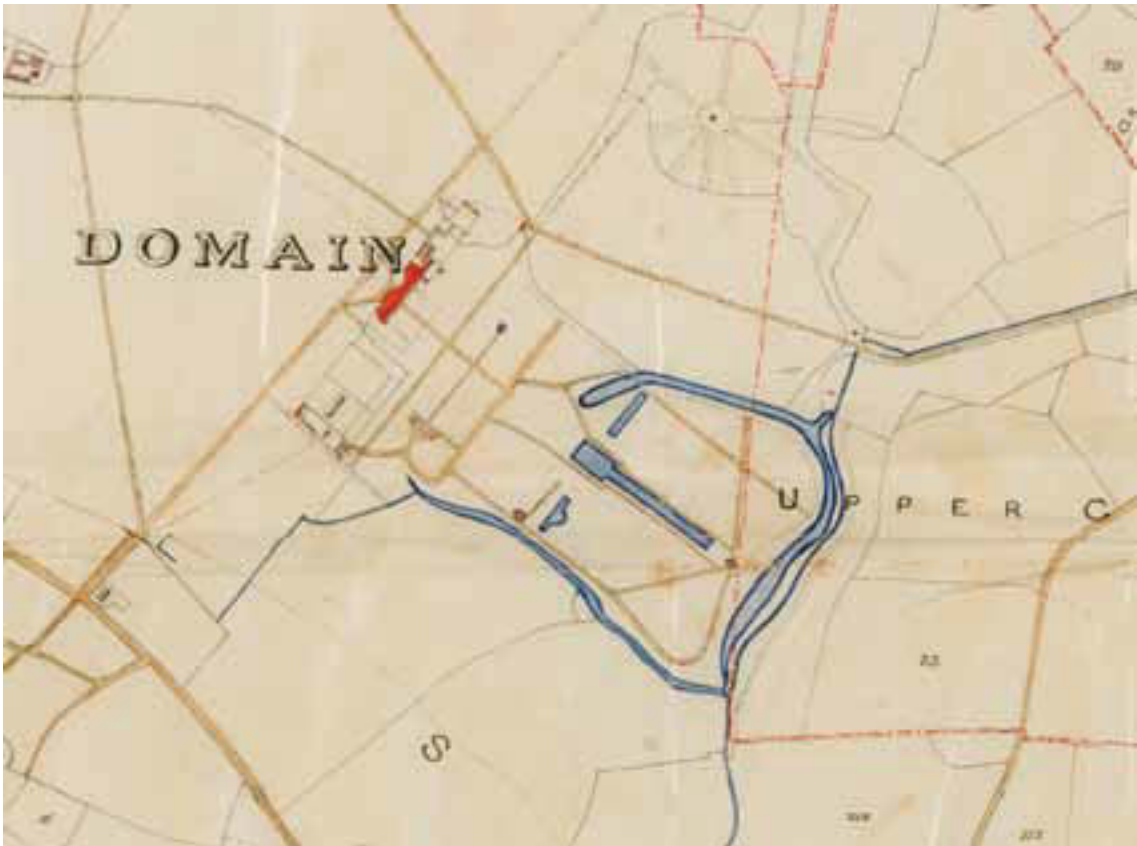


Figure 118 Detail of map attached to enclosure award of 1862, attachment dated 1863 (BLARS L22/68, Patricia Payne © English Heritage DPI 10949)

Appendix 4: Views of Wrest Park 1831



Figure 119 'Views of Wrest 1831: Chimney-piece in the old Banqueting room. Supposed about AD 1570' (Steve Cole, © English Heritage DPI 10016, by permission of a descendant of Thomas, Earl de Grey)

The majority of the album consists of pen and ink sketches accompanied by short panels of manuscript text, also in ink, describing what is shown. All the sketches are on a pinkish paper of uniform size and shape suggesting a single source, mounted on coarser grey paper in a leather bound book. The texts are on slightly smaller sheets of a more cream coloured paper suggesting a different source. Many of the sketches have grey slips of paper beneath with pencil notes typically indicating that what was shown had been 'pulled down'. Taken together they appear to have been a conscious effort to document the old house, gardens and park before the changes of the 1830s.

The frontispiece of the book (Figure 119) bears the date of 1831 set within an ornate fireplace, perhaps of Tudor date, presumably from the old house and now in The Orangery. The date is somewhat problematic however. Whilst all the sketches are internally consistent (apart from the last five, below) the sketches of the old house must pre-date Buckler's watercolours of 1830 which show that large parts of the house had

already been torn down. The pencil notes must post-date this since part of the south front that Buckler shows as standing in 1830 was annotated as 'pulled down'. It therefore seems likely that 1831 represents the date that the album was compiled from earlier, but recent, sketches. There then follows a key and map of the grounds (Figure 120) that serves to locate many of the following sketches. After this are four views of the old house from the north, south, east and west. These are followed by two views from the south side of the house south into the gardens and east towards Cain Hill, which are followed by views of the Archer Pavilion and Hill House, the foci of the previous sketches. Following these are nine sketches of the main garden buildings and one of the ferry then another nine of various monuments and other garden features, followed by a sketch of the obelisk on the edge of the park and two of bridges in the gardens. The album then moves on to the more functional estate buildings beginning with three sketches of various lodges, followed by the gardener's house, gamekeeper's house, stables, home farm, poultry yard and kennels and concludes with the outer gate on the Shefford road.

At the end of the album, after a blank page, are five views of the new house. These are unaccompanied by any text other than pencil descriptions beneath. They are on the same paper as the other sketches and would appear to be contemporary. There is reason to think that these are design sketches rather than an accurate record, not least that the date of the album (1831) precedes the date construction on the new house began (after 1834). Many of the sketches of the new house have discrepancies between what they show and what was built. These are perhaps clearest in Figure 164. Whilst the house appears to be shown accurately, its plinth is rather low and the conservatory has a simple pitched roof rather than a lantern as well as some decorative details not seen today. At the western (near) end the terrace simply opens out and there are two broad steps down from it. In fact there is a greater height difference than this and there are four steps forming a much narrower flight and the end of the terrace is defined by a curving wall, about a metre high that seems to be contemporary with the terrace itself. The east (far) end of the terrace appears to be closed off by a wall, several metres high, containing a classical niche with a statue that was never built. Within the parterre it should also be possible to see at least the north-west of the four statue groups forming the centre points of the design but this is not shown.

The following text is a transcript of the accompanying manuscript notes, images are not to scale.

'Plan of Wrest Park Gardens'

'Reference to the plan of Wrest Park Gardens

- A The House.
- B The Greenhouse.
- C The Bath.
- D The Bowling Green House.
- E The Vases in the Circles.
- F The Duchess of Kent's monument.
- G The Altar.
- H Hutton's monument.
- I The Root House.
- K The Old Bridge.

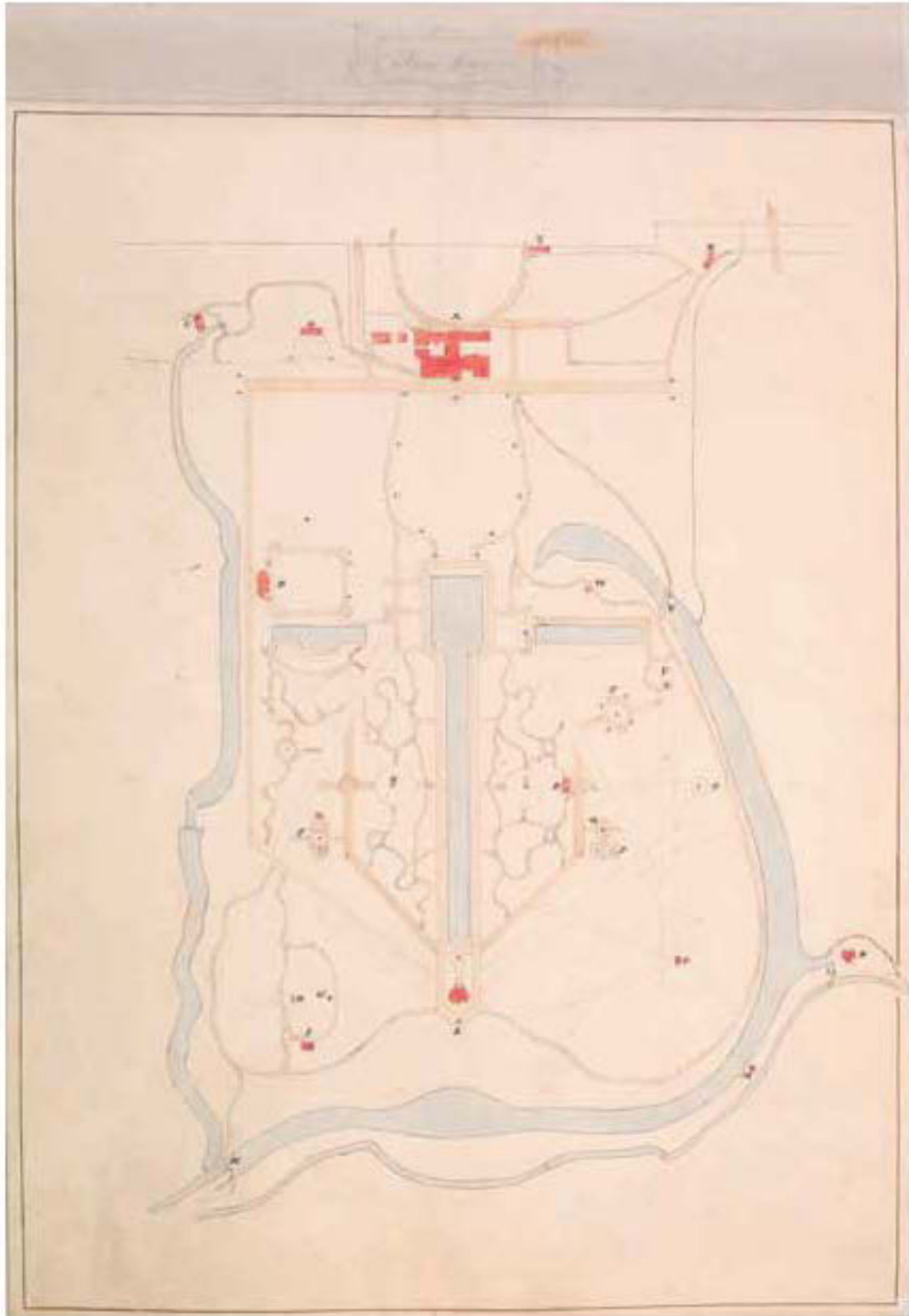


Figure 120 Plan of Wrest Gardens, note the new house added in pencil at the top (Steve Cole © English Heritage DPI 10018, by permission of a descendant of Thomas, Earl de Grey)

- L The Pavillion.
- M The Ferry.
- N The Gamekeeper's House.
- O My Lady's Alcove.
- P Lord Harold's monument.
- Q The Duke of Kent's monument.
- R The Temple of Diana.
- S The Dog's monument.
- T The Antique Altars.
- U The Rustic Column.
- V The Chinese Bridge.
- W The Chinese Temple.
- X The White Seat.
- Y The Gardener's House.'

North Front of the House [Figure 121]

This front of the house was built by the Countess of Kent commonly called the Good Countess, widow of Henry the Earl: and probably between the years 1655 and 1695. It was originally much more ornamented; in which state it continued in the Duke of Kent's Time as appears by an old plan in 1735.

A turret over the centre was removed by Phillip Earl of Hardwick after his marriage with the Marchioness Grey; probably about 1750. The front was completed as at present by Marchioness Grey in 1795.



Figure 121 'North Front of the House' in pencil beneath: 'now pulled down' (Steve Cole © English Heritage DPI 10020, by permission of a descendant of Thomas, Earl de Grey)

South Front of the House [Figure 122]

The eastern extremity is the old part. No record is in existence of the date of its erection. It was certainly much improved and decorated by the “Good Countess” previous to the year 1690. Some beautiful ceilings are still remaining.

The centre part with the bow window forming the great dining room, was built by the Earl of Hardwick about 1750 and the western extremity comprising the last three windows, by the Marchioness Grey as late as 1795.



Figure 122 ‘South Front of the House’ in pencil beneath ‘pulled down’ (Steve Cole © English Heritage DPI 10022, by permission of a descendant of Thomas, Earl de Grey)

East Front of the House [Figure 123]

The chapel, though without any present remains of antiquity, is probably the oldest part of the whole house. By some old manuscript memoranda preserved in the library, it would appear that there had originally been stained glass windows with armorial bearings – but none remain.

The space between the chapel and the rear of the north front was formerly closed up: and an apartment was prepared in that part of the building by the Duke of Kent for the expected reception of Her Majesty Queen Anne. Those rooms were pulled down by Marchioness Grey in 1795.

West Front and Back Yard [Figure 124]

The kitchen towards the right hand of the drawing is of very ancient date; tho’ nothing



Figure 123 'East Front of the House' in pencil beneath 'now pulled down' (Steve Cole © English Heritage DPI 10024, by permission of a descendant of Thomas, Earl de Grey)



Figure 124 'West Front and Back Yard' in pencil beneath 'pulled down' (Steve Cole © English Heritage DPI 10026, by permission of a descendant of Thomas, Earl de Grey)

positive is known about it.

The building with the clock turret is modern.

View from the House looking South [Figure 125]

The building at the end of the Canal is The Pavillion.

The Sun-dial in the foreground was placed there by Amabel Countess of Kent, and is an elaborate piece of workmanship upon a marble pedestal. It bears the date of 1682.



Figure 125 'View from the House looking South' (Steve Cole © English Heritage DPI 10028, by permission of a descendant of Thomas, Earl de Grey)

View from the Terrace, looking East [Figure 126]

The building on the Hill is that called Cain Hill House (Do) and is now pulled down.

The Terrace is 1300 feet long, by 40 feet wide.

The Pavillion [Figure 127]

This Building was erected by The Duke of Kent about the year 1710, from a design by Mr Archer, a pupil of sir John Vanburgh. It is highly decorated within, with columns of the Corinthian order in Chiaroscuro by Hauduroy, a French artist, whose name with the date 1712 remained til very recently, when the plaister becoming loose from the damp, it was obliterated.

The Statue in front is a leaden cast of King William III.



Figure 126 'View from the Terrace, looking East' (Steve Cole © English Heritage DPI 10030, by permission of a descendant of Thomas, Earl de Grey)



Figure 127 'The Pavillion' (Steve Cole © English Heritage DPI 10032, by permission of a descendant of Thomas, Earl de Grey)

The Hill-House [Figure 128]

This was erected by The Duke of Kent from a design of Mr Archer's about the year 1715. It contained a very handsome octagon saloon with several smaller rooms: and the view from the roof was very extensive.

The foundations were unfortunately ill laid, in a bad soil: and the whole building became so insecure, and so incapable of substantial repair, that it was taken down in the year 1830.



Figure 128 'The Hill-House', in pencil beneath; 'now pulled down' (Steve Cole © English Heritage DPI 10034, by permission of a descendant of Thomas, Earl de Grey)

The Bowling-Green House: East Front [Figure 129]

Built by the Duke of Kent, from a design of Lord Burlington's: the precise date is unknown: but it is noticed on an old plan of 1735.

It contains a handsome banqueting room of 35 feet long, by 20 wide.

The Bowling-Green House: West Front [Figure 130]

The Terrace here with the Canal, are the western boundary of the Gardens, looking into the "old Park", where there are some very fine old oaks, and which was originally the Deer Park until the time of the Duke of Kent.



Figure 129 'The Bowling-Green House: East Front' (Steve Cole © English Heritage DPI 10036, by permission of a descendant of Thomas, Earl de Grey)



Figure 130 'The Bowling-Green House: West Front' (Steve Cole © English Heritage DPI 10038, by permission of a descendant of Thomas, Earl de Grey)

The Green-House [Figure 131]

This was one of the latest works of the duke of Kent who died in 1740.

It is said to have been from a design of Lord Burlington: and is in a grotesque style built of the sand stone of the country combined with vitrified brick.

The Statues at the lower part of the mound were placed there by the Earl of Hardwicke.



Figure 131 'The Green-House', in pencil beneath; 'now pulled down' (Steve Cole © English Heritage DPI 10040, by permission of a descendant of Thomas, Earl de Grey)

The Bath-House [Figure 132]

Was built by the Earl of Hardwicke – but the precise date is not known.

It was supplied by pipes from a spring in the neighbourhood, which was supposed (now believed erroneously) to have some Chalybrate quality.

The Temple of Diana [Figure 133]

So called from a statue of Diana placed in it. It was built by the Duke of Kent at the time of the original formation of the Gardens



Figure 132 'The Bath-House' (Steve Cole © English Heritage DPI 10042, by permission of a descendant of Thomas, Earl de Grey)



Figure 133 'The Temple of Diana', in pencil beneath; 'now pulled down' (Steve Cole © English Heritage DPI 10044, by permission of a descendant of Thomas, Earl de Grey)



Figure 134 'My Lady's Alcove' (Steve Cole © English Heritage DPI 10046, by permission of a descendant of Thomas, Earl de Grey)



Figure 135 'The Root House' (Steve Cole © English Heritage DPI 10048, by permission of a descendant of Thomas, Earl de Grey)

My Lady's Alcove [Figure 134]

So called in the old plan of 1735. It has also gone by the name of The Miller's Seat; and Harlequin's Seat, from the leaden casts of figures which at one time were placed in the niches – They have since been removed.

The Root House [Figure 135]

This was built by the Earl of Hardwicke, from a design by a Mr Edwards: the date not known.

The Chinese Temple [Figure 136]

Was built by Lord Hardwicke, from a design by Sir Willm Chambers: It was built after Mr Brown's alterations of the Gardens in 1760; but the date is not exactly known.



Figure 136 'The Chinese Temple' (Steve Cole © English Heritage DPI 10050, by permission of a descendant of Thomas, Earl de Grey)

The White Seat [Figure 137]

The materials of which this seat is composed, originally formed the covered passage across the Court-yards, from the entrance archway to the stone hall. This was taken down by Marchioness Grey when she built across that court upon her great alterations in 1795, and removed to its present situation.



Figure 137 'The White Seat' in pencil beneath; 'now removed' (Steve Cole © English Heritage DPI 10052, by permission of a descendant of Thomas, Earl de Grey).

The Ferry [Figure 138]

The building across the water, was moved to its present situation in the year 1828 in order to form an object in looking down the long grass walk from My Lady's Canal.

The Duke of Kent's Monument [Figure 139]

This was erected in the Duke's lifetime, and bears upon one side an inscription stating that these Gardens were begun in the year 1706 and at several times altered, and adorned to the 1740: the year of his death. It was therefore probably built merely to commemorate the formation of the Gardens: and was applied to the purpose of a monument by the Duchess after his death. It has a marble tablet with his arms and an inscription to his memory.



Figure 138 'The Ferry' (Steve Cole © English Heritage DPI 10054, by permission of a descendant of Thomas, Earl de Grey)



Figure 139 'The Duke of Kent's Monument' (Steve Cole © English Heritage DPI 10056, by permission of a descendant of Thomas, Earl de Grey)

The Duchess of Kent's Pillar [Figure 140]

This bears an Inscription to the Memory of Jemima Duchess of Kent; and a tablet with the arms of Grey and Crewe.

The statue was probably placed there at a late period. It is not noticed in the plan of 1735.



Figure 140 'The Duchess of Kent's Pillar' (Steve Cole © English Heritage DPI 10058, by permission of a descendant of Thomas, Earl de Grey)

Lord Harold's Monument [Figure 141]

These urns bear Inscriptions to the memory of Anthony Earl of Harrold, the eldest son, and to lady Glenorchy eldest daughter of the Duke of Kent.

'They both died before the Duke: and as in the plan of 1735, this part of the Gardens is only called "The Duke's Square" it is probable that the monumental Inscriptions were not placed there till after his death.



Figure 141 'Lord Harold's Monument' (Steve Cole © English Heritage DPI 10060, by permission of a descendant of Thomas, Earl de Grey)

The Rustic Column [Figure 142]

This was originally erected in the time of Lord Hardwicke by the architect who built the Bath House, as an object to look at from thence.

It was removed by the Countess de Grey in 1828 to its present situation and bears the following Inscription.

'These Gardens originally laid out by Henry Duke of Kent, were altered and improved 'by Phillip Earl of Hardwicke, and Jemima marchioness Grey, with the professional assistance of Lancelot Brown Esq in the years, 1758, 1759 and 1760.'

Hutton's Monument [Figure 143]

This bears an Inscription stating that it was erected by Henry Duke of Kent to the memory of his friend Thomas Hutton, whose society he had often enjoyed in these Gardens. It is marked in the plan of 1735, but nothing further is known respecting it.

The Altar [Figure 144]

This was erected by the Earl of Hardwicke, as a sort of commemoration of a literary work by himself and friends, called The Athenian Letters.

The Inscription on one side in the oldest style of Greek monumental inscriptions, (the lines reading alternately from right to left) was written by Daniel Wray Esq one of the



Figure 142 Left: 'The Rustic Column' detail (Steve Cole © English Heritage DPI 10062, by permission of a descendant of Thomas, Earl de Grey)

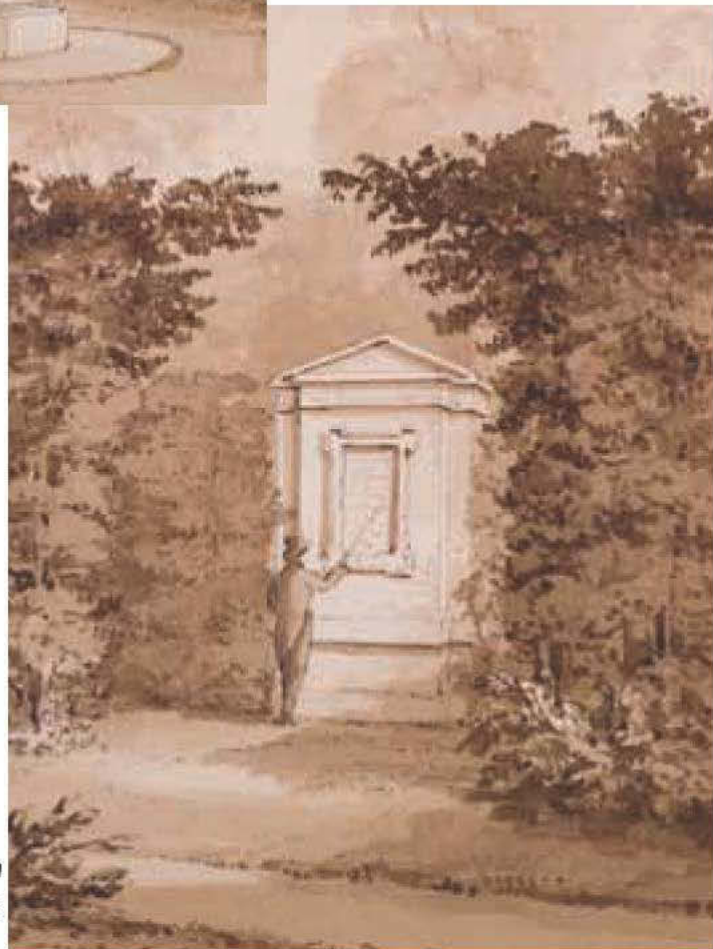


Figure 143 Right: 'Hutton's Monument' detail (Steve Cole © English Heritage DPI 10064, by permission of a descendant of Thomas, Earl de Grey)



Figure 144 'The Altar' (Steve Cole © English Heritage DPI 10066, by permission of a descendant of Thomas, Earl de Grey)

authors, with some allusion to the work. The Inscription on the other side is Persian: extracted from some book of Travels, but (it is believed) with no particular reference.

The Antique Altars [Figure 145]

These are believed to be genuine antique Greek altars. They were formerly the property of Topham Beauclere Esq at Muswell Hill near Barnet. But nothing is known as to whence he got them. Upon his death, they were purchased by the Countess de Grey, about 1817, and were placed in their present situation.

Vases in the Circles [Figure 146]

This vase, and a similar one in the corresponding Circle in the East quarter of the garden, were placed there by the Earl of Hardwicke.

They are finely executed in Portland Stone, with heads indicating the seasons, with festoons of fruit and flowers.



Figure 145 'The Antique Altars' (Steve Cole © English Heritage DPI 10068, by permission of a descendant of Thomas, Earl de Grey)



Figure 146 'Vases in the Circles' (Steve Cole © English Heritage DPI 10070, by permission of a descendant of Thomas, Earl de Grey)

The Dog's Monument [Figure 147]

This statue in Portland Stone was placed in its present situation by Lord Grantham in 1829, as an intended burying ground for favourite dogs.



Figure 147 'The Dog's Monument' (Steve Cole © English Heritage DPI 10072, by permission of a descendant of Thomas, Earl de Grey)

The Obelisk [Figure 148]

This was erected by The Duke of Kent, but the date is not known. It bears an Inscription "To the memory of the birth of George Earl of Harold son of the Duke of Kent by his 2nd wife Sophia". This child was born on August 22nd 1732, and died an infant.

The Old Bridge [Figure 149]

The present Bridge was erected on the same spot, and upon the same model as the one originally placed there, when the canal was lengthened by Lancelot Brown for Lord Hardwicke and Marchioness Grey about 1760.

The Chinese Bridge [Figure 150]

A Bridge was built upon the same scite as this, when the alterations in the Gardens by Lancelot Brown took place about 1758: but it fell down, and was replaced by the present bridge about 20 years after.

This is now so much decayed (1831) that it must be taken down.



Figure 148 'The Obelisk' (Steve Cole © English Heritage DPI 10074, by permission of a descendant of Thomas, Earl de Grey)

The Silsoe Lodges [Figure 151]

Built by the Countess de Grey in 1827, from a design by Lord Grantham.

The Shefford Lodge [Figure 152]

Built by the Countess de Grey in 1816, from a design by Lord Grantham.

The Gravenhurst Lodge [Figure 153]

The Park was enlarged in the year 1828 by the Countess de Grey: and this Lodge was built in 1830, after a design by Lord Grantham.

The Gardeners House [Figure 154]

in the Flower Garden. From an old plan dated 1735, it is believed that it was originally the Green-House, previous to the erection of the present building.



Figure 149 'The Old Bridge' (Steve Cole © English Heritage DPI 10076, by permission of a descendant of Thomas, Earl de Grey)



Figure 150 'The Chinese Bridge' in pencil beneath; 'became unsafe - and has been replaced by one of the same simple design' (Steve Cole © English Heritage DPI 10078, by permission of a descendant of Thomas, Earl de Grey)



Figure 151 'The Silsoe Lodges' (Steve Cole © English Heritage DPI 10080, by permission of a descendant of Thomas, Earl de Grey)



Figure 152 'The Shefford Lodge' (Steve Cole © English Heritage DPI 10082, by permission of a descendant of Thomas, Earl de Grey)



Figure 153 'The Gravenhurst Lodge' (Steve Cole © English Heritage DPI 10084, by permission of a descendant of Thomas, Earl de Grey)



Figure 154 'The Gardeners House.' (Steve Cole © English Heritage DPI 10086, by permission of a descendant of Thomas, Earl de Grey)



Figure 155 'The Gamekeeper's House' (Steve Cole © English Heritage DPI 10088, by permission of a descendant of Thomas, Earl de Grey)



Figure 156 'The Stables', in pencil beneath; 'pulled down' (Steve Cole © English Heritage DPI 10090, by permission of a descendant of Thomas, Earl de Grey)

The Gamekeeper's House [Figure 155]

Commonly called White Hall.

The Stables [Figure 156]

Were erected by the Earl of Hardwicke: but the date is not known.

The Farm [Figure 157]

This has been the Home Farm since the year [gap] when the park was enlarged.



Figure 157 'The Farm' (Steve Cole © English Heritage DPI 10092, by permission of a descendant of Thomas, Earl de Grey)

The Poultry Yard [Figure 158]

'was built in the year [gap] behind the Home Farm.

The Dog Kennell [Figure 159]

'was built in 1830.

The Outer Gate on the Shefford Road [Figure 160]



Figure 158 'The Poultry Yard', in ink on a slip of blue paper beneath; 'The poultry are too Large' signed 'S Bell' (Steve Cole © English Heritage DPI 10094, by permission of a descendant of Thomas, Earl de Grey)



Figure 159 'The Dog Kennel' (Steve Cole © English Heritage DPI 10096, by permission of a descendant of Thomas, Earl de Grey)



Figure 160 'The Outer Gate on the Shefford Road', in pencil beneath; 'The roads removed to another lane and the gate done away' (Steve Cole © English Heritage DPI 10098, by permission of a descendant of Thomas, Earl de Grey)

Design sketches for the new house



Figure 161 'North front of the new house, looking eastwards!' in pencil beneath (Steve Cole © English Heritage DPI 10100, by permission of a descendant of Thomas, Earl de Grey)



Figure 162 'North front of the new house, looking westwards.', in pencil beneath (Steve Cole © English Heritage DPI 10100, by permission of a descendant of Thomas, Earl de Grey)



Figure 163 'South front of the new house: from the site of the old one!' in pencil beneath (Steve Cole © English Heritage DPI 110102, by permission of a descendant of Thomas, Earl de Grey)



Figure 164 'South front of the new house' in pencil beneath (Steve Cole © English Heritage DPI 110103, by permission of a descendant of Thomas, Earl de Grey)



Figure 165 'West end of the new house – conservatory and private garden!' in pencil beneath (Steve Cole © English Heritage DPI 10104, by permission of a descendant of Thomas, Earl de Grey)

Appendix 5: Methodologies

Overall project

Aims

The main aims and objectives of the project evolved somewhat through each of the three main stages, but they have largely remained consistent; rather than being fundamentally changed they have been refined and added to. Therefore the aims as stated in the Project Design for Stage 3 (Cocroft 2011, 8-9) are representative of those for the whole project.

Aim 1: To achieve a better understanding of the development of the designed landscape, the park and formal gardens, and the buildings, surviving and missing, within that landscape

Objective 1.1: Discover if we can understand the development of the pre-garden landscape and how this influenced the design of the gardens.

Objective 1.2: Establish if we can distinguish between the different chronological elements of the gardens.

Objective 1.3: To accurately locate the 'lost' elements of the gardens and to document their form.

Objective 1.4: To identify and document post-war changes to the garden that may be reversed during the repair programme.

Aim 2: To achieve a better understanding of the location and nature of former garden paths, in particular those in the woodland areas.

Objective 2.1: Establish if we can through map regression locate the routes of lost paths.

Objective 2.2: Through probing and limited excavation confirm their position and the character of their surfaces.

Aim 3: To create a project Geographic Information System.

Objective 3.1: That at the end Stage 3 there will be a project GIS to support the landscape repair, interpretation and presentation of the landscape.

Objective 3.2: Ensure that all excavation survey data and parterre plans are compatible with the project GIS.

Aim 4: To achieve a better understanding of the archaeological remains in the park and to accurately locate these within the project GIS.

Objective 4.1: What is the extent of archaeological remains in the park and its environs?

Objective 4.2: To determine what opportunities and constraints these remains present?

Aim 5: Through excavation to provide information for the representation of the parterre as originally set out.

Objective 5.1: To identify and document changes to the parterre that may be reversed during the repair programme.

Objective 5.2: Produce digitised plans that will inform the construction of metal edging that mirror the original historic design.

Aim 6: Through excavation to achieve a better understanding of the historic design of the parterre.

Objective 6.1: To discover if the current planting scheme is a surviving element of the original plan.

Objective 6.2: Establish if we can any different chronological elements within the parterre.

Objective 6.3: To accurately locate the 'lost' elements of the parterre and to document their form.

Objective 6.4: To recover from the excavation any evidence of the original make-up of the paths.

Aim 7: To provide information for the design of the repair of the landscape and the future management of the estate.

Objective 7.1: That as a result of the investigations and timely reporting a better understanding of the landscape will contribute to the repair and presentation of the landscape and the improved management of the property, for example by identifying constraints on and opportunities for development, and opportunities and priorities for future presentation and repair projects.

Note that Aims 5 and 6 were added in Stage 3 and consequently Aim 7 above was previously (in Stages 1 and 2) Aim 5.

Methodology

As described above this was a three stage project with the results of each stage informing the next.

Stage 1 comprised: some copying and digitising of historic maps; the initial setting up of the project GIS; initial processing of Lidar data; analytical aerial survey to National Mapping Programme (NMP) standards for the full survey area; earthwork survey of the Evergreen and French Garden; excavation of test pits in the walled garden and a probing survey to establish the location and form of the main garden paths (Cocroft 2009, 7-8). At the end of Stage 1 an interim report was prepared (Alexander and Small 2010).

Stage 2 comprised: continuing copying and digitising of historic maps and the further development of the GIS; earthwork survey of the areas surrounding the Archer Pavilion, the old house, Orangery, Horseshoe Paths and Lawn, and the possible bastion garden; geophysical survey of site of the old house and the Horseshoe Lawn; archaeological coring of the dam at the southern end of Long Canal; targeted excavations to determine the position, composition and edging of various paths; and an assessment of the roof structure of the main house (Cocroft 2010, 7-8).

Stage 3 comprised: the completion of the copying and digitising of historic maps; compilation of the final project GIS; excavation of the parterre; and the compilation of Research Report on Stages 1, 2 and 3 (Cocroft 2011, 5).

Detailed descriptions of the methodologies employed for each piece of work will be given where the results of that work are described below. The exception is the geophysical report which has already been published as a part of English Heritage's Research Department Report Series (Linford 2011), the results of which will be summarised here.

At all stages comprehensive ground photography was undertaken in order to document the changes taking place in the gardens and house.

Scope

Chronologically the main focus of the project was on understanding and explaining the current designed landscape including elements from previous layouts. Since the earliest record of any formal gardens at Wrest Park dates from the mid-17th century the primary focus for the project is from this date to the present. However the old house probably had a medieval origin, a park is first mentioned in 1315 and the site was moated by 1516, so it will clearly be necessary to examine the medieval and Tudor periods in order to explain the origins of the estate.

The geographical scope of the project varied with the techniques applied and questions they were intended to answer. In order to place the house, gardens and park in their landscape context the full project area consisted of a 6x6 km square based upon the national grid and approximately centred upon Wrest Park House (Figure 166). The bottom left corner of this square was at NGR TL 060 330 and the top right corner at TL 120 390. This formed the basis for the area covered by the desk-based archaeological analysis but in order to explain the origins of the estate it may be necessary to look further afield since, for example, the de Grey family acquired Ampthill Castle around 1454. The same area also formed the basis of the aerial photographic element of the project, though the lidar survey was restricted to the area of the Registered Park and Garden, and the project GIS. More detailed work, including topographic survey, geophysics and sub-surface investigations were restricted to the historic gardens. These are largely defined by the house, associated service buildings and walled garden to their north and on their remaining sides by the encircling waterways. There are however a few elements lying outside this area, technically within the wider park. Topographic survey, geophysics and below ground investigations were restricted to this area.

Aerial Photography

The NMP project was based on English Heritage Archive (EHA) vertical and oblique aerial photograph collections: EHA Enquiry and Research Services, English Heritage, The Engine House, Fire Fly Avenue, Swindon, SN2 2EH; Telephone +44(0)1793 414600; Email: archive@english-heritage.org.uk.

The project was carried out in collaboration with Cambridge University Collection of



Figure 1.66 Main project area (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014)

Aerial Photography (CUCAP), their contribution being the loan of vertical and oblique aerial photographs: CUCAP, University of Cambridge, Department of Geography, Downing Place, Cambridge CBQ 3EN; Telephone +44(0)1223 333387.

The lidar data and a set of orthophotos were commissioned by English Heritage for the project from Infoterra: Infoterra, Europa House, The Crescent, Southwood, Farnborough, Hampshire, GU14 0NL.

Sources

The sources for the aerial survey included over 1000 aerial photographs covering the whole survey area and lidar data which covered the extent of the registered park. The aerial photographs comprised vertical cover (653 prints) and specialist oblique cover (334 prints) from the EHA. The vertical photographs were not taken to record archaeological features and as a result the date and time of the photography does not necessarily

coincide with the best conditions to identify such features. In addition to this, many of the earlier vertical photographs were of too poor quality and scale to be of benefit to the survey. However they do provide comprehensive cover of the survey area at regular intervals from the mid-1940s to the 1970s. The specialist oblique photographs of Wrest Park were taken for archaeological and architectural purposes, focusing on specific areas of the park. This targeted approach proved useful where structures associated with the earlier house and gardens were revealed by especially severe parching in the summer of 1994. Oblique aerial photographs (102 prints) were also borrowed from the Cambridge University Collection of Air Photographs (CUCAP) which is curated by the Department of Geography.

The lidar data used was commissioned by English Heritage from Infoterra for the core area of the survey, centred on Wrest Park. The lidar data was collected on 5th April 2009 at resolution of 1m with an accuracy of +/- 10-15cm. First return and last return and filtered digital terrain model (DTM) data was supplied. The first return records the first solid objects struck by the scanning laser beam – tree tops, bushes etc which reflect the beam back to the sensor. The rest of the beam continues on towards the ground before bouncing back – this is the last return. In open areas the first and last return are virtually identical, but in wooded areas the first return includes the tree canopy. The last return represents the ground surface, but does include potential 'blank' areas corresponding to dense undergrowth and tree trunks. The filtered DTM data was created digitally by processing to remove traces of vegetation and other features above the ground surface creating a 'bare earth' model.

Aerial photographs taken during the Infoterra lidar survey flight, and the collection of relatively recent vertical photographs held by Google Earth were also consulted.

Methodology

The aerial photographic survey used English Heritage National Mapping Programme (NMP) methods enhanced to meet the needs of the multi-disciplinary project. The objective of NMP is to enhance our understanding of past human activity by identifying, interpreting and transcribing archaeological features dating from the Neolithic to the 20th century that are visible as cropmarks, soilmarks or earthworks on aerial photographs (Horne 2009).

Aerial photographs with relevant archaeological features were scanned and then transformed and georeferenced using the AERIAL 5.29 Photograph Rectification programme designed by John Haigh at the University of Bradford. Control information was obtained from digital copies of Ordnance Survey 1:2500 scale maps and digital terrain models were created from the Ordnance Survey Land-Form Profile digital height information. This ensures a positional accuracy of mapped features to within +/-3m of true ground position. The rectified aerial photographs were imported into Autodesk Map 2007 and archaeological detail was transcribed using the appropriate layers and conventions (see Figure 167).

The georeferenced lidar DTM tiles were imported into Autodesk Map 2007 where the height of earthworks and the angle from which they were lit could be manipulated

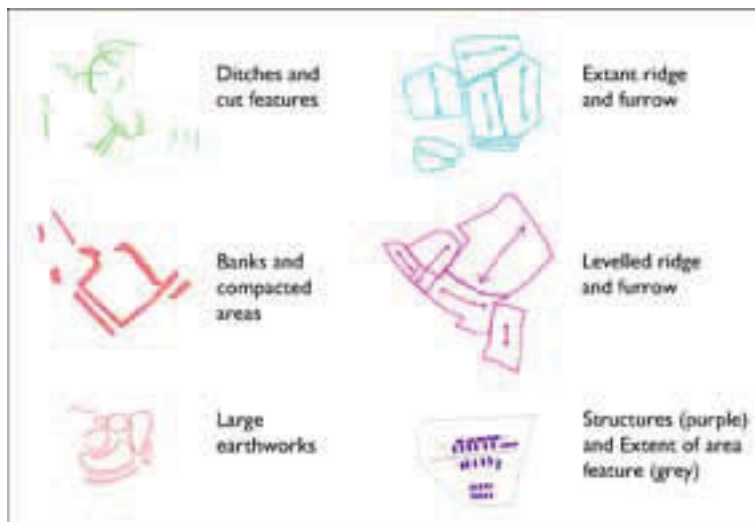


Figure 167 Mapping conventions.

allowing slight features to be detected. Archaeological features were transcribed using the same layers and conventions as those used for features derived from aerial photographs.

Monument records were created in the NRHE for all newly discovered archaeological features. Existing NRHE monument records were updated or revised where more information could provide a better understanding of the feature or site. A list of these modified or added records is given in Appendix 6. Cross references were made to relevant records in the Bedfordshire Historic Environment Record database. Each NRHE monument number is attached to the relevant transcription within Autodesk Map along with basic period, classification, form, and photographic source. The monument records are available on the English Heritage corporate GIS (WebGIS) and the English Heritage public access website Pastscape (www.pastscape.org.uk).

The project archive, including digital copies of the transcriptions and associated monument records, is available from the EHA Swindon.

Archaeological scope of the survey

All earthworks, plough levelled features, buried remains and structures of archaeological significance were mapped. Buried remains may appear as cropmarks and parchmarks due to the effect that sub-surface structures, such as cut features, walls and compacted surfaces, have on the growth of the grass or crop above. Buried ditches can cause stronger growth due to retained moisture and depth of soil which is manifested in a colour or height difference in the crop or grass. The shallower soils over buried walls etc can result in poorer growth, or parching, in dry periods because less moisture is retained and roots are shallower. Soilmarks are tonal differences between the soil of buried features and the surrounding soil which has been exposed or dragged to the surface and spread by the plough. Buildings and structures of archaeological significance not already depicted on the OS base map were also mapped. Areas of medieval or post medieval ridge and furrow were mapped indicating the extent and direction of the furrows. The traces of former field boundaries identified on earlier editions of OS maps were not recorded.

Analytical Earthwork survey

Three main survey methods were used; Global Positioning System (GPS), Total Station Theodolite (TST), and graphical. GPS survey is the fastest of the three techniques but requires clear sight of the sky so that a fix on the satellites may be obtained and is therefore relatively ineffective close to trees and buildings. In this situation TST survey was preferred but this requires clear line of sight between the station and surveyor which is not always possible, particularly amongst dense trees and worse when in leaf. Therefore in some situations graphical survey was used as it is possible to work without line of sight. It was also used where the earthworks were particularly subtle and for some for minor areas of infill.

Global Positioning System (GPS)

Detail was surveyed using a Trimble R8 survey grade GNSS receiver working in Real Time Kinematic (RTK) mode with points related to an R8 receiver configured as an on-site base station. The position of the base station had previously been adjusted to the National Grid Transformation OSTN02 via the Trimble VRS Now Network RTK delivery service. This uses the Ordnance Survey's GNSS correction network (OSNet) and gives a stated horizontal accuracy of 0.01-0.015m per point, vertical accuracy being about half as precise. The survey data was downloaded into Korec Geosite software to process the field codes and the data transferred to AutoCAD software for plotting out for graphical completion in the field.

Total Station Theodolite (TST)

Some areas were surveyed using a Trimble 5600 Total Station Theodolite by taking radiating readings from each station on a network of stations. The number of stations varied depending upon the requirements of the survey. Where the survey was principally to be TST based (i.e. around the Archer Pavilion) the stations were surveyed in sequence to form a closed traverse. The traverse(s) were adjusted for errors using Korec's Geosite software. After adjustment the data was transformed to Ordnance Survey National Grid by adjusting the positions of the stations to the National Grid Transformation OSTN02 obtained by a Trimble R8 survey grade GNSS receiver. Elsewhere, typically for infill survey, individual stations were set up using temporary pegs that had been surveyed in using the Trimble R8. The Ordnance Survey National Grid coordinates of each station were then entered directly into the TST and the data processed in Geosite before being transferred to AutoCAD. There was no need to transform these surveys as they were already in National Grid coordinates. Overall accuracy is comparable to GPS though, unlike GPS, reduces with length of traverse and distance between surveyor and station.

Graphical survey

In areas of complex or subtle earthworks detail was supplied using standard graphical techniques of offset and radiation from known points. An existing survey (Atkins 2007) was plotted on to polyester drawing film at the elected scale of 1:500 for use in the field as the survey base. The completed graphical survey was scanned and then georeferenced in AutoCAD. The surveyed detail was 'traced' within AutoCAD to maximise the accuracy. This was estimated to be approximately +/- 0.1m.

Areas surveyed

The areas of the garden surveyed, and the methods used in each are detailed below and shown on Figure 6.

The Evergreen Garden, the area to west of the croquet lawn area, defined by the Broadwalk to the north, the Bowling Green to the south, a modern triple avenue to the east and a north/south track to the west, was surveyed by GPS with some TST infill in March 2009 at a nominal scale of 1:500.

The area close to the house, to the north Butcher's Row, was surveyed graphically over a week in February 2010 at a scale of 1:500.

The area around the Archer Pavilion, including the dam retaining the Long Canal, was surveyed using both TST and GPS in July 2010 at a nominal scale of 1:500.

A small TST survey, at a nominal scale of 1:1000, was undertaken on a possible bastion garden in the area to the east of the weir dividing the Upper West River from the Lower West River in October 2010.

The remainder of South Lawns consisting of the four lawns around the central Marble Fountain, between Burcher's Row to the north and Broadwalk to the south, was surveyed using GPS in April 2011 at a nominal scale of 1:500.

The area of The Orangery, from the path running due south to the Evergreen Garden east to the South Lawns, north to Butcher's Row and back west to the first area of shrubs south of the south gate to the walled garden, was surveyed graphically at a scale of 1:500. The southern half was surveyed in August 2010 and the northern half in March 2011.

The area around the croquet lawns, between the Broadwalk to the north and Long Canal to the south, and west of the eastern Horseshoe Path as far as the Evergreen Garden, was surveyed in September and October 2010 using a combination of TST and GPS at a nominal scale of 1:1000.

Appendix 6: Index of NRHE monument records updated or added as part of the aerial photographic survey

Existing records (updated)

NRHE MonUID	Period	Term	NGR centre
362471	MEDIEVAL/POST MEDIEVAL	MOAT/FISHPOND/ HOMESTEAD	TL 1156 3542
362485	EARLY MEDIEVAL	ENCLOSURE/DRAIN	TL 118 350
"	MEDIEVAL	FORTIFIED MANOR/HOUSE	"
919935	MEDIEVAL	ENCLOSURE/FISHPOND/ RIDGE AND FURROW/ DESERTED SETTLEMENT	TL 108 349
360067	MEDIEVAL/POST MEDIEVAL	FISHPOND/MOAT/ MANOR HOUSE/ DITCH/ RIDGE AND FURROW	TL 073 343
362644	LATER PREHISTORIC	SETTLEMENT	TL 108 333
359987	MEDIEVAL/UNCERTAIN	MOAT	TL 0770 3623
360008	MEDIEVAL	MOTTE AND BAILEY	TL 0980 3740
1091365	EARLY MEDIEVAL/MEDIEVAL	DESERTED SETTLEMENT	TL 0980 3740
1091368	MEDIEVAL	MOAT/MANOR HOUSE/ RIDGE AND FURROW	TL 095 372
1382211	MED/PMED/STUART/GEORGIAN	COUNTRY HOUSE	TL 0912 3534

Newly recorded sites (added)

NRHE MonUID	Period	Term	NGR centre
1517911	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0745 3568
1517980	LATER PREHISTORIC	SETTLEMENT	TL 0739 3566
1517991	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0695 3622
1517993	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0786 3685
1518009	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0697 3694
1518013	UNCERTAIN	DITCH/BOUNDARY	TL 0623 3685
1518016	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0624 3791
1518017	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0609 3885
1518022	MEDIEVAL	RIDGE AND FURROW	TL 0895 3782
1518030	MEDIEVAL	RIDGE AND FURROW	TL 0769 3640
1518034	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0793 3610
1518035	MEDIEVAL/POST MEDIEVAL	HOLLOW WAY/DITCH	TL 0774 3615
1518037	MEDIEVAL/POST MEDIEVAL	BOUNDARY	TL 0763 3601
1518040	UNCERTAIN	DITCH	TL 0806 3663
1518047	MEDIEVAL/POST MEDIEVAL	DAM/LEAT/HOLLOWAY	TL 0657 3801
1518049	UNCERTAIN	WOOD BANK	TL 0780 3762
1518050	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0843 3615
1518053	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0879 3665
1518139	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0914 3624

NRHE MonUID	Period	Term	NGR centre
1518174	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0863 3501
1518191	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0941 3654
1518272	POST MEDIEVAL	DRIVE/TRACKWAY	TL 0845 3547
1518381	BRONZE AGE	ROUND BARROW	TL 0908 3765
1518388	BRONZE AGE	ROUND BARROW	TL 0914 3776
1518407	UNCERTAIN	DITCH/BANK	TL 0918 3780
1518420	POST MEDIEVAL/UNCERTAIN	FIELD BOUNDARY	TL 0929 3756
1518442	UNCERTAIN	DITCH	TL 0878 3714
1518449	SECOND WORLD WAR	HUT/AMMUNITION DUMP	TL 0862 3730
1518475	LATER PREHISTORIC	HUT CIRCLE/DITCH	TL 0951 3680
1518481	UNCERTAIN	DITCH	TL 0976 3684
1518485	UNCERTAIN	DITCH/ENCLOSURE	TL 0999 3674
1518532	POST MEDIEVAL	DRIVE/AVENUE	TL 0904 3596
1518537	LATER PREHISTORIC/UNCERTAIN	FIELD SYSTEM	TL 0848 3621
1518538	LATER PREHISTORIC/UNCERTAIN	FIELD SYSTEM	TL 0884 3591
1518545	LATER PREHISTORIC/UNCERTAIN	FIELD SYSTEM	TL 0984 3655
1518590	POST MEDIEVAL	DRIVE	TL 0932 3587
1519303	POST MEDIEVAL	DRIVE/AVENUE	TL 0977 3610
1519333	POST MEDIEVAL	DRIVE/AVENUE	TL 0952 3536
1519335	POST MEDIEVAL	DRIVE/AVENUE/WALK	TL 0944 3523
1519339	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0952 3543
1519341	LATER PREHISTORIC	FIELD SYSTEM/BOUNDARY	TL 0966 3570
"	ROMAN	FIELD SYSTEM/BOUNDARY	"
"	UNCERTAIN	BANK/BOUNARY	"
1519342	SECOND WORLD WAR	HUT	TL 0919 3569
1519343	SECOND WORLD WAR	HUT	TL 0987 3569
1519344	SECOND WORLD WAR	HUT/BUILDING/PATH	TL 0925 3549
1519345	POST MEDIEVAL	PLANTATION/MOUND	TL 0978 3540
1519347	POST MEDIEVAL	DRAIN/DITCH	TL 0983 3556
1519349	POST MEDIEVAL	DRAIN/DITCH	TL 1006 3543
1519358	POST MEDIEVAL	MOUND/MONUMENT	TL 0980 3540
1519365	POST MEDIEVAL	MOUND/BANK	TL 0841 3523
1519369	UNCERTAIN	RECTILINEAR ENCLOSURE	TL 0853 3557
1519452	LATER PREHISTORIC/UNCERTAIN	BANK/BOUNDARY	TL 0756 3556
1519465	POST MEDIEVAL	QUARRY	TL 0919 3628
1519472	POST MEDIEVAL	WOOD BANK	TL 0952 3637
1519502	MEDIEVAL/POST MEDIEVAL	WOOD BANK/ FIELD BOUNDARY	TL 0745 3525
1519507	MEDIEVAL/POST MEDIEVAL	FIELD BOUNARY	TL 0718 3511

NRHE MonUID	Period	Term	NGR centre
1519528	GEORGIAN	GARDEN PATH	TL 0900 3521
"	VICTORIAN	GARDEN MOUND/PATH	"
1519535	VICTORIAN	GARDEN PARTERRE	TL 0903 3553
1519539	STUART/GEORGIAN	AVENUE	TL 0910 3549
1519567	STUART/GEORGIAN	DRIVE	TL 0911 3541
1519582	JACOBEAN/GEORGIAN	DRIVE/PATH	TL 0904 3534
1519591	VICTORIAN	STATUE	TL 0906 3536
1519595	VICTORIAN	STATUE	TL 0906 3537
1519598	VICTORIAN	STATUE	TL 0916 3539
1519599	VICTORIAN	STATUE	TL 0916 3538
1519603	GEORGIAN/VICORIAN	STATUE	TL 0912 3530
1519606	JACOBEAN/GEORGIAN	GARDEN BORDER/WALL	TL 0912 3529
1519607	JACOBEAN/GEORGIAN	GARDEN PATH	TL 0913 3525
1519616	JACOBEAN/GEORGIAN	STATUE/ PARTERRE	TL 0909 3524
1519641	JACOBEAN/GEORGIAN	GARDEN	TL 0922 3536
1519647	JACOBEAN/GEORGIAN	STATUE/ PARTERRE/ FOUNTAIN	TL 0916 3525
1519649	POST MEDIEVAL	TREE MOUND/GARDEN	TL 0908 3527
1519656	POST MEDIEVAL	MOUND/STATUE	TL 0906 3532
1519665	POST MEDIEVAL	AVENUE/BORDER	TL 0905 3526
1519670	VICTORIAN	PATH	TL 0910 3545
1519675	POST MEDIEVAL	GARDEN PATH/ BORDER WALL	TL 0920 3540
1519679	POST MEDIEVAL	TREE MOUND/ MOUND/ GAR- DEN	TL 0904 3548
1519680	POST MEDIEVAL	MOUND/DITCH/BANK	TL 0902 3542
1519681	POST MEDIEVAL	PIT	TL 0896 3541
1519696	VICTORIAN	GARDEN/BORDER	TL 0914 3552
1519831	POST MEDIEVAL	PATH/GARDEN	TL 0907 3539
1519837	POST MEDIEVAL	PATH/WALL/GARDEN	TL 0915 3555
1519839	POST MEDIEVAL	PATH/WALL/BORDER	TL 0923 3556
1519859	POST MEDIEVAL/VICTORIAN	PLANTATION/GARDEN	TL 0916 3548
1519862	POST MEDIEVAL	GARDEN/BORDER	TL 0906 3548
1519923	POST MEDIEVAL	PIT/PLANTATION/GARDEN	TL 0902 3549
1519969	POST MEDIEVALVICTORIAN	PIT/PLANTATION/GARDEN	TL 0903 3547
1519975	POST MEDIEVAL	DITCH/BORDER/GARDEN	TL 0913 3548
1519994	POST MEDIEVAL	BANK/PATH	TL 0959 3505
1519997	POST MEDIEVAL	BANK/PATH	TL 0902 3512
1519999	MEDIEVAL/POST MEDIEVAL	DAM	TL 0737 3604
1520036	POST MEDIEVAL	BANK/GARDEN	TL 0913 3515
1520039	POST MEDIEVAL	DITCH/DRAIN	TL 0926 3522
1520042	POST MEDIEVAL	DITCH/DRAIN	TL 0891 3524
1517759	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0946 3310
1517796	MEDIEVAL	VILLAGE/ENCLOSURE	TL 0631 3450
1517800	MEDIEVAL	RIDGE AND FURROW	TL 0613 3432

NRHE MonUID	Period	Term	NGR centre
1517802	MEDIEVAL	RIDGE AND FURROW	TL 0638 3441
1517806	MEDIEVAL	RIDGE AND FURROW	TL 0661 3466
1517808	MEDIEVAL	RIDGE AND FURROW/BANK	TL 0668 3405
1517810	MEDIEVAL	RIDGE AND FURROW	TL 0741 3359
1517833	MEDIEVAL	RIDGE AND FURROW	TL 0881 3360
1517863	MEDIEVAL	RIDGE AND FURROW	TL 0930 3352
1517872	MEDIEVAL	RIDGE AND FURROW/ ENCLO- SURE/MOAT/HOMESTEAD	TL 0817 3404
1517882	MEDIEVAL	RIDGE AND FURROW	TL 0823 3413
1517923	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0752 3491
1517935	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 0946 3442
1517969	LATER PREHISTORIC	FIELD SYSTEM	TL 0970 3441
1517985	MEDIEVAL/POST MEDIEVAL	BANK/FIELD BOUNDARY	TL 0935 3430
1517987	UNCERTAIN	CURVILINEAR ENCLOSURE	TL 0739 3474
1518521	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW/WATER MEADOW	TL 0933 3460
1519376	POST MEDIEVAL	DRAIN/BANK	TL 0853 3429
1519419	POST MEDIEVAL	BOUNDARY/BANK/DITCH	TL 0828 3487
1519428	LATER PREHISTORIC	BOUNDARY/FIELD SYSTEM	TL 0852 3492
"	MEDIEVAL	BOUNDARY/BANK	"
"	UNCERTAIN	BOUNDARY/BANK	"
1519435	POST MEDIEVAL	BANK/DRAIN	TL 0873 3477
1519485	UNCERTAIN	FIELD BOUNDARY/ TRACKWAY	TL 0769 3454
1519987	GEORGIAN	PATH/GARDEN	TL 0917 3474
1518068	UNCERTAIN	FIELD BOUNDARY	TL 1183 3800
1518070	LATER PREHISTORIC	FIELD SYSTEM	TL 1080 3742
"	UNCERTAIN	FIELD BOUNDARY/DITCH/ WOOD BANK	"
1518079	LATER PREHISTORIC	FIELD SYSTEM	TL 1031 3736
"	UNCERTAIN	FIELD BOUNDARY/DITCH	"
1518089	LATER PREHISTORIC/ UNCER- TAIN	FIELD SYSTEM	TL 1047 3696
1518092	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1016 3695
1518096	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1115 3618
1518100	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1150 3620
1518103	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1185 3608
1518104	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1137 3641
1518106	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1174 3630
1518120	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1059 3534
1518220	MEDIEVAL	VILLAGE/ FIELD BOUNDARY/ RIDGE AND FURROW	TL 1093 3550
1518233	LATER PREHISTORIC	CURVILINEAR ENCLOSURE/ HOMESTEAD	TL 1141 3521

NRHE MonUID	Period	Term	NGR centre
"	MEDIEVAL	MOAT/HOMESTEAD	"
"	UNCERTAIN	CURVILINEAR ENCLOSURE	"
1518291	SECOND WORLD WAR	RADAR STATION	TL 1091 3915
1518292	BRONZE AGE	ROUND BARROW	TL 1038 3885
"	LATER PREHISTORIC	DITCH	"
1518303	LATER PREHISTORIC	SETTLEMENT	TL 1154 3859
1518321	LATER PREHISTORIC	RECTILINEAR ENCLOSURE	TL 1144 3683
1518324	UNCERTAIN	DITCH	TL 1163 3703
1518350	UNCERTAIN	DITCH	TL 1073 3654
1518355	UNCERTAIN	DITCH	TL 1084 3650
1518360	UNCERTAIN	RECTILINEAR ENC	TL 1039 3666
1518551	LATER PREHISTORIC	FIELD SYSTEM	TL 1059 3564
1518589	UNCERTAIN	FIELD BOUNDARY	TL 1175 3598
1519480	POST MEDIEVAL	FIELD BOUNDARY	TL 1120 3644
1517716	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1187 3300
1517726	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1134 3356
1517748	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1037 3309
1517751	MEDIEVAL	DRAIN/DITCH	TL 1033 3325
1517754	UNCERTAIN	BOUNDARY/BANK	TL 1166 3455
1517771	UNCERTAIN	DITCH/ RECTILINEAR ENCLOSURE	TL 1014 3380
1517887	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1015 3379
1517902	LATER PREHISTORIC/ MEDIEVAL/UNCERTAIN	FIELD SYSTEM	TL 1040 3407
1517953	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1010 3431
1517956	MEDIEVAL/POST MEDIEVAL	RIDGE AND FURROW	TL 1006 3452
1517961	MEDIEVAL/POST MEDIEVAL	DRAIN/DITCH	TL 1108 3443
1517966	MEDIEVAL/POST MEDIEVAL	RECTILINEAR ENCLOSURE	TL 1031 3436
1518561	LATER PREHISTORIC/UNCERTAIN	FIELD SYSTEM	TL 1063 3487
1518565	LATER PREHISTORIC/UNCERTAIN	FIELD BOUNDARY	TL 1027 3458
1518583	LATER PREHISTORIC	FIELD BOUNDARY	TL 1097 3462
"	MEDIEVAL	PLOUGH HEADLAND	"
"	UNCERTAIN	BANK/BOUNDARY	"

See also Figure 168 overleaf.

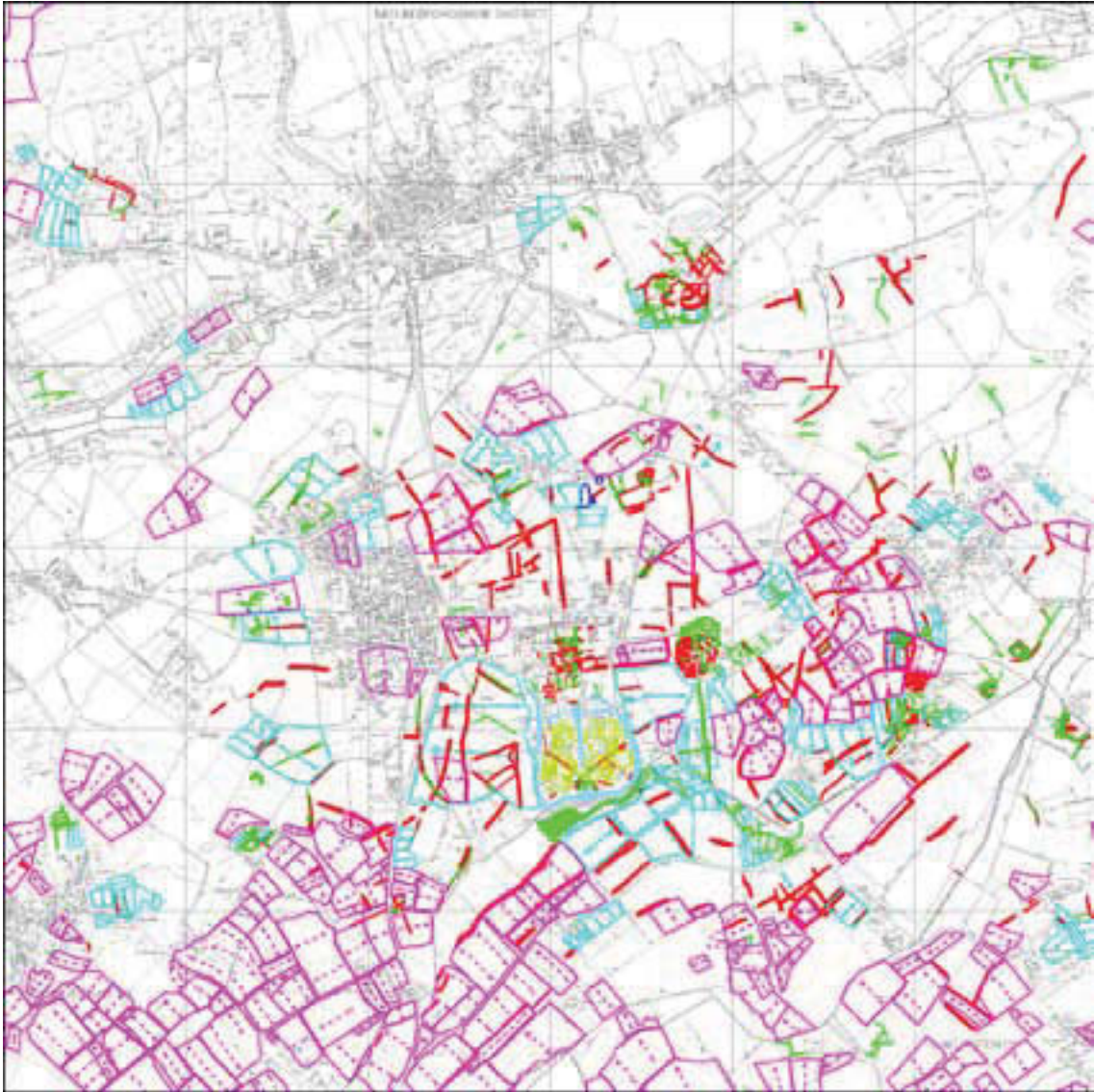


Figure 168 Plan of all features mapped as part of this project (base map © Crown Copyright. All rights reserved. English Heritage 100019088, 2014). for mapping conventions see Figure 167

Figure 169 (opposite) Index map for following reference plans, 1:2500 at A4 (base mapping Atkins Mapping Solutions © English Heritage)

Appendix 7: Analytical earthwork survey: reference plans





Figure 170
 Reference plan of Parterre, South
 Lawns and surrounding areas,
 1:1 000 at A4
 (base mapping Atkins Mapping
 Solutions © English Heritage)

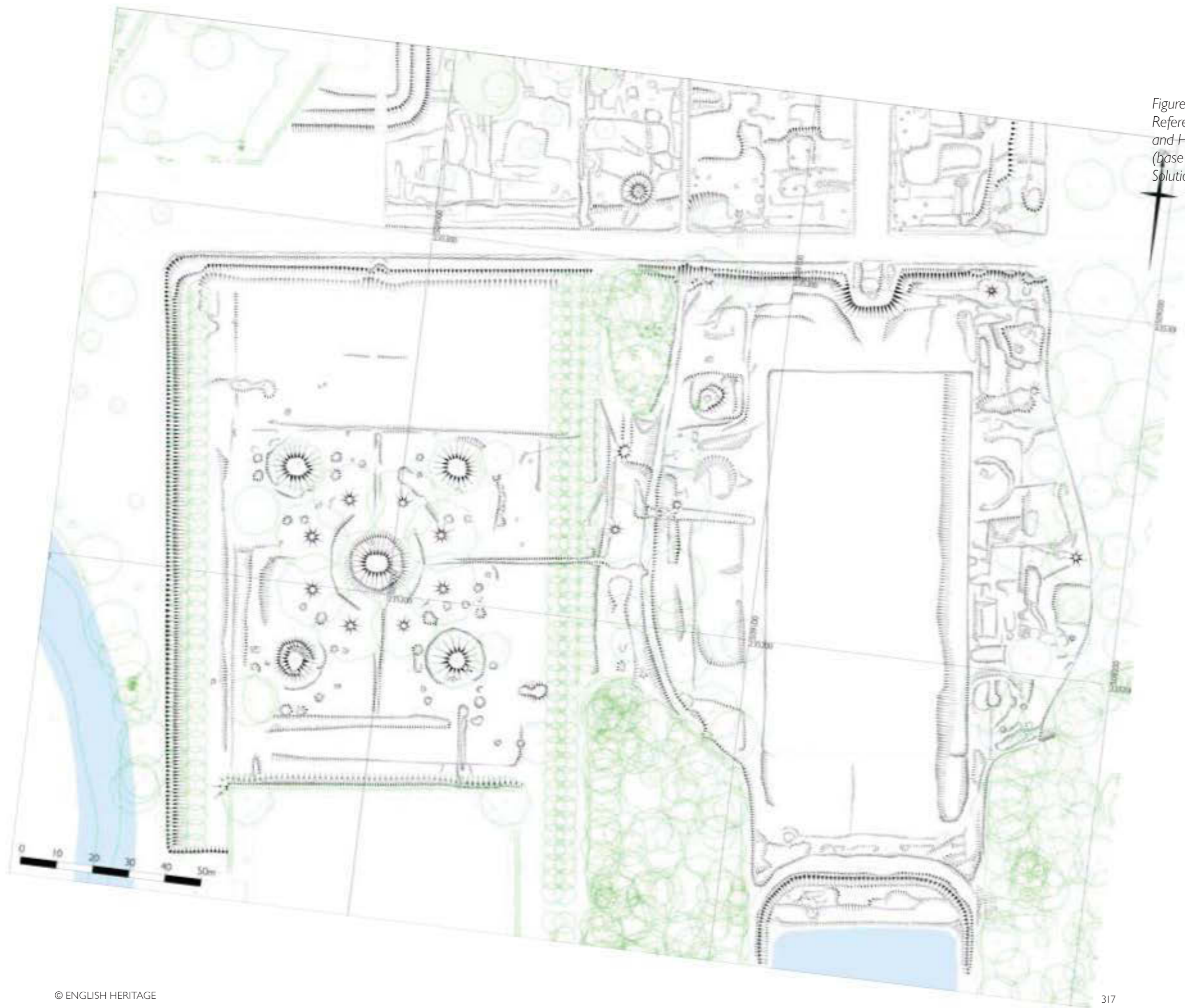


Figure 171
Reference plan of Evergreen Garden
and Horseshoe Lawns, 1:1000 at A4
(base mapping Atkins Mapping
Solutions © English Heritage)

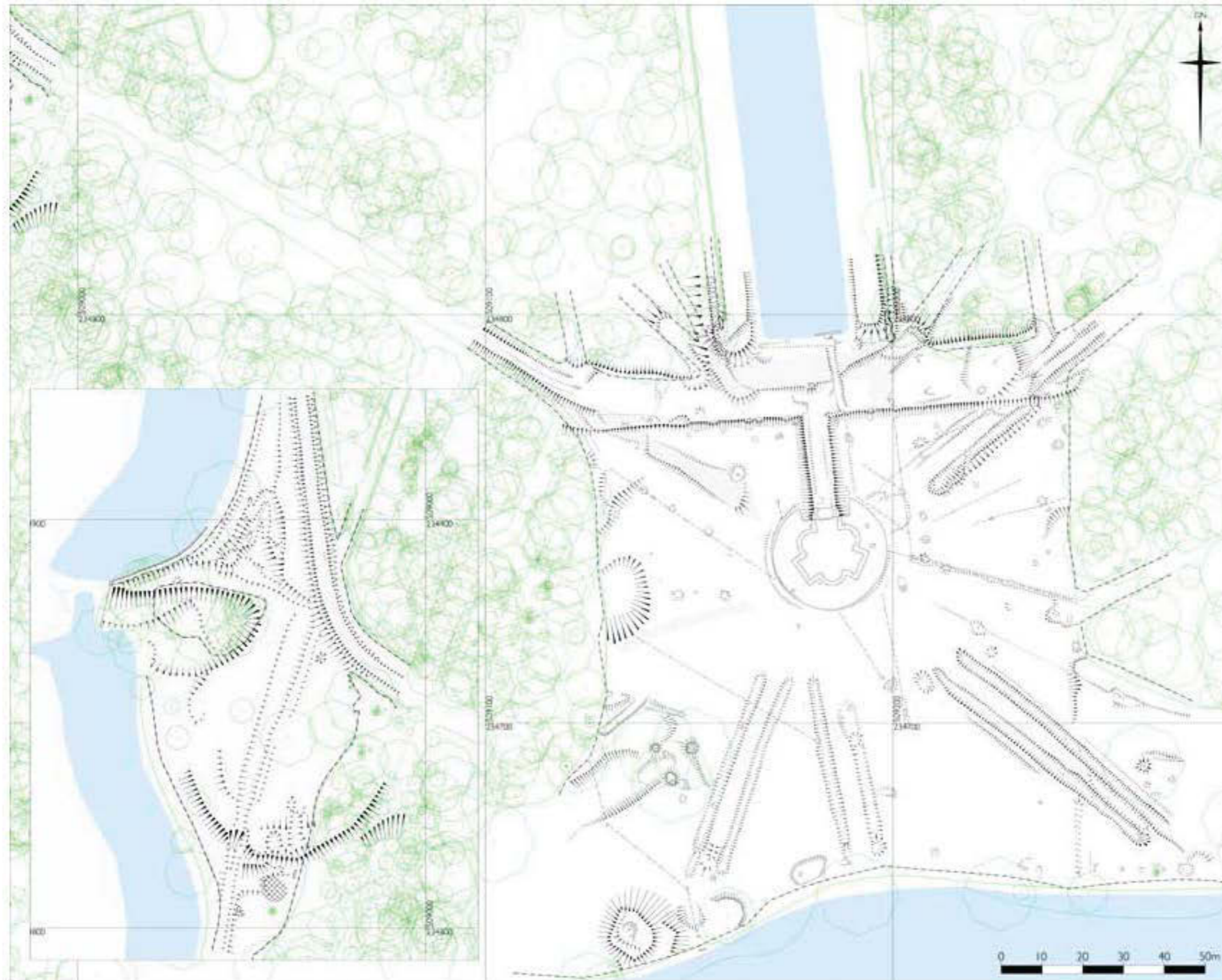


Figure 172
 Reference plan of Archer Pavilion
 and 'bastion' areas (inset), 1:1000
 at A4
 (base mapping Atkins Mapping
 Solutions © English Heritage)

Appendix 8: Coring

By Matt Canti

Date of fieldwork: 16th Aug 2010



Figure 173 Approximate core locations (base map is by Atkins Mapping Solutions 2007 © English Heritage)

Core Descriptions

Core A

(TL 09163.9 234786.2, 51.91m aOD)

0 – 10/12 cm	Topsoil, very dark grey (10 YR 3/1) loamy sand, no stones
10/12 – 28/31	Dark brown (7.5 YR 4/4) loamy sand with 20%, 1 – 20 mm subangular to subrounded stones.

28/31 – 100	Grey (7.5 YR 6/0) to brown (7.5 YR 5/2) clay with occasional 1 – 3mm chalky stones of pinkish grey (7.5 YR 7/2).
-------------	--



Figure 174 Core A. Probably gravel over natural clay at approx 29cm

Core B

(TL 09164.39 34783.13, 51.86m aOD)

0 – 7/8cm	Topsoil, very dark grey (10 YR 3/1) loamy sand, no stones
7/8 – 25/27	Dark brown (7.5 YR 4/4) loamy sand with 25%, 1 – 20 mm subangular to subrounded stones.
25/27 – 49	Pinkish grey (7.5YR 6/2) to brown (7.5 YR 5/4) clay.
49 – 54/56	Very pale brown (10 YR 7/4) to pale brown (10 YR 6/3) irregular chalky mass.
54/56 - 100	Pinkish grey (7.5YR 6/2) to brown (7.5 YR 5/4) clay with occasional 1 – 3mm chalky stones of pinkish grey (7.5 YR 7/2). Large mass of ironstone around 60 – 66 cm.



Figure 175 Core B. Probably gravel over natural clay at ca. 26cm

Core C1

(TL 09164.88 34779.32, 51.78m aOD)

0 – 11/13cm	Dark brown (10YR 3/3) loamy sand, no stones.
11/13 - 45/47	Yellowish brown (10 YR 5/4) loamy sand with 20 - 30% subangular and subrounded 1 – 50 mm stones. Band of yellowish brown (10 YR 5/6) sand between 40 - 45 cm
45/47 – 100	Light brownish grey (10 YR 6/2) to brown (7.5 YR 5/4) clay with occasional 1 – 3mm chalky stones of pinkish grey (7.5 YR 7/2). At 65 cm 1 – 4 cm rounded pieces of red (2.5 YR 4/6) CBM



Figure 176 Core C1

Core C2

(NGR as above)

0 – 100cm	Light brownish grey (10 YR 6/2) to brown (7.5 YR 5/4) clay with occasional 1 – 3mm chalky stones. Faint, reddish yellow, 5 – 20 mm mottles increasing towards base
-----------	--



Figure 177 Core C2. Core C shows 2 m depth of heavy clay suggesting this is natural geology

Core D

(TL 509165.14 34775.57, 51.77m aOD)

0 – 18/20cm	Very dark greyish brown (10 YR 3/2) loamy sand with occasional pebbles 10 – 30 mm.
18/20 - 48/50	Dark brown (7.5 YR 5/4) loamy sand with 20%, 1 – 20 mm subangular to subrounded stones.
48/50 – 100	Light brownish grey (10 YR 6/2) to brown (7.5 YR 5/4) clay with occasional 1 – 3mm chalky stones of pinkish grey (7.5 YR 7/2). At 95 cm, one piece of 5mm red (2.5 YR 4/6) CBM



Figure 178 Core D. Probably gravel over natural clay at ca. 49cm. CBM at 95 cm suggests some disturbance

Core E

(TL 09165.78, 234770.99, 50.50m aOD)

0 – 6/7cm	Dark greyish brown (10 YR 4/2) sandy clay loam with no stones
6/7 – 16/18	Dark greyish brown (10 YR 4/2) sandy clay loam with 30% 5 – 20 mm subangular to rounded stones
16/18 – 86/89	Light brownish grey (10 YR 6/2) to brown (7.5 YR 5/4) clay with occasional 1 – 3mm chalky stones of pinkish grey (7.5 YR 7/2).
86/89 – 100	Yellowish brown (10 YR 5/8) sandy clay loam with no stones.



Figure 179 Core E. Base of the scarp. About 87 cm of the heavy clay overlying sand

Core F

(TL 09162.76 34798.49, 52.186m aOD)

0 – 9/11cm	Very dark greyish brown (10 YR 3/2) loamy sand with 10% subangular to subrounded stones 10 – 30 mm.
9/11 – 24/25	Dark brown (7.5 YR 4/4) loamy sand with 20%, 1 – 20 mm subangular to subrounded stones
24/25 – 32/36	Light grey (10 YR 7/1) clay with no stones.
32/36 – 64/66	Brown (10 YR 4/3) clay with 2 – 5%, 1 – 50mm angular and subangular stones including pieces of 2 – 6 mm CBM
64/66 – 100	Grey (10 YR 5/1) clay with occasional 1 – 2 mm stones



Figure 180 Core F. Probably gravel overlying dredgings (24 – 65 cm), then going down onto natural clay

Core G

(TL 09153.14, 34779.24, 51.75m aOD)

0 – 7/9cm	Very dark greyish brown (10 YR 3/2) loamy sand with 20% subangular to subrounded stones 10 – 20 mm.
-----------	---

7/9 - 57/60	Brown (10 YR 5/3) loamy sand with 10% angular to subrounded stones 10 – 20 mm including CBM.
57/60 - 63/66	Very dark greyish brown (10 YR 3/2) loamy sand with 20% subangular to subrounded stones 10 – 20 mm. Compacted, buried topsoil.
63/66 - 72/75	Brown (7.5 YR 4/4) sandy clay with no stones
72/75 - base	Greyish brown (10 YR 5/2) clay with mottles of dark brown (7.5.YR 4/4), fragments of pink (7.5 YR 7/4) chalky material and streaks of brown (10 YR 5/4) organic matter.



Figure 181 Core G. Gravel on compacted buried topsoil at 57/60 - 63/66. ?On top of dam make-up layer or dredgings

Core H

(TL 09171.79 34779.60, 51.74m aOD)

0 – 10/12cm	Very dark greyish brown (10 YR 3/2) loamy sand with 20% subangular to subrounded stones 10 – 20 mm
10/12 - 45/50	Brown (10 YR 5/3) loamy sand with 10% angular to subrounded stones 10 – 20 mm including CBM.
45/50 - 100	Greyish brown (10 YR 5/2) clay with mottles of dark brown (7.5.YR 4/4), sandy patches of brownish yellow (10 YR 6/6), fragments of pink (7.5 YR 7/4) chalky material and CBM. Overall, 10% stones up to 40 mm in size.



Figure 182 Core H. 45/50 looks like a make-up layer

Core I

(TL 09180.27 34779.81, 51.801m aOD)

0 – 10/12cm	Dark brown (10YR 3/3) loamy sand, no stones.
10/12 - 28/29	Yellowish brown (10 YR 5/4) loamy sand with 20 - 30% subangular and subrounded 1 – 50 mm stones.
28/29 -30/31	Band of brownish yellow (10 YR 6/8) sand.

30/31 – 100

Light brownish grey (10 YR 6/2) to brown (7.5 YR 5/4) clay with 1%
l – 2mm pinkish grey (7.5 YR 7/2) chalk stones. Occ very large flints.



Figure 183 Core I. Very similar core to C1.

Appendix 9: Animal bone from the parterre excavations

By Polydora Baker

Excavations of the parterres yielded a very small assemblage of animal bones. The excavations, undertaken in 2011 under the direction of Paddy O'Hara, aimed to recover the original arrangement of flowerbeds, dated closely to the construction of Earl de Grey's new French style mansion of the late 1830s. The excavation removed only enough soil to reveal the missing elements of the original layout and the animal bones derive almost entirely from a single soil layer which would have been brought in with the laying down of the parterre (P O'Hara, pers comm). There was no associated material culture. The assemblage was recovered by hand collection; sampling was not undertaken as there were no securely sealed deposits. A few additional undated fragments were recovered in the Rose Garden. The finds are stored in a single skull box (Site code 5196, Box 2) at Fort Cumberland, Portsmouth.

Methods

The preservation of the bones was recorded according to their general condition and appearance, and integrity of fragment edges. Other alterations such as animal gnawing were also noted. All bone and tooth fragments were identified to taxon where possible, or where specific identification was not possible, to a less precise size group. Identification of fallow deer follows Lister (1996), that of pheasant is based on Tomek and Bochenski (2009) and MacDonald (1992), and that of rabbit follows Callou (1997). Mandibular tooth wear in cattle was recorded after Grant (1982) and tooth eruption and fusion ages after Silver (1969) and Popkin et al (2012). Measurements follow Driesch (1976).

Results

The four fragments from the Rose Garden probably derive from a single cattle skull fragment. The molars, M2 and M3, are very lightly worn suggesting the animal was subadult or a young adult at death (M3 erupts at 30 months). The unstratified finds are not discussed further.

The parterre assemblage includes 40 fragments recovered from eight excavation areas (grid squares). The majority of fragments are well preserved (Table 2); 33 fragments were recorded as having good preservation and only 7 as moderately or poorly preserved. Most have 'spiked' edges. The surface of the single poorly preserved specimen was 'rippled' as if modified by moving/dripping water. Dog gnawing was tentatively identified on one bone. Many fragments show modern damage, most likely incurred during excavation, with many small fragments probably deriving from larger specimens (Table 2; see also Archive).

The 12 identified bones and teeth derived from an array of species including cattle (*Bos taurus*), sheep/goat (*Ovis aries*/*Capra hircus*), fallow deer (*Dama dama*), rabbit (*Oryctolagus cuniculus*) and pheasant (cf. *Phasianus colchicus*). A further 28 fragmented longbones, vertebrae and ribs were from cattle and sheep size mammals (Table 3).

Cattle were represented by a tooth and hindlimb elements from at least two animals, based on two fragments of left pelvis (Table 4). Other large mammal skull and longbone fragments probably also derived from cattle. A mandibular first or second molar (M1/M2) was at wear stage k. A sheep/goat scapula and humerus both had fused distal epiphyses and may be from an animal at least 6-16 months at death. The medium and large mammal vertebrae had unfused epiphyses suggesting that the animals were killed before they had reached an advanced age (for cattle under 5 years). The available measurements were too few to inform on livestock size (Table 5).

The fallow deer bones included a humerus (with fused distal epiphysis) and a proximal metatarsal (Table 4). The bones showed many fine scratches, perhaps due to abrasion from fine stones/gravel. The bones are most certainly from one or more females as they are comparable in size to modern female reference specimens and to smaller specimens from medieval and postmedieval sites in England (Zooarchaeology@ Nottingham Deer Bone Database; Figure 180 and Figure 181; Table 5). Sykes et al (2011) have shown that there is no size change in fallow deer from their introduction through to the post-medieval period in England, and that size differences may be used to determine herd demographics within and across assemblages. A transversal mark on the anterior-lateral surface of the humerus may be a fine cutmark but no other butchery is evident.

The single rabbit bone is from a subadult animal, similar in size to that of a subadult wild rabbit (EH 2476). The proximal end was unfused but the distal end fully fused, providing clear criteria with which to distinguish it from hare (in addition to a marked size difference).

The three bones of medium size Galliformes included a coracoid probably of pheasant, a distal tibiotarsus with fused epiphysis identified to chicken, pheasant or guinea fowl and an unidentified humerus shaft.

Butchery (or possible butchery), including chop, cut and saw marks, spiral fractures and axial splitting was observed on ten fragments, including from cattle, sheep/goat, fallow deer (see above), medium Galliformes, and medium and large mammals (see Archive). In a few cases, the butchered bones could be assigned to particular butchery processes and meat cuts. A cattle pelvis with heavy chopping just proximal to the acetabulum may derive from a rump/hip cut (see Swatland 2004, figs. 57-66). A short section of a medium mammal humerus, c. 16mm in length, was sawn at both ends, indicating that the foreleg was cut through perpendicularly to the bone perhaps to produce a steak-type cut. Axial splitting was observed on medium and large mammal vertebrae and is incurred when carcasses are butchered into sides and smaller cuts (chops).

Discussion

The assemblage of animal bones from Wrest Park was very small and derived mainly from soil laid down for a parterre. Preservation is largely consistent across the assemblage, with no evidence for clearly residual or intrusive modern remains although a few specimens show unusual modification, perhaps indicating multiple sources for the garden soil.

The animal bones most probably derived from food preparation and consumption, as indicated by the range of species and presence of butchered bones, with the occurrence of head (large mammal, cattle) and foot bones (fallow deer) suggesting that some primary butchery of carcasses or larger joints occurred at Wrest Park. The meat diet may have included cuts such as beef rump and mutton/lamb steak, fallow deer venison, pheasant and rabbit. The latter three species were associated with high status in the medieval period and continued to be managed by the elite into the post medieval period, although there is little zooarchaeological data for sites later than the 18th century (Albarella and Pirnie 2008; Albarella and Pirnie forthcoming). Their presence at Wrest Park may be indicative of a wealthy lifestyle, with a vast property on which to maintain a deer herd and hold shooting parties (Williamson 2013). Fallow deer are clearly depicted in front of the great house in a sketch from 1831 (Figure 121), while pheasant shooting had become a fashionable and competitive sport in the 18th and early 19th centuries for which large numbers of birds were raised (Williamson 2013). Pheasant are still raised in the area today (M Alexander, pers comm).

The origin of the rabbit humerus is uncertain. The lack of breakage may indicate that it does not derive from a consumed animal, however given the small size of rabbits, preparation and consumption may require little or no butchery. Rabbit warrens are documented at Wrest Park from the 14th century and persisted in the area well into the 19th century (M Alexander pers comm). By this time feral rabbits were widespread (Williamson 2013) and the bone may derive from an intrusive animal though probably not a recent one as it is similar in preservation and colour to the remaining assemblage.

Table 2 – Preservation and angularity of fragments by excavation area (grid square)

	Parterre excavation area								Rose Garden	Total
	1	2	3	4	6	8	9	11		
Preservation										
Good	11	12		1	4	1	1	3	3	36
Moderate	2	1	1		1			1	1	7
Poor								1		1
Total	13	13	1	1	5	1	1	5	4	44
Angularity										
Spiky	7	8			2	1	1	2	4	25
Battered	6	5	1	1	3			3		19
Total	13	13	1	1	5	1	1	5	4	44

Table 3 – Taxonomic distribution by excavation area (Number of Identified Specimens/NISP)

Taxon	Parterre excavation area								Rose	Total	
	1	2	3	4	6	8	9	11	Gdn		
Cattle	1	2							1	4	8
Sheep/Goat		1						1			2
Fallow deer		2									2
Rabbit	1										1
Large mammal	8	7		1	2	1			1		20
Medium mammal	3	1	1		1				2		8
Chicken/Guinea fowl/Pheasant					2						2
cf. Pheasant									1		1
Total	13	13	1	1	5	1	1		5	4	44

Table 4 – Skeletal element representation by taxon (based on NISP with MNI estimates)

Element	Taxon							
	Cattle	Sheep/ Goat	Fallow deer	Rabbit	Large mammal	Medium mammal	Chicken/ Guinea fowl/ Pheasant	cf Pheasant
Skull	4*	-	-	-	4	-	-	-
Mandible-M1/2	1	-	-	-	-	-	-	-
Scapula	-	1	-	-	-	-	-	-
Coracoid	-	-	-	-	-	-	-	1
Humerus	-	1	1	1	-	1	1	-
Pelvis	2	-	-	-	1	-	-	-
Tibia	1	-	-	-	-	-	1	-
Metatarsal	-	-	1	-	-	-	-	-
Longbone	-	-	-	-	10	3	-	-
Thoracic vertebra	-	-	-	-	1	1	-	-
Vertebra	-	-	-	-	2	1	-	-
Rib	-	-	-	-	2	2	-	-
Total NISP	8	2	2	1	20	8	2	1
Total MNI	2(pel)	1	1	1				1

*-Rose Garden only

Table 5 - Measurements of cattle, sheep/goat, fallow deer and pheasant (in mm)

Taxon	Element	Measurements
Cattle	Pelvis	Pubis min diam
		14.5
Sheep/goat	Humerus	Pubis max diam
		18.6
		Height acetabular wall
		c.6.5
		HTC
		17.4

Fallow deer	Humerus	BT	Bd	HTC	HT
		32.8	36.4	18.5	24
Fallow deer	Metatarsal	Bp	Dp		
		24.6	28.1		
cf. Pheasant	Coracoid	Lm			
		43.9			
Medium Galliformes	Tibiotarsus	SC			
		7.3			
Medium Galliformes	Humerus	SC			
		6.6			
Rabbit	Humerus		Bd	HTC	
			8.6	4.2	

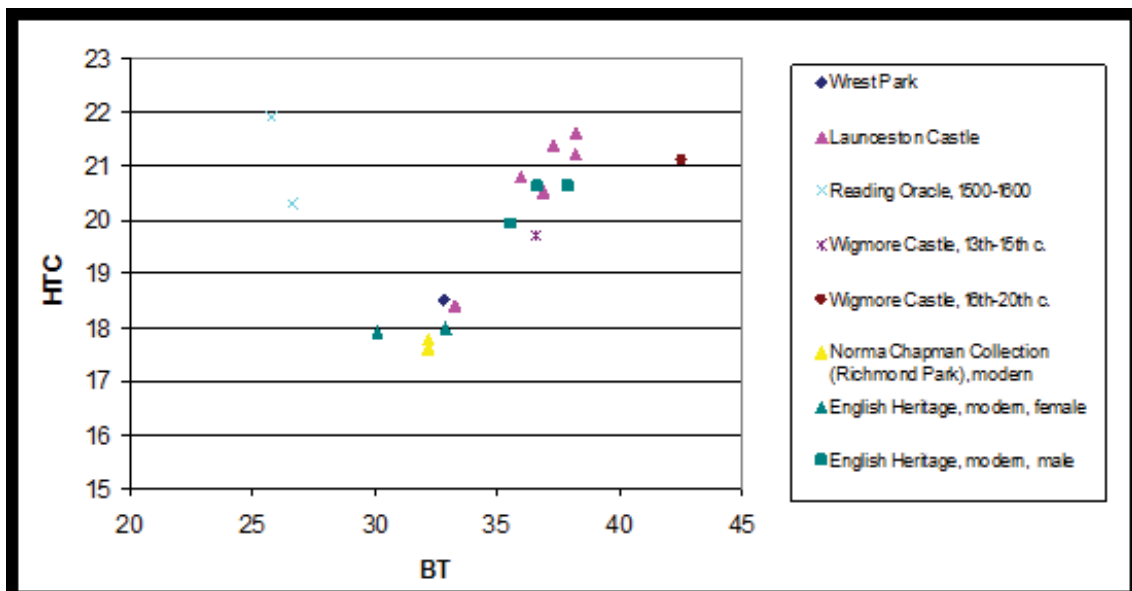


Figure 184 Scatter diagram of fallow deer humerus measurements from medieval and post-medieval sites and modern comparative specimens (historic data from Zooarchaeology@Nottingham Deer Bone Database)

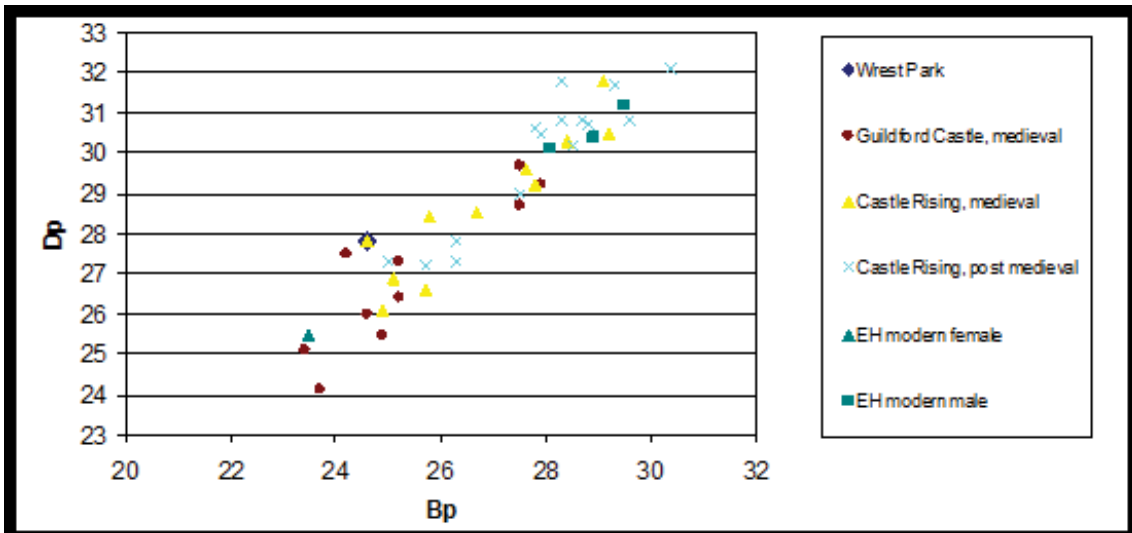


Figure 185 Scatter diagram of fallow deer metatarsal measurements from medieval and post medieval sites and modern comparative specimens (historic data from Zooarchaeology@Nottingham Deer Bone Database)

Appendix 10: Geophysics on the excavated parterre

By Neil Linford.

A Ground Penetrating Radar (GPR) survey was conducted over the parterre excavation surface and surrounding gravel paths between the 1st and 2nd November 2011. A similar methodology to Linford 2011 was used for the survey, although in this case the GPR antenna array was manoeuvred over the site by hand and a non-regular survey grid positioned by GPS was necessary due to the extant statues and planting beds.



Figure 186 Parterre geophysics: GPR amplitude timeslice between 11.4 and 12.6ns (0.68-0.76m), November 2011. (base map © Crown Copyright. All rights reserved. English Heritage 100019088. 2014)

This resulted in a somewhat keyhole data set that was also influenced by sudden changes in levels at edge of the excavation surface. Whilst elements of the formal planting scheme

were replicated in the GPR data these may well be due to the micro-topography of the post-excavation surface rather than an indication of any sub-surface reflectors. The GPR survey was, perhaps, more successful over the wide central gravel path separating the two parterres and the similar walkways around them. Figure 182 shows a representative amplitude time slice from between 11.4 and 12.6ns (0.68 to 0.76m) that shows a narrower central pathway (~5m) with, perhaps, some evidence for previous stonework at both the N and S entrances to and from the parterre garden. Similar, high amplitude reflectors are found beneath the walkways at each corner the garden, perhaps indicative of former statue plinths.



ENGLISH HERITAGE RESEARCH AND THE HISTORIC ENVIRONMENT

English Heritage undertakes and commissions research into the historic environment, and the issues that affect its condition and survival, in order to provide the understanding necessary for informed policy and decision making, for the protection and sustainable management of the resource, and to promote the widest access, appreciation and enjoyment of our heritage. Much of this work is conceived and implemented in the context of the National Heritage Protection Plan. For more information on the NHPP please go to <http://www.english-heritage.org.uk/professional/protection/national-heritage-protection-plan/>.

The Heritage Protection Department provides English Heritage with this capacity in the fields of building history, archaeology, archaeological science, imaging and visualisation, landscape history, and remote sensing. It brings together four teams with complementary investigative, analytical and technical skills to provide integrated applied research expertise across the range of the historic environment. These are:

- * Intervention and Analysis (including Archaeology Projects, Archives, Environmental Studies, Archaeological Conservation and Technology, and Scientific Dating)
- * Assessment (including Archaeological and Architectural Investigation, the Blue Plaques Team and the Survey of London)
- * Imaging and Visualisation (including Technical Survey, Graphics and Photography)
- * Remote Sensing (including Mapping, Photogrammetry and Geophysics)

The Heritage Protection Department undertakes a wide range of investigative and analytical projects, and provides quality assurance and management support for externally-commissioned research. We aim for innovative work of the highest quality which will set agendas and standards for the historic environment sector. In support of this, and to build capacity and promote best practice in the sector, we also publish guidance and provide advice and training. We support community engagement and build this in to our projects and programmes wherever possible.

We make the results of our work available through the Research Report Series, and through journal publications and monographs. Our newsletter *Research News*, which appears twice a year, aims to keep our partners within and outside English Heritage up-to-date with our projects and activities.

A full list of Research Reports, with abstracts and information on how to obtain copies, may be found on www.english-heritage.org.uk/researchreports

For further information visit www.english-heritage.org.uk

