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Assessment

Wrest Park, Silsoe, Bedfordshire Bathhouse Grounds Analytical Earthwork Survey

Magnus Alexander, Sarah Newsome and Elizabeth Chamberlin

Discovery, Innovation and Science in the Historic Environment



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**WREST PARK,
SILSOE,
BEDFORDSHIRE**

**BATHHOUSE GROUNDS
ANALYTICAL EARTHWORK SURVEY**

Magnus Alexander, Sarah Newsome and Elizabeth Chamberlin

NGR: TL 089 353

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ISSN 2059-4453 (Online)

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SUMMARY

This report describes the results of analytical earthwork survey in the Bathhouse Grounds area of the gardens at Wrest Park, Silsoe, Bedfordshire. It should be seen as supplemental to the previous report on landscape investigations at Wrest Park (Alexander et al 2014).

The Bathhouse was built, and the grounds laid out, between about 1769 and 1772 under Lord Hardwick. Numerous features were recorded relating to these grounds though it is difficult to be sure which elements were original due to a lack of visual sources. A clear picture of the Bathhouse Grounds begins to emerge after about 1830, becoming much more so following the first edition Ordnance Survey map of 1881. Earlier features, some probably from the early 18th century, were also recorded but the only definite examples are located outside the Bathhouse Grounds proper, to the north of Broadwalk. Though some features within the grounds may also be from a similar date this was less certain. Later features, some from the 1970s and even more recent, were also identified.

CONTRIBUTORS

Magnus Alexander took the lead on the survey supported by Sarah Newsome and Elizabeth Chamberlin, and produced this report.

ACKNOWLEDGEMENTS

Thanks are due to Trevor Pearson for providing technical support and the garden staff at Wrest Park, ably led by Chris Slatcher, for enabling access.

ARCHIVE LOCATION

The project archive will be deposited with the Historic England Archive, Swindon.

DATE OF SURVEY

May and June 2015

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*Front cover: The Bathhouse from the south, Bathhouse Water is marked by the reeds
(Patricia Payne © Historic England DPI41062)*

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INTRODUCTION

The English Heritage Trust was planning to redevelop further areas of the grounds at Wrest Park as part of a continuing programme begun in 2009 under what was then English Heritage. Historic England research teams were asked to undertake a range of research to record and understand the existing gardens prior to this development and inform these works. This report describes the results of the analytical earthwork survey undertaken as part of this.

The report should be seen as a supplement to the previous publication of landscape investigations (Alexander et al 2014). In particular, the introduction and background provided therein are considerably fuller.

Location and layout

Wrest Park lies to the immediate east of the village of Silsoe in Bedfordshire which is situated on the A6 halfway between Bedford and Luton (Figure 1). For centuries the A6 and its precursors have provided ready access to London, doubtless a factor in the sustained popularity of the site.

Wrest Park House is Listed Grade I (no. 37709) and was built in the 19th century to replace an earlier house which had medieval origins. It lies in the approximate centre of a large area of former parkland much of which was sold off and reverted to agricultural use during the 20th century. To the south of the house are formal gardens with more extensive semi-formal woodland gardens further to the south enclosed by encircling waterways (Figure 2). These are dominated by a strong north/south axis from the house across lawns and along Long Canal to the Archer Pavilion at the opposite end of the gardens. Prior to the loss of the associated parkland there were also strong east/west axes from the gardens out into the surrounding landscape, particularly along Broadwalk from an obelisk in the west to Cain Hill in the east. The gardens are both a Scheduled Monument (no. 35615) and a Grade 1 Registered Park and Garden (no. 1007) and are included in the Silsoe Conservation Area.

The Bathhouse itself is Listed Grade II* (no. 37719).

The Survey Area

The survey area lay to the south of Butcher's Row and north of the line of Broadwalk, and extended west from the Orangery as far as the current limit of the gardens (Figure 2). Its full extent was determined both by the area to be developed and previous survey work already undertaken (see 'Earthwork description' below).

A well laid gravelled track ran through this area in a reverse 'S', from the north-west to the south centre, where it met the west end of Broadwalk, dividing the area into two uneven parts (Figures 22 and 23). The larger western part was focussed upon the Bathhouse, Bathhouse Water and Cascade which formed the core of the late 18th century layout here. The area was still maintained as pleasure grounds though some



Figure 1 The location of Wrest Park (Sharon Soutar)



Figure 2 The house and gardens with the location of the survey area in red (Sharon Soutar, based upon a survey by Atkins for English Heritage in 2009, note that some areas have been redeveloped since this date)

areas were quite overgrown. This is the area where most of the redevelopment work is planned. The smaller eastern part was dominated by the rear of the Orangery, with cellars and stores beneath and an associated service yard. It was more utilitarian, less well maintained and not much visited.

The Bathhouse comprised two circular rooms, an entrance chamber with the bath itself to the south-east, and was constructed in a semi rustic style with large sandstone blocks. The similarly rustic Cascade lay to its north-east. This comprised an arch crossed by a pathway that curved around the end of Bathhouse Water that ran over a modern concrete-lined rectangular tank (no doubt a replacement for an earlier similar tank) with a Cascade to the south, both dry at the time of survey. This was constructed within what was clearly an artificial circular mound surmounted by a large yew, with another to the west. The tank could be approached from the north-east by a descending walkway that curved around the central yew and at its end there was a niche, perhaps a seat from which the Cascade could be contemplated or to house a statue. To the south-west the Cascade and arch formed a near vertical face with slightly asymmetric wings of reducing height curving away and around the north-east end of Bathhouse Water. In order for the Cascade to function, Bathhouse Water must also have been an original part of the layout. Though the original appearance is uncertain, a form close to that seen today would be in keeping with the 'naturalistic' aesthetic of the era.

The topography was gentle with a slight overall fall from north to south. The highest point was on Butcher's Row in the north-west of the survey area at a little over 56mOD. The lowest area was around Bathhouse Water, the surface of which was at about 52.6mOD. Bathhouse Water sat within a broad low area running east/west and covering much of the southern half of the survey area, most of which was a little above 53mOD. The ground rose slightly to the south, Broadwalk was at about 54mOD and the area to the west of this was about 53.5mOD, but this rise was probably largely artificial; to the south the ground fell back to 53mOD quite quickly.

The hydrology of the area is clearly important. What is currently the primary water supply ran into the south-west of the survey area from the west where it met the north end of Old Park Water, the main water feature enclosing the western side of the gardens, and the highest from which all the others are supplied. This arrangement is clearly artificial and it seems likely that the natural line would have run in from a more northerly point on a south-eastern course, perhaps turning to the south somewhere to the south of the survey area. It is the presence of springs here that is probably most significant for the siting of the Bathhouse though. The fact that these were iron rich 'chalybeate' springs is also likely to have been significant as this would have contributed to the health giving value of the bath (the most famous example is probably Royal Tunbridge Wells 'discovered' in 1606 and visited by Queen Victoria). In the 18th century the spring would appear to have lain on the site of the Cascade mound (below) but it is likely to have shifted with changes in groundwater levels. Currently iron rich water is emerging to the east of the cascade but the flow is low making a limited contribution to the overall flow into Old Park Water. Modern drainage is likely to have both lowered the water table and reduced the flow so it is possible that in the past the contribution of these springs was more significant.

The underlying geology consists of Gault Clay over sandstone dipping gently to the south with the surrounding higher ground generally formed from glacial tills or similar deposits (Alexander et al 2014, 5). Sandstones are porous and often contain iron-rich deposits so this is likely to be the source of the spring water and the location of the springs probably the result of a break in the impermeable clay though this has not been identified.

Aims

The aim of the project was to improve the understanding of the development of this area of the gardens in order to inform its redevelopment and ensure historical accuracy. A secondary aim was to make a record of the existing topography prior to this development in case the redevelopment impacted upon this evidence.

Methodology

Two main survey methods were used, Global Positioning System (GPS) and Total Station Theodolite (TST). GPS survey is the fastest technique but is relatively ineffective close to trees and buildings so in this situation TST survey was preferred. In addition, some detail was measured in from known features where impossible to survey with other methods.

Across open areas detail was surveyed using one or two Trimble R8 survey grade GNSS receivers working in Real Time Kinematic (RTK) mode with differential data supplied by another 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 into AutoCAD software for editing and plotting out for checking in the field.

The wooded areas were surveyed using a Trimble 5600 Total Station Theodolite by taking radiating readings from each station. The stations were surveyed in sequence to form a closed loop or traverse. The traverse was 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. Overall accuracy is comparable to GPS though, unlike GPS, reduces with length of traverse and distance between surveyor and station.

Previous work

Since the drafting of the previous report on Wrest Park (Alexander et al 2014) two significant pieces of work have been completed. Dr Twigs Way has compiled the letters and diaries of Jemima, Marchioness Grey, and her daughter Amabel, later Countess de Grey, and the letters of their gardeners and stewards (1740-1839) for

English Heritage (Way nd (2013)). Work by Jo Bishop and passed to Andrew Hann examined the Hardwicke Papers volumes CCCXLV and CCCXLVI 'Correspondence of Philip relating to his estates and political interests at Wrest, Silso, Flitton, Clophill etc. Co Bedford 1746-1789' held at the British Library (BL ref: Add MSS 35693-35694:1746-1789, paper folio).

HISTORICAL BACKGROUND

Overview

The following is an edited version of the summary contained in Alexander et al (2014, 81-92) focussing on the Bathhouse and its grounds.

Early history

- 1185: The first known reference to Wrest in a personal name in the Pipe Rolls
- 1220: by this date John de Grey was known to hold estates in Bedfordshire, the first member of the family to do so
- 1307/8: Wrest described as a capital messuage (a manor house) in the Inquisition Post Mortem (IPM) of Reginald de Grey, 1st Lord Wilton
- 1315: A park existed by this date in the area of 'Old Park', west of the gardens
- Mid-14th century: enclosure of a warren was underway
- 1467-8: The Valor of Ruthin detailed Wrest; an extensive estate that included Silsoe, Flitton, and Braybury

The 16th century: changing fortunes

- 1503: Richard, 3rd Earl of Kent, acceded and rapidly squandered the estate
- 1512: Wrest recorded as a mansion house with a moat, fishponds, and orchard
- 1513: Henry de Grey, Richard's half-brother, began a long period of rebuilding
- 1572: Reynold Grey, Henry's grandson, was able to reassume the family titles
- 1573: Reynold's brother Henry acceded, IPM detailed the house, but no major development until the 1660s

The 17th century

- 1614: Henry succeeded by his brother Charles the 7th Earl of Kent
- 1623: Charles' son Henry, 8th Earl of Kent and his wife Mary accede
- 1639: First reference to a designed garden in Thomas Carew's poem; thought to indicate a double moat but the second more likely to be encircling semi-natural waterways or separate garden moat
- 1639: Henry succeeded by a distant cousin, Anthony, who had little interest in Wrest
- 1643: Henry, 10th Earl of Kent, acceded

- 1644: Henry married Amabel Benn a wealthy heiress
- 1651: Henry died with Anthony, the 11th Earl, only six; the estate was managed by Amabel who was enormously influential.
- 1658: Amabel created the first known formal walled garden south of the house
- 1663: Anthony married the heiress Mary Lucas who brought significant wealth
- 1670s: The house was enhanced with a classically fronted north wing, further expansion of the estate, and considerable planting in the park and warren
- 1676-85: Long Canal may have been created, considerable planting of fruit trees etc in the gardens, the woodland gardens probably started
- 1686: Anthony and Amabel began a new walled garden on the existing site
- 1690s: Further major planting in 'The Warren' and avenues planted in the park
- 1691: Henry, the future Duke of Kent, returned from his Grand Tour
- 1698: Death of Amabel

1702-40: The Duke of Kent

- 1702: Henry, 12th Earl of Kent, inherited on the death of Anthony
- 1703: References to the moat being filled, and to a tree nursery
- 1704: the two Kip and Knyff views (published in 1707) were probably based upon surveys of about this date
- 1710: Henry created Duke of Kent
- 1716: The terrace walk (Broadwalk) extended to east and west, and the Neptune Basin constructed at its west end
- 1719: Laurence map (Figure 4) shows the Bowling Green had been laid out, the park enlarged and avenues extended, including that towards Silsoe
- 1721: The Angelis views show that Bowling Green House was finished by this date
- 1725-6: New land taken into the great gardens from the park and boundary canals reconfigured
- 1726-7: The octagon (the Neptune Basin) was filled
- 1728: Batty Langley published *New Principles of Gardening* in which he outlined proposals for less formal gardens; Wrest now unfashionable
- 1729: Henry's second marriage led him to recommence works, remodelling the gardens and boundary canals to incorporate the new fashions

- 1735 The first Rocque map (Figure 6) showed most of the formal gardens south of the house had been removed and the obelisk re-erected to the west of Old Park
- 1737: The second Rocque map showed serpentine paths had been added to the woodland garden and the amphitheatre south of the western canal constructed

1740-97: Jemima, Marchioness Grey

- 1740: Jemima inherited on the death of her grandfather Henry; there followed a period of intellectualisation and romanticisation of the gardens
- This is a period with few visual sources so it is difficult to locate and/or date many features
- Areas and features created, or altered, included: the Mithraic Altar; the Root House (removed); the Chinese Temple and first Chinese Bridge; the Conch Shell/Lion Head Mask, and alterations within the Duchess' Square
- The overall feel of the gardens was subtly altered with the planting of a shrub 'under-storey' of flowering plants
- Increased numbers of domestic and decorative wildfowl and deer were introduced
- Many of the rides and avenues in the parkland were allowed to lapse, although the main east/west vistas connecting Cain Hill and the Obelisk were retained, along with the avenue to Silsoe

1797-1833: Amabel, Lady Polwarth

- 1797: Amabel, widowed daughter of Jemima, inherited the estate, though she had already been closely involved with it for many years
- 1809: She sold or melted down much of the original statuary for roof repairs, an event she recorded with regret, as it seemed to depopulate the gardens.
- Early 19th century: an agricultural depression resulted in parts of the park being leased for tenants' grazing, and some retrenchment on the south-west
- Mid-1820s: Amabel's failing eyesight led to Thomas gradually taking over estate management
- 1831: Thomas' sketchbook recorded much of the estate at this time

1833-59: Thomas, 2nd Earl de Grey

- 1833: Thomas inherited
- 1834-8: The new house was built and the old demolished; new service buildings to the east and walled kitchen garden to the west created. Accompanied by the creation of new formal gardens close to the house

- Thomas was personally involved in the design of most elements
- About 1840: He demolished the Greenhouse replacing it with a new Orangery on the same site, though aligned differently
- The new house, service area and walled garden encroached on the park to the north of the old house site. New plantations on the edges of the park lead to it being more inward looking
- 1857: Thomas began laying out the Evergreen Garden

1859-1916: Stasis

- 1859: Wrest became part of the Cowper estate, serving as dower house for Anne Florence de Grey Cowper, widow of 6th Earl Cowper
- 1880: On the death of Anne inherited by Francis, 7th Earl Cowper, who was based at Panshanger (Hertfordshire); Wrest was used for parties and the gardens were maintained by a full-time staff of gardeners
- 1904: A *Country Life* article recorded the gardens as being in immaculate condition
- 1905: On the death of Francis the estate passed to his nephew who lived in the New Forest and had little use for Wrest
- 1906-1911: Wrest Park leased to Whitelaw Reid, the American Ambassador, whose records (and those of his guests) included photographs of Edward VII in the gardens
- 1914-16: Wrest used as a military hospital but closed following a serious fire
- Areas created or re-planted included the Atlas Pond and Fountain and the Rose Garden, as well as several of the specimen trees
- There appears to have been an increased appreciation of the maturity of the parkland planting

1917-46: Fragmentation

- 1917: Death of the 9th Baron Lucas; Wrest sold and the estate broken up, most went to J G Murray, an industrialist from the North-east. Although parts of the park were purchased by Murray, others were sold or immediately let
- 1932: Murray moved to Coles Park, Hertfordshire, put Wrest up for sale, and began to asset strip the estate selling some monuments and removing others to his new home. Parts of the park and the woodland garden were subjected to considerable tree felling as Murray sold off trees for timber
- 1939: The Sun Insurance Company bought the house and about 260a of land for its wartime headquarters, staying until 1946. There was some maintenance and re-planting of a few areas by SIC staff as a 'hobby'. Most of the park was sold

separately. During the war all of the parkland and parts of the garden were under the plough. The woodland was managed by the Essex Timber Company; there was further extensive felling

1946-2015: The post-war era

- 1946: Estate sold to the Ministry of Works to ensure the survival of heritage features. In contrast the parkland suffered greatly being denuded of most trees
- 1947: The National Institute for Agricultural Education (later the Silsoe Research Institute) re-located to Wrest and the site gained national and international recognition for the work carried out there. The formal gardens and woodland/great gardens were managed under the guidance of MoW/English Heritage. Financial input was limited to upkeep and certain areas became 'institutionalised' with low maintenance planting whilst others were neglected or inappropriately planted
- After 1983: Certain areas were 'restored' to the 18th century style, and some features which had been lost or altered were reinstated
- 1986: Wrest Park added to English Heritage's Register of Parks and Gardens of Special Historic Interest at Grade I
- 2005-onwards: Considerable recording and assessment of the gardens has taken place in support of a long-term management plan, and the gardens have experienced renewed investment. The Walled Garden now houses parking, a visitor centre café, shop and play area, as well as areas of planting by the gardening apprentices. The Old Park area was recently acquired by English Heritage and replanting is taking place

The Bathhouse Grounds

Earlier history

The earliest known view of Wrest Park, the Kip and Knyff view of about 1704 (Figure 5), is not very detailed but shows the old house with a court to its north and an east/west avenue to the north again. This avenue appears to be on the same line as Butcher's Row, the northern limit of the survey area. To the west of the house and court are some service buildings and to the west of these, and south of the avenue, was a walled garden with a plantation to its south, perhaps a tree nursery or orchard. These very probably extended into the east of the Bathhouse Grounds but they are not shown on the 1719 Laurence map (Figure 6) and the construction of the Greenhouse and later the Orangery probably removed most traces of them. The view also shows a stream running WNW/ESE, probably crossing the south-west of the Bathhouse Grounds, towards a large sub-circular feature apparently defined by ditches. The former was probably the precursor to the stream feeding Old Park Water today though its history is rather complex. Lines of trees followed these features and two lines of trees ran north-east/south-west from the west end of the walled garden but it is impossible to tell if these also marked watercourses.

The Laurence map of 1719 (Figure 6) shows that the walled garden and plantation had been removed and most of the Bathhouse area cleared apart from the avenue to the north, a few isolated trees and a small belt of woodland that ran north/south, probably to the west of the existing fence, outside the current gardens. Broadwalk had been extended into the area south-east of the Bathhouse Grounds and was considerably more complex than the single track seen today with what appear to be secondary walks to both north and south on differing levels connected by steps, confirmed by the Angelis view of about 1721 (Figure 7). To the west of the end of the terrace was the octagonal Neptune Basin. This appears to have been supplied by a broad watercourse running in from the north-west on the approximate line of the probable stream, noted above, that then turned south to meet the north side of the basin, apparently on the approximate line of the most northerly part of Old Park Water. A fence ran to the south-west of this, presumably marking the boundary between the gardens and the park at this time. A narrow channel from a rectangular water feature, probably a pond, to the north-east ran into the broader channel a little to the north of the basin. This pond, with its outfall to the south-west, must have been spring-fed but it is not known if the spring rose within the pool or elsewhere and was directed to it by a conduit. Analysis suggests that the pond may have lain to the north of the Bathhouse but this map is not thought to be particularly accurate (Alexander et al 2014, 127).

The 1735 Rocque map (not reproduced) just shows most of the rectangular pond on the extreme left edge of the map and hints at an outflow on its south-west side but its form cannot be seen (*contra* Way 2005, 71). The area to the east of this is shown as a regularly planted grid of trees, probably the new orchard of about 1716 (Way 2005, 71). The Neptune Basin had been removed and the area appears to be a lawn.

The 1737 Rocque map (Figure 8) shows this area rather more fully. The rectangular pond is again shown (not circular as Way states, 2009, 71) with a serpentine stream running away to the south-west. It appears that this was a fairly simple modification of the former straight watercourse. The regularly planted trees are shown again and appear to extend a little to the west of the rectangular pond. West of this, the area to the south of the watercourse appears to be shrub planting with the area further to the south probably lawn. To the north of the watercourse was probably rough grass, perhaps pasture. Analysis of the two Rocque maps indicates that the pond was actually to the north-east of the Bathhouse in the area of the later Cascade and these maps are considered to be fairly accurate.

Following this there are no known visual sources until about 1800 (Figure 9).

The Bathhouse Grounds

Work on the Bathhouse and the Cascade to its north-east was underway by the autumn of 1769. In a letter of the 26 September Edward Stevens (the architect) wrote to Lord Hardwick:

I have the honour to acquaint Your Lordship that I have nearly completed the front of the Arch, over the Spring Head; the

Cascade part excepted; and having been particularly happy in the disposition of the several stones, I flatter myself it will meet with Your Lordship's approbation.

If the weather continues favourable I make no doubt of being very forward with the Bath in about a fortnight, but I cannot say with certainty when it will be covered in, yet nothing shall be wanting on my part, to hasten the works with all prudent expedition. (Bishop nd)

Mention of the 'Spring Head' seems to confirm that the Cascade was constructed on the site of the rectangular pond discussed above, as suggested by the Rocque maps and contra Laurence, and that this was directly spring fed.

Work continued throughout 1770 and much of the next year: a 'general abstract of bills received' for works to 'The Bridge and The Cold Bath' was compiled in August 1770 (BLARS L/31/318). It was still unfinished on 21 May 1771 when Hadley Cox wrote to His Lordship:

We ... visited the Bathhouse which we imagine when completed will exceed rather than fall short of our expectation. I make no doubt the romantic style of the building – the elegance of the Bath, neatly paved and filled with limpid water and embosomed with a greenwood shade and decorated with a murmuring waterfall will all together form a very beautiful and picturesque scene. (Bishop nd)

Construction may have been finished by 9 June 1772 when it sounds as though attention had shifted from building works to the grounds; R Finney (the gardener?) wrote to Lord Hardwick; 'Eight labourers have been employed by myself weeding & planting & cleaning the ground about the Bath ...' (Bishop nd).

By 31 August 1772 it seems that the new area was being shown off to visitors; Mary, Amabel's sister, wrote to her from Wrest 'I carried Lady & Miss Brett ... to see the Bath ... which they liked very much' (Way nd, 95), and only a few weeks later, on 20 September, she wrote again to say 'Mr Wray & Co are very well pleased with the ... Bath' (Way nd, 96). The Bathhouse seems to have been a source of some pride. On 19 June 1774 Jemima wrote from London to Amabel at Wrest:

I have been to see Wedgwood's Exhibition of the Service for the Czarina, & want very much to have some of our Views of your Drawing find a place in it, as it is not quite completed. ... Those I should wish for are [various listed] also the Bath & Room at Wrest which you took lately if that too could be finished up' (Way nd, 105-6)

The Bathhouse was probably originally painted. In 1775 Amabel wrote 'The Bath Room is painted & looks neat again', which suggests renewal rather than new work, and continued 'tis a great Pity that the Painting will not stand for it is a pretty little Room' (Way nd, 117).

Mention of the Bathhouse as 'embosomed with a greenwood shade' (above) suggests that the surrounding area was intended to be a woodland garden and from quite

soon after its construction 'there is frequent mention to cutting and replanting of trees and shrubs etc in the Bathhouse Ground' (Way nd, 37).

On 20 November 1776 Jemima wrote from Richmond to Amabel at Wrest:

As to the Gardiner's Queries which you mention in the Letter to Your Sister... That the Border for Ever Greens before the Yew hedge should be interrupted at the Gate (I suppose the little Gate towards the Bath) seems to me Self-Evident, unless Persons were required to Jump over the said Border into the gate. But whether it should stop there quite (at least for this year) or how wide the said Border should be I leave to your Consideration & to the Report the Gardiner was to make of the Quantity of Plants etc wanted for it & their Expense. As to the removing some of the Yew hedge at the end of that Row, it seemed to me it might have a good effect in shortening the Line & would open to some Scatter'd Trees beyond the Sunk fence & that the Paling there (which I suppose is the place meant) could not be seen from the Gravel. But this also you will judge better on the Spot. (Way nd, 124)

Elements mentioned include the 'little gate towards the bath', a yew hedge with an evergreen border in front of it that the gate passed through, and a sunken fence (ha-ha) and paling. It is uncertain where these features lay but with the house to the east and the Greenhouse between they must either have lain to the south of the Greenhouse giving access from Broadwalk or to the north of it. The former seems inherently more likely as the care being given to the plans suggest the area under consideration was in a more prominent part of the gardens than the area behind the Greenhouse, and the yew hedge was very probably that running east/west to the north of Broadwalk; perhaps the 'gravel' refers to the surface of the walk. This may therefore date the origin of a path from Broadwalk towards the Bathhouse (though the first visual source showing this is the copy of a map of about 1830, Figure 11), and a bed along the front of the yew hedge (perhaps hinted at on the same map by the double line used, but first clearly shown on the 1881 OS map, Figure 18). The intention to remove 'the yew hedge at the end of that row' appears not to have been carried out (four days later Amabel replied 'I am not much for opening the End', Way nd, 124), but nevertheless hints that the boundary beyond, probably that now occupied by the inlet stream, may originally have been a ha-ha. If so then this feature could be considerably older than appears from map evidence, though originally dry.

The Bathhouse originally looked out onto the rusticated column monument, now known as 'Brown's Column' (LUC 1993), which was moved to its current position in the woodland gardens by about 1830, certainly 1831 (based upon the maps shown in Figure 9 and Figure 10 though the areas concerned are not reproduced here, see Alexander et al 2014, Figure 106 and Figure 120, item U; contra LUC 1993). It is unclear where this would have been, though a site to the north-west would have been visible from the door, or one within the south-east quadrant from the windows of the bath itself.

The Bathhouse was more than an ornamental folly and was certainly used for bathing, which was thought to have medicinal value. On the 1 June 1784 Joseph Pawsey wrote

from Silsoe that he had dined with Mr Robinson (the new Vicar): 'He appears to be Very Weak and in bad health, and requests yr Lordship's permission to have a key of the Gardens and that he may be allow'd to use the Bath; as Batheing is Recommended to him' (Bishop nd). It was also a more general focus in the grounds; in her diary for 20 August 1787 Amabel recorded that 'We breakfasted at the Bath-House' (Way nd, 172).

Subsequent history

From soon after its initial construction the Bathhouse required ongoing maintenance. As noted above it was being repainted as early as 1775. In 1779 a 'Memorandum Of Works to be done at Wrest' recorded 'Bath Room; The Door Line'd [?] with Lead – its [?] Sides [?] to be Re'd [repaired?]' (BLARS L31/343). Repainting was again mentioned in a letter of 5 May 1793 from Joseph Pawsey to Jemima: 'They [the painters] shall afterwards Paint the Bathhouse & the Inscription over its Door, According to your Ladyship's directions' (Way nd, 189).

On the 25 August 1783 Thomas Gostelow (the steward?) wrote that 'The house carpenter was employed ... in mending the Bath Pipes' (Bishop nd) indicating that these were of wood. They were completely replaced in May 1785 when Mr Gostelow reported:

23rd: 'Six men were employed last week in digging out a trench to lay the New Pipes to convey the Water to the Bath, digging gravel, milking [?] drawing the pipes together & assisting to lay the same down, expense amounts to £1-15-6. House carpenter employed in laying the Bath Pipes down and sundry jobs.'

30th: 'I employed 5 men last week in covering the Bath pipes' (Bishop nd)

The damp ground appears to have caused continual problems with these pipes. On 31 May 1801 Joseph Pawsey wrote to Amabel:

The trees we took down on Cain Hill were upon examination totally unfit to make pipes to carry water to the Bath and to make pipes of Lead will cost upwards of £50 would your Ladyship please to have it done this year, or delayed until another, the Ground is so boggy and wet that Wood Pipes will continually want repairing and will upon the whole be as Dear as Lead in the End. (Way nd, 213).

On 28 February 1802 Joseph Pawsey again wrote to Amabel:

I am going to Harrold for three or four days and when I return will finally settle about the Pipes for the Bath water, but at present have no doubts but London must be the place, and have a Direction to Mr Nash the Plumber there, & will write to Him (Way nd, 219).

Nearly a year after the issue was first raised (2 May 1802) he reported:

I am glad to inform your Ladyship ... that the repairs of the Bathhouse are almost completed, same [save?] laying down the pipes which will be set about tomorrow (Way nd, 219).

The damp ground was a problem more generally. On 26 February 1804 Joseph Pawsey wrote to Amabel:

I have not yet begun to cut the Wood in the Bath ground but wait until we have a little Dryer weather; it is so very wett the men can hardly stand on it (Way nd, 233).

On 25 March 1804 he reported that he had:

begun draining the Bath Ground & have great Reason to expect I shall be able to do it in a way that will improve the ground and make it Firmer than it used to be, and that the wood will grow better than it used to do, I propose to plant some Aquatic shrubs & plants by way of Underwood [a nursery] to fill up the spaces but to insure their growth must take away some of the Taller Trees, the Gardener is of my opinion that they will never grow Else. I propose doing the lowest and most Boggy Ground this year and leaving the upper side next the Park until the next, that I may have your Ladyships permission to take down more of the Larger Trees on the upper side next the Park. (Way nd, 233)

The reference to 'lowest and most Boggy Ground' contrasted with 'the upper side next the Park' suggest that this work may have been in the area south-west of the Orangery, at the time behind the Greenhouse. A few weeks later (10 April 1804) Joseph reported:

The gardener can inform your ladyship how much we have improved & drain'd the bath ground and when he returns we shall put in the Alder Plants etc etc (Way nd, 233)

A year later on 15 March 1805 the works appear to have been continuing as planned:

The Workmen are now busy in felling the Wood in the Bath Ground & I think will complete it in about a week, we shall then begin to Plant to fill up the vacancys, we are very fortunate in having so dry a season for carrying out the Wood from that Swampy Ground. (Way nd, 241)

Management of the trees in the Bathhouse Grounds was an ongoing concern and there are numerous such references to clearance and planting. There were also more dramatic incidents; on the 19 March 1809 Lewis Harrison wrote to Amabel that 'The late winds have blown down several of the trees, & among the rest a very handsome poplar in the Bath Grounds, ...' (Way nd, 264)

Early 19th century maps are generally rather sketchy and omit much detail including the Bathhouse itself. They generally show this area as wooded and there are numerous references to tree management including the planting of varieties more suited to the damp conditions.

The first source to show the Bathhouse is an 1813 watercolour by Shepherd (not reproduced here, but see Way 2005, 77). This shows it from the WNW and though it

appears to show a single structure, the bath itself would not be visible from this angle and there is no reason to think that the double plan is not original, particularly given the 1776 reference above to 'the Bath & Room' (contra Way 2005, 71). This view does not show Bathhouse Water which would have run to the rear of the buildings from the illustrated angle.

There is a 'single fascinating record of work carried out in the Alder ground adjacent to the Bathhouse Ground - an area not previously known of' (Way nd, 37). On 7 August 1822 Amabel recorded in her diary:

Mr Brown [the steward? He also deals with Enclosure at this time] came & I went with him to the Bath Ground & Alder Ground beyond where more Trees must be cut down. (Way nd, 335)

The copy of a map of about 1830 (Figure 11) is the earliest map to show the Bathhouse, labelled 'The Bath'. A path ran to its west apparently giving access to the Bathhouse door, from the south-west (where it was labelled 'Walk to the Park') to north-east. This then curved around to run ESE for a short way before dividing to run north and then east around an area labelled 'The Bath Grounds' behind the Greenhouse, and on a sinuous route south to the yew hedge. Though no break in the hedge or path on to Broadwalk is shown it is likely that they were present (see above). This map also records the 'Chalybeate spring' but shows the associated watercourse continuing to the East beyond the Cascade, cutting across the line of the path here. As the Cascade must have been present it seems likely that this was a copying error or a mistake on the original map, perhaps what should have been shown as a path has been conflated with the watercourse. A 'cow yard' was also shown, to the NNE of the Bathhouse. The map from the 'Views of Wrest 1831' sketchbook is very similar to the slightly earlier copy but perhaps more accurate in some details. Bathhouse Water and the associated bridge and paths appear to be shown correctly for example.

The first edition OS map surveyed in 1881 (Figure 18) is the earliest to show the area accurately. The main elements all appear as seen today, in particular the Bathhouse, Bathhouse Water, and Orangery. Not surprisingly there are differences though: buildings are shown behind (west) of the Orangery and north-west of the Bathhouse; a substantial ditch is shown to the west of the Bathhouse; the path layout differs; and the area is generally much more wooded than today with some areas that are now wooded open. In particular a belt of trees ran along the south-east side of Bathhouse Water, with an open area to the south-east of this, the opposite of today's layout (contra Way who dates this to 1924, 2005, 72).

The 1899 OS map (Figure 19) is clearer, showing wooded areas more stylistically, but otherwise most elements remain the same. The greater clarity shows that Bathhouse Water was directly connected to Old Park Water and there are hints that the inlet from the west may have been controlled by a weir, the opposite of the current position. It also shows considerable clearance of trees particularly on the triangular area to the west, and to the north and west of the Bathhouse where the new open areas are both labelled 'Nursery' (that to the north also shows a small building with approaching track).

Several descriptions of the area in this period appear in the *Gardener's Chronicle*. In 1885 it recorded a 'wild fernery in a dense part of the wood' and in 1900:

at the back of the Orangery is an old Roman Bathhouse, and its immediate surroundings is enclosed by a most remarkable yew hedge, very high and in some places 20 feet wide. ... near to the Bathhouse and about the rustic bridge is a kind of informal rockery where ferns are quite in keeping, and a pretty nook it is (Way 2005, 73).

Whilst most of the details remained the same on the 1922 OS map (Figure 20) the building on the lawn to the west had been demolished and replaced with a different building in roughly the same area. To the immediate east of this was an enclosure with another building within it. The 1947 OS map (not reproduced) is largely unchanged from 1922.

By 1967 the spring was described as 'long since dried up' although the bridge was still referred to as the 'Cascade bridge' (Way 2005, 73). By the 1975 OS map (Figure 21) all the previous buildings had gone apart from the Bathhouse itself and the Orangery. The path layout had been simplified and the drain to the west of the Bathhouse was omitted, presumably silted up. The northern 'Nursery' area had become more overgrown but tree cover appears to have become sparser to the south-west of the Orangery. A rectangular yard had been laid out to the rear of the Orangery containing two new buildings.

The point at which the low marshy area to south of the Orangery service yard became waterlogged is unknown. The 1899 (Figure 19) to 1947 maps (not reproduced) show coniferous trees within the heart of this area, perhaps indicative of relatively dry ground, though by the 1975 map (Figure 21) those that remained seem to have been restricted to the north-west corner hinting that the ground was becoming wetter.

EARTHWORK DESCRIPTION

See Figures 22 and 23.

Introduction

The survey area extended as far north as Butcher's Row, the track to the south of the walled garden, as far east as the Orangery, as far south as Broadwalk, the track to the south of the Orangery, and as far west as the substantial modern fence marking the current limit of the gardens.

Butcher's Row and Broadwalk are very nearly parallel and run slightly north of east to south of west, with the Orangery and the northern part of the boundary fence at right angles to this. For the sake of simplicity the ordinal points will be used. In general the survey area fell gently from north to south.

This roughly square area was divided into two unequal areas by a reverse 'S' shaped vehicle track that ran from the west end of Butcher's Row to the west end of Broadwalk. An additional vehicle track provided access to the service area to the rear (west) of the Orangery and an unsurfaced track or path to the north of this led to the north end of the Orangery terrace.

To the south-west of the service area behind the Orangery was a low-lying marshy area drained by a series of small interconnecting channels. Access was not easy and the vegetation dense and uneven making it impossible to determine if any significant topographic features existed. It was also clear that the channels had been recut on numerous occasions and were unlikely to be historic. As a result no survey was attempted in this area, though some detail was picked up around the edges.

A similar area to the west of the Bathhouse was drier and no channels had been dug to drain it (Figure 3). It was also thickly vegetated but some scarps could be picked out. Where these could be resolved into coherent features they were surveyed.

To the north of these low marshy areas the ground rose and was fairly densely wooded. The canopy was relatively high and survey was generally possible beneath this though root growth and leaf litter meant that only relatively strong features could be picked out with confidence. In some areas dense undergrowth, and occasionally tree trunks, made surveying impossible. Where necessary detail was measured in from known features.

The open area to the north of the Orangery was not examined as this had been surveyed previously (see Alexander et al 2014) and the area to the west of this, north of the 'S' track, was heavily vegetated and not due to be developed so was also omitted.

Other areas were under grass. The large triangular area in the west of the survey area, the small area to the NNE of the Bathhouse and the strip running along the eastern side of Bathhouse Water were mown short and detailed survey was possible.

The same was also true of the area to the south of the Orangery and to the west of this as far as the 'S' track. The area to the east of the end of Broadwalk was under very long grass and omitted.



Figure 3 The Bathhouse grounds from the west (Brian Kerr)

Surveyed earthworks

These have been described as far as possible in chronological order. The period headings are intended as a guide to help navigation and are not exact or rigidly imposed.

Paragraph numbers refer to Figures 22 and 23

Earlier features

1. Several scarps to the north of the track to the Orangery service yard seemed to define a broad gully about 17m long and perhaps 7m wide, though they could not be seen clearly due to heavy undergrowth. Two curving scarps 5m to the north, closer to the path to the north-west Orangery terrace, were perhaps also related, indicating the continuation of the gully, but it is perhaps more likely that they were related to tree growth or a large service chamber immediately to the east [67]. This probable gully may well have originally continued to the south, on the other side of the track to the service yard, where there are now two obviously modified gullies [57]. In particular, a west facing scarp aligned with the east side of the eastern gully suggesting a single feature running due north/south. This gully is not shown on any sources but it probably pre-dates the Orangery as it underlies the track and what is thought to be traces of associated make up, for example [51]. A possible context for it is considerably earlier; it may be that the straight north/south

scarp marks the western end of the walled garden shown on the 1704 view (Figure 5), the gully perhaps the result of traffic or surface drainage around the end of the garden. It could be a later feature though, particularly given the relatively poorly documented period from about 1770-1830 when this was a part of the Bathhouse Grounds, a problem in dating many features discussed here.

2. A short gully ran off to the east of the north/south scarp mentioned in [1], apparently at right angles to it. It is possible that the two were related. It remains undated.
3. Within the wooded area to the north of the Orangery service area was a south facing east/west scarp about 23m long. This did not seem to bear any relation to other surveyed features, trees or other vegetation or to features on any maps. As it generally ran at right angles to the north/south scarp in [1] it is possible that it was also related to it, perhaps the remains of an internal feature of the walled garden, though again this is a very tentative suggestion.
4. To the ENE of the Cascade mound [15] were two scarps apparently forming a low, broad, flat-topped ridge with a top perhaps 6m wide and a total width of twice this. There was also a scarp to the east of the 'S' track that could have been related though it might have been associated with the west side of gully [1]. The ridge appeared to run beneath the Cascade mound, possibly with the northern scarp continuing and curving slightly to run more to the west before curving back around to the south-west. If so then this feature must pre-date the construction of the Cascade. It is probable that the latter was built over the rectangular pond shown on maps of 1719 (Figure 6), 1735 (not reproduced) and 1737 (Figure 8), and possibly described as 'the Spring Head' in 1769 (above). If so, then this ridge and the pond may have been related.
5. A NNW facing scarp in the north of the grass area to the south-east of Bathhouse Water appeared to be the southern side of a broad ENE/WSW gully, the north side of which seemed to underlie the Cascade mound [15] but which was largely obscured by vegetation and the paths approaching this mound from the east. The hollow to the north [6] could have been a part of this broad gully and it may be significant that it was roughly parallel to ridge [4]. Both of these features seemed to run on roughly the same alignment as parallel lines of trees running south-west or WSW from the west end of the walled garden shown on the 1704 Kip and Knyff view of the park (Figure 5) and it is tempting to suggest that they might be related.
6. To the east of the Cascade mound, was a relatively large hollow. It was difficult to define its full extent or form due to surrounding vegetation. It seemed to respect the path layout shown on the 1881 first edition OS 25 inch map (Figure 18) so could date back to the 1880s but it could be that the paths were positive features and the hollow was actually part of the broader gully extending as far south as scarp [5].

7. A slight ENE facing scarp ran parallel to Bathhouse Water about 5m to its south-east. To the north this was cut by feature [64] which obscured its relationships with features to the north and to the south it may have been cut by hollow [25] continuing beyond it but this was much less certain. That it ran parallel to the water suggests that it was related to it. Perhaps when originally set out there was a path along this side of it. If the existing water was actually based upon the straight watercourse shown on the 1719 Laurence map (Figure 6), and the hint of a continuation beyond hollow [25] is actually a part of that feature, then it could be related. It is unlikely to be earlier as features crossing this area on the 1704 view were on a different orientation (see scarp [5]) and unlikely to be later as the area was probably wooded throughout the 19th century and the first half of the 20th (see [25]).

8. In the low area south of the yew hedge at the west end of Broadwalk, was a faint flat topped ridge with a slight and intermittent gully to its north running parallel with Broadwalk and about 10m to its north for at least 30m and less certainly for 40m. The 1719 Laurence map (Figure 6) shows that at this time Broadwalk comprised three separate walks, one on the line of Broadwalk itself and one to north and south of this. It seems likely that this ridge is a trace of the northern of these walks.

9. The remains of a yew hedge ran parallel to Broadwalk and about 20m to its north continuing west as far as Old Park Water, a total length of over 90m. Long sections were marked only by stumps and a low ridge probably created by root growth, with the surviving yews either much reduced or considerably grown out. A hedge line is shown on the first edition OS maps of 1881 (Figure 18), a clear boundary is shown on a map of about 1800 (Figure 9), and the early wide form of Broadwalk shown on the Rocque and Laurence maps of 1737 (Figure 8) and 1719 (Figure 6) may have extended as far north as this, though it is unclear if there was a hedge on this line. However the Angelis view of about 1721 (Figure 7) seems to confirm that there was a hedge here, though the rather distorted perspective makes it difficult to be certain of its location. To the east it turned to the north-east though this section was probably later (see [36]). To the west, a very faint and intermittent north facing scarp ran parallel to the yew hedge and about 3m to the north of the remnant stumps. In 1900 the *Gardener's Chronicle* recorded that in places the yew hedge was 20 feet wide. Half of this would be 10 feet or about 3.3m so perhaps this scarp is a trace of erosion along the edge of the hedge in the late 19th century.

10. On the lawn south of the Orangery terraces [35] were some faint south facing scarps likely to be remnants of the lowest of the terraces of the Greenhouse amphitheatre and date to about 1736. The development of the whole area south of the Orangery is unlikely to have been as straightforward as suggested in [35], [37], and [38]. It was preceded by the Greenhouse which was built sometime between the two Rocque maps of 1735 (not reproduced) and 1737 (Figure 8), which was oriented at right angles to the later building with the west end of the Greenhouse occupying roughly the same site as the

south end of the Orangery (see Figure 17), and was situated on a mound referred to as 'Green House Hill' on the 1830 map (Figure 11). This mound had the form of a broadly stepped amphitheatre, with wings to east and west (Figure 8), presumably intended to reflect the larger amphitheatre to the south (see Figure 2) which had been built some time earlier. This layout lasted until its demolition and replacement by the Orangery; it was included in 'Views of Wrest 1831' (Figure 14) where it appears largely unchanged (note the clear fall away from Broadwalk visible in the foreground). It seems highly likely that the Orangery terraces [35], at least to the south, made use of the existing earthworks associated with the earlier Greenhouse, so their core, if not much of their outer form, is probably from the 1730s. It is also possible that some at least of the scarps at the west end of the Orangery terraces, which appeared to be the result of erosion by foot traffic, could in fact also be the remnants of parts of the western ends of the upper Greenhouse terraces. The large scarp behind the yew hedge [37] is also highly likely to be a reshaped version of that constructed for the Greenhouse.

11. Behind the eastern corner of the yew hedge was a low but clear flat topped spur at the south-west end of the large scarp [37]. The sketch of the Greenhouse from 'Views of Wrest 1831' (Figure 14) shows the two 'wings' of the Greenhouse amphitheatre terminated in similar features, each with a statue upon it, framing its main façade. It seems likely that the spur is the remnant of one of these. If so, then the north-east/south-west yew hedge must have been on a line further to the west than the current hedge [36], probably planted after the Orangery was built.
12. The southern extent of the low marshy area to the south of the Orangery service yard was defined by a moderate, fairly straight north facing scarp. The form was suggestive of an old feature perhaps related to the former arrangement of terraces associated with the Neptune basin of the early 18th century and it seemed that it was overlain by later features associated with the Greenhouse to the east such as [9]. To the west this scarp curved out to the north creating a low platform but this could not be dated. A short gully here was probably later, perhaps connected with drainage.
13. About 6m north of the west end of Broadwalk was a north facing scarp about 36m long. This could only be seen in the low area to the west of the lawn south of the Orangery thought to have been levelled up about the time the latter was built (see [38]). This probably marked a wider version of Broadwalk that pre-dated this levelling of about 1840, and most of the early 19th century maps show just this. It is likely that this goes back as far as the 1730s when the Greenhouse was constructed as the 1737 Rocque map (Figure 8) shows Broadwalk's northern edge to have been on approximately this line.
14. To the west of the Bathhouse was a generally WNW facing scarp that ran for 40m from the west edge of the path down from the Cascade arch, curved around the Bathhouse, and then continued on a more southerly line through the rough ground to its south-west. This was only a moderate slope and not particularly high, and to the south eventually disappeared in the

rough ground. To the north it appeared to follow the line of a path suggested by stone edging and early maps (see discussion under 'Stone edging' below) but to the south it did not seem to be related. Overall, it appeared to approximately follow the line of the sinuous drain running away from the rectangular pond shown on the Rocque maps. It is possible that two features have been conflated as the northern section was somewhat shorter and steeper than the southern, but this is uncertain. If so, then the northern part may be related to the paths of about 1770 and only the southern section to the channel on the Rocque map.

The Bathhouse Grounds

15. There was a large mound, perhaps 20m across, clearly constructed to enclose the Cascade and lend it a more natural appearance. As such this must have been contemporary with the Cascade's construction and so date back to 1770 or a little earlier. It was generally circular with fairly steep convex scarps. On its SSW side it was concave on plan with steep scarps with naturalistic stone revetment to either side of the actual arch and Cascade. The scarps curved away and eased to create 'wings' either side of the central features.
16. To the ENE of the Cascade mound was a low, spread spur of material. It was not clear if the mound overlay this or if it had been dumped against the mound. The latter seemed more likely though there was no obvious source for the material in the vicinity. It is therefore undated.
17. Bathhouse Water is basically a straight feature running for almost 50m slightly south of south-east from the Cascade past the Bathhouse itself, with a short (about 15m long) naturalising sweep to the west at its south end where it joined the north end of Old Park Water (Figure 4). It was generally defined by short steep scarps or vertical edges, no doubt the result of numerous episodes of tidying and edging over the years, as well as dredging. As the Cascade could not have functioned without a watercourse of some form it is likely to date from at least 1770 – the Cascade was under construction in 1769. What form it took at this time is unknown, but the rather sketchy early 19th century maps seem to show it in roughly its modern location, as do the slightly better maps of about 1830 (Figure 11) and 1831 (Figure 12), and the 1831 sketch (Figure 13) looks very similar to today. It therefore seems likely that its 1770 layout was not so different though it ran directly into Old Park Water and probably appeared to be much more of a continuation of it than today, particularly as the very large yews currently blocking sight of this junction would have been much more carefully managed. It could have had earlier origins than this though. It is possible that it began life as the straight drain running away from the rectangular pond/tank shown on the 1719 Laurence map (Figure 6). Although filled for a time it would no doubt have been considerably easier to re-excavate an earlier channel than start from scratch.
18. The ground to the north of the Bathhouse had a broad fall away to the ESE with a broad level area to the west. Beneath this fall was a slope towards the



Figure 4 The Bathhouse from the Cascade with the weed choked Bathhouse Water to its left (Brian Kerr)

edge of Bathhouse Water that formed two broad scoops in the fall above and the edge of the water was not as well defined here as elsewhere. It is not clear what the significance of these features was but it seems probable that this area had a rather different history to other areas around the water. It may be significant that this area lay between the Bathhouse and the Cascade so was probably an important part of the grounds. It is possible that the intention was to create a 'beach' area allowing relatively easy access to the water's edge, for paddling or some such, but this may be fanciful. The date of these features is also uncertain. Although they probably postdate the Bathhouse, since no similar features were seen to its south-west, it is not clear if they were contemporary with it though if the suggested date for [26] is correct then this is likely.

19. The longest feature recorded during the survey was a moderate ESE facing scarp that ran from the 'S' track to the north of the Bathhouse SSW almost to the point where the fence met the inlet stream, a distance of over 100m. It ran straight for most of its length, with a slight turn to the west about 70m from its north end. The reason for this change of orientation could not be determined. Broadly speaking the scarp increased gradually in height from north to south. A few metres from its northern end it was only about 0.3m high, at its highest, where it changed orientation, it was almost 0.6m high though its height decreased slightly south of this. About 15m from its north end, for a distance of about 35m, it was very disturbed and numerous stumps, probably the remains of a hedge, and animal burrows could be seen here. At roughly the point where it changed orientation the scarp was also

rather broken by an existing tree and traces of probably former tree or shrub growth. Nevertheless, it seemed likely that the scarp was originally fairly uniform along its entire length and created a marked division between the higher ground to the west and the lower areas to the east. A boundary on the same alignment, including the slight change in orientation, is first recorded on the inclosure map of about 1800 (Figure 16), as well as several other early 19th century maps. As this was only 30 years after the construction of the Bathhouse and its grounds, and this feature served to demarcate these from the area to the west, it seems likely that it always marked their western extent and was part of the original layout.

In the early maps this scarp appears to have extended as far as the avenue to the north but no scarp could be seen continuing within the vegetation to the north of the 'S' track. Here there was in fact a south facing east/west scarp perhaps 10m to the south of the existing track (not surveyed) suggesting that the avenue or at least a track originally ran on a line to the south.

20. About 12m to the west of [19], a slight ESE facing scarp ran for about 12m on the same orientation and alignment. About 6m to the SSW of this was what appeared to be a slight gully, also about 12m long, the western side of which continued the alignment of the scarp to the north. It seemed likely that these features were related and the same early 19th century maps referred to above also show a boundary on approximately this line so a similar date to the much larger scarp to the east seems likely.
21. South of [20], a relatively broad WNW facing scarp curved south to face north, with a short return to the south at this end where it appeared to form a faint gully though this may not have been related to the larger feature. In general, it defined a large hollow perhaps 15m across but a vegetation hollow in the north-east and a ridge, probably associated with a service, and the modern fence line obscured its full extent. It may have been related to earthwork complex [40] as it continued the general line of the eastern scarps of these features, perhaps more accurately reflecting the orientation of the building recorded there, but it was also on the line of the scarps thought to be picking up an earlier boundary [20] and the curve to the west closely matched a similar return shown on early 19th century maps so this may be the more likely date.
22. To the east of [21] was an ESE facing scarp that initially seemed to define a short ridge before [21] curving away westwards. It was unclear if the two scarps were related. Perhaps this was the edge of a track running through this area between gates to the NNE and SSW shown on the early 19th-century maps.
23. A well-built wall ran along the north side of the inlet to the north end of Old Park Water and the north facing scarps about 3m to the north of this were probably related to this wall rather than to the east/west path here (see 'Stone edging' below) as they appear to run beneath it. The inlet is first clearly shown on the 1881 25 inch OS map (Figure 18) but may have been added to a map of about 1809 at a later date, thought to be about 1840 (Figure 17).

It is not known if this wall was an original part of this feature. It would not have been essential and could have been added later though it would perhaps have been easier to construct after the ditch had been cut but before water was allowed to flow along it. An earlier date of around 1840 therefore seems reasonable. It is possible that it was actually considerably earlier than this as the letters between Amabel and Jemima in 1776 (above) suggest that there may have been a ha-ha here at this time.

24. The track running west from the north-west corner of the Orangery terrace may pre-date the Orangery. The maps of about 1830 and 1831 (Figures 11 and 12) show an east/west track in approximately this location, though they are rather inaccurate. It ran from the south-west corner of the old house, the extension of 1791 (Alexander et al 2014, 71), around the back (north) of the Greenhouse and on to the Bathhouse. A fall away to the south along the south side of this track suggested that the track had been levelled up slightly at some time. It is possible that ridge and scarps [4] were remnants of this continuation though they appeared to run beneath the Cascade mound [15].
25. In the grass area to the south-east of Bathhouse Water were several undated but probably 18th century features. The majority of this area (apart from the very south-east corner) was shown as wooded on maps from 1881 (Figure 18) through to 1947 (not reproduced) and as late as 1975 (Figure 21) the area was still shown as scrub. It also appears to be wooded in 1831, see the background to the sketches of the Bathhouse (Figure 13) and Greenhouse (Figure 14), and is shown as wooded on inclosure maps of about 1809 (such as Figure 17) and pre-inclosure maps of about 1800 (Figure 16). It is therefore likely that it was continuously wooded throughout the 19th century and the features here, apart from a few hollows from shrub or sapling growth, are earlier than this. Some features have been discussed elsewhere; the remaining features included:
 - a. A west facing semi-circular scoop immediately to the south of the Cascade. This was about 9m across, rather large to be a tree bole.
 - b. A semi-circular, or perhaps sub rectangular, scoop in the south of the area. This was up to 10m across, a very similar scale to [25.a] and similarly rather large to be a tree bole. It is possible that this cut scarp [7].
 - c. A slight scarp tailed away to the west from scoop [25.b]. This could have been part of this feature but if scarp [7] was actually running parallel to Bathhouse Water then it is possible that this was a part of this scarp which had changed orientation to reflect the changing orientation of the water.

19th century features

26. On the level lawn to the north of the Bathhouse was a faint ridge running from the low wet area to the west towards Bathhouse Water. It seems

likely that this could be the line of a conduit draining the former area. The relationship between this feature and [18] is uncertain but at the time it was thought to be later. If so then it could part of the drainage works mentioned in 1804/5 (above).

27. Within the angle between the 'S' track and scarp [19], north of the Bathhouse, was a raised area defined by a curving south facing scarp. Although its exact form was not visible due to vegetation growth, it is possible that this was related to the 'cow yard' shown on the map of about 1830 on this site. A building is more clearly shown here on a map of about 1809 (Figure 17) suggesting that this may be a demolition spread. There were also several curving scarps to the south of this and it seems possible that the closest of these may relate to the associated yard, though if so it must have been rather disturbed.
28. On the low ground immediately to the east of the point where path [34] turned towards the Bathhouse was a complex of features. There was a roughly square platform a little below the top of scarp [19] with a fairly steep scarp to the SSW (though disturbed by a tree) and a less steep scarp to the ESE. This was most probably the remains of a ramp carrying the path down from the high ground to the west. To the NNE of this was a masonry feature, probably a buried wall, though there was a large gap in it, running at right angles to scarp [18] and north-east of this was a roughly circular hollow about 2m across filled with very soft and damp material into which a ranging rod could easily be pushed to a depth of over 1m. A spur ran from firm ground to the north of this south-east for several metres. It seems highly likely that the hollow was the remains of a tank, either fed by a natural spring or conduit, though it was not clear if the gap in the presumed wall was the original outlet or if the wall had collapsed or been robbed, and the outlet itself was now buried. It may appear on the 1922 OS map (Figure 20) as a small rather irregular dot, though the ditch to the south (surveyed as [29]) suggests it probably existed by the 1881 OS map (Figure 18) so perhaps it was covered prior to this.
29. Running north-east from [28] for about 8m was a broad southward fall that then curved around to run fairly straight to the ESE before being obscured by vegetation, which appeared to form a boundary between the generally wet area to the south and the drier wooded area to the north. The latter straight section aligned approximately with the south side of a minor path shown here on the OS 25 inch maps of 1881 (Figure 18) and 1899 (Figure 19), a boundary apparently persisted here until the 1947 map (not reproduced), and tree growth may have pushed the western section off line so it is possible that it was related to this path. If so then in its existing form it would appear to be of a mid to late 19th century date, though the natural fall of the ground would always have required a change of level so the overall fall is more likely to be contemporary with scarp [19].
30. Fifty metres SSW of [29], immediately to the east of scarp [19], was a fairly well defined hollow at least 5m across (WNW/ESE) and 9m long, though

it petered out in the rough ground to the NNE. It seems highly likely that this was the south end of a substantial ditch shown on OS maps from 1881 (Figure 18) to 1947 (not reproduced) that ran along the foot of scarp [19] as far as the path to the Bathhouse, now silted up.

31. In the north of the triangular grass area was a slight ESE/WNW linear scarp. It had no relationship with the 'S' track and appeared to underlie the path scarp [34] at its east end and did not continue beyond [19] suggesting that it pre-dated them, as well as a tree mound and services to its west. It may have been cut by a substantial hollow [48] at its west end but the services made this relationship uncertain. It might also pre-date hollow [32], possibly the result of erosion relating to a gate shown on early 19th century maps though it could also overlie scarp [20] thought to be related to a boundary appearing on the same maps so the date remains uncertain though it was probably pre-1840. There was a similar scarp on a line a little to the south but on a slightly more east/west orientation. Only a limited section could be seen and little can be said of it.
32. North of the east end of [31] was a hollow that also appeared to underlie path scarp [34] (or perhaps more accurately the ramp at its northern end [49]) to the east and the 'S' track to the north, so it probably pre-dates these. At the time of survey the impression was that the hollow was rectilinear but as much of it could not be seen this is uncertain. It was also possible that it was respected by scarp [31] immediately to the south, which had a deviation southwards here that may have been related. A gate was shown here on the 1800/1809 maps (Figures 9 and 10) , and it is possible that this was an area of erosion and deposition associated with traffic through this during the earlier 19th century, but hints of a similar feature to the WNW [33] may suggest otherwise.
33. To the west were hints of a hollow similar to [32]. The evidence for this was rather disturbed by services but it appeared to be a sub rectangular hollow about 7m WNW/ENE that extended beneath the track to the north so its full form and size could not be determined.
34. A little over 2m to west of [19] was a slight parallel WNW facing scarp creating a flat-topped ridge along the top of this scarp. It seems highly likely that this marked the line of a path shown here from the 1881 OS map (Figure 18) onwards, until at least 1972 (Figure 21). This path extended for about 50m from the track to the north where it turned at a right angle and headed towards the Bathhouse. This section appears as an addition of about 1840 to an earlier map (Figure 17) so the whole path could be as early as this. The scarp was visible a little further south than this but it was fainter, a bit broader, and curved slightly so it may have been disturbed.
35. From most sides the Orangery appears to have been erected upon a terraced mound, though it has a basement containing various stores accessed from the service yard to the west, which the terracing has largely been built up against. To the south of the Orangery the terracing reaches its maximum height

of over 2.5m as the surrounding ground level naturally falls away. Here it comprises three terraces separated by steep scarps with a stepped path to the east defining the limit of the current survey. The current form of the terraces would appear to relate directly to the Orangery and therefore dates to about 1840. The terraces are rather broken and disturbed at their western ends, against the yew hedge, apparently due to continuous foot traffic here over many years.

36. A substantial yew hedge ran south-west from the Orangery for about 35m before it turned westwards joining the more broken east/west section [9]. The former section is unlikely to be as early as the latter since a boundary in this area is not shown until after the Greenhouse was constructed, and on the 1737 map (Figure 8) this line is dotted rather than solid, only appearing as a definite boundary on maps of 1800 onwards (Figure 9), so perhaps it was secondary to the Greenhouse as well. It is possible that the current hedge is later than this though as the boundary related to the Greenhouse is generally shown as slightly sinuous and this is not only straight, but has a direct relationship with the Orangery suggesting that it may have been replanted once the Orangery had been built, sometime after about 1840.
37. Behind the yew hedge was a very large north-west facing scarp running south-west away from Orangery for almost 40m. This decreased in height from the Orangery at the north-east end, where it was over 2.5m tall, to the south-west where it terminated at a low bulge [9]. This clearly retained the terracing to the east and in part defined the south side of the Orangery service yard.
38. To the south of the Orangery terraces was a fairly large, level lawn defined to the west by west facing scarps dropping down into the low rectangular area south of the yew hedge. These scarps were rather more broken to the north, apparently similar in some ways to the broken scarps at the west end of the Orangery terraces, apparently also the result of foot traffic. It seems probable that this area was levelled up at the time of building the Orangery in order to create a smooth transition from the Orangery to Broadwalk and on to the (slightly later) Evergreen Garden.
39. A large south-west facing scarp ran north-west away from the north-west corner of the Orangery. This was similar to [36], also retaining the terracing to the east and defining in part the north side of the Orangery service yard. This decreased in height more rapidly than the southern scarp as the terracing fell and natural ground level rose simultaneously and was consequently only about 25m in length. It was also generally simpler in form, no doubt due to a more straightforward history.
40. In the approximate centre of the triangular grass area, due west of [28], was a complex area of earthworks that had been disturbed by several former tree boles and truncated to the west by services. This comprised a sub-rectangular hollow oriented east/west, and two ridges to the south oriented slightly more to the ESE/WNW, with a north/south scarp falling away to

the west. This was the site of a rectangular building, measuring about 11m by 5m, surrounded by trees shown on the 1881 and 1899 OS maps (Figure 18 and Figure 19). This had been replaced by a smaller building with yards to the north-west (a sty or kennels perhaps), about 6.5m by 5.5m in total, on approximately the site of the eastern end of the earlier building by the 1922 map (Figure 20), and which survived until at least the 1947 map (not reproduced). Both buildings were oriented north-west to south-east rather than east/west as suggested by the earthworks, however the ridges to the south were perhaps more aligned with the mapped buildings, as was a scarp to their south-east and it is possible that the east/west and north/south scarps to their north had been confused by tree boles. Trees are certainly shown growing close to the north-east side of the building on the first edition OS map.

41. About 5m to the north-east of this side of the building earthworks was a faint south-west facing scarp that appeared to run parallel to it. It seems likely that this was related to the building, perhaps created by a path or just general traffic around it. At the time of survey it was thought to be a return at the south end of the slight scarp mentioned in [20] but early sources show this area as undivided so this could be coincidental.
42. To the north-west of this scarp was a west facing north/south scarp. This could have been a return to [41] (the junction was obscured by a service) but it seemed to pick up the alignment of the fall away to the west within [40]. If so then this might be rather earlier than the other features in this area.
43. A small rectangular hollow to the east of [40] could be related to this or perhaps to the enclosure to the north shown on the 1922 (Figure 20) and 1947 OS maps (not reproduced). An irregular gully between this and [40] could not be explained or dated.
44. In the wooded area north of the Bathhouse, just east of [23], was a curved south facing scarp. This was in the area of a small building approached by a narrow curving track from the 'S' track to the north shown on the 1881 OS map (Figure 18) and more clearly on the 1899 map (Figure 19). It appears that this scarp was on the line of the south side of this track and that the building lay to its immediate east. No earthworks were seen here however suggesting that it must have been a very light structure such as a shed and it did not appear on the 1922 map (Figure 20).
45. To the north of the Orangery service yard was the site of a building, measuring 7.5m by 4.5m with a possible porch or extension to the north, shown on maps from 1881 (Figure 18) to 1947 (not reproduced). To the east of this a rectangular depression [55], with a scarp to the immediate west of this [56] suggested a low ridge and although probably later features (below), it is possible these features relate to this building.
46. About 2m to the north of Broadwalk was a north facing scarp. This was significantly smaller to the east, south of the Orangery, where the ground

had been levelled up [38] and curved around to the north becoming west facing and running parallel to the path south from the Orangery. This clearly marked an earlier, wider version of Broadwalk. This seems to be shown on the 1881 OS map (Figure 18), and perhaps as late as the 1947 map (not reproduced), but by 1972 (Figure 21) Broadwalk appears to be close to its current width. To the east there was a faint scarp immediately to the north of this that could not be dated.

47. Immediately to the north of the west end of Broadwalk was a mound of material forming a spur overlying the east/west scarps. This could have been the result of tree growth but appeared rather regular and it is more likely that it was a base for a statue. The maps from 'Views of Wrest 1831' (Figure 12) and the 1834 sketch map (Figure 15) both appear to show a feature here, probably a statue plinth, but it is uncertain if this was actually in this location. A 19th century date seems reasonable though, given the relationships with scarps [13] and [46]. A smaller adjacent mound was probably related to vegetation growth.
48. In the north of triangular grass area, not far from the fence and immediately south of the exit gate was a semi-circular hollow about 13m across, though its exact form and dimensions had been disrupted by services. It probably cut scarp [31] to the east so post-dates this and probably pre-dated the services so is likely to be 19th century but other than this very broad date range little can be said with confidence.
49. The northern end of the probable path line defined by scarps [19] and [34], the last 7-8m, rose gradually to meet the 'S' track, with the scarps to each side steepening, and appeared to turn very slightly to the west suggesting it had been raised to form a ramp, presumably to ease the transition to the 'S' track. As noted elsewhere [58], although the track probably dates from the 1840s, successive resurfacing episodes have probably raised its level so this is of little use in dating the ramp, or in turn the path to the south. However a fall away from the current track and the overall form of the ramp suggest it is not recent, perhaps later 19th century.

Stone edging

Stone edging could be picked out in many places across the survey area. The edgings were generally similar, composed of somewhat irregularly sized (though typically around 30cm long) and shaped (but generally flattish) blocks of a dark brownish-red sandstone set on edge to form semi-continuous lines of stones. They were frequently rather overgrown and in most cases petered out, becoming increasingly intermittent and hard to discern, rather than coming to a definite stop. It is likely that they defined either path or bed edges. They were seen:

- Around the Bathhouse. A line ran approximately 1.5m from its walls and perhaps defined beds. A second line curved around the south side of the Bathhouse about 2.5m from it with a short turn away to the west at its north end, which, with the inner edging, seemed to define a path. The edges

to the north are unlikely to be the remains of a similar path; a more marked fall away left no room for a level path, unless the scarps to the north [18] were later.

- Associated with the Cascade. Either side of the 1.5m wide path over the Cascade arch which ran from a line that would take it to the entrance to the Bathhouse north-west before curving around to the ESE and over the Cascade arch before continuing on this line as far as the 'S' track. To each side of the Cascade, narrow edged paths curved south and in towards it from each side, that to the east was steeper and stepped, that to the west less so and flagged. Outside of these were approximately triangular edged areas, surfaced with stones on edge and also with stone edging. To the east of the Cascade mound were several much smaller stone edged paths, some less than 50cm across, as well as some edges apparently defining beds. Unsurprisingly most of these are not shown on any maps. Although the first edition 25 inch OS map (Figure 18) shows a path here it seems to run around these paths rather than represent any of them, though the northernmost east/west line of stones could be picking up the alignment of the northern east/west arm of this path. In contrast the area to the south was shown as wooded but some of the edging seen would have been within this area.
- To the south-west of the Bathhouse parallel lines of edging emerged from the soft damp ground to continue to the south-west for over 15m on a line perhaps running from the northern westward return of the edging around the Bathhouse mentioned above. These met stone edgings running west along the north side of the inlet to Old Park Water for 20m before petering out about 8m before the fence. The line of the path appeared to be continued by a gully and this originally continued through to a gate beyond the current fence leading on to a north/south track that led to a bridge over the inlet stream and out into Old Park that is visible on maps from 1881 (Figure 18) onwards. A return to the east suggested a path in this direction along the inlet too, and a path that curved around back to the Bathhouse is also visible on the 1881 map.
- Intermittently along the south side of the path to the north-west corner of the Orangery terrace [24]. A narrow stone edged path also ran along the bottom of the south-west facing scarp running from the same corner of the Orangery.
- In the grass area to the east of Bathhouse Water. This ran along the edge of the deep shrub beds between this area and the 'S' track for over 25m and at its north end it became rather broken with several displaced blocks being recorded. A slight west facing scarp ran parallel to this edging about 1m to its west along much of the northern 2/3 of its length suggesting a path. To the south was a slight east facing scarp again running parallel to the edging and about 1m west of it and again suggestive of a path though eroded here rather than laid. There was also a 7m section that may have been a return to the east at its southern end though this could have been unrelated as there was a gap between this section and that to the north. Although this edging appeared

to be defining the edge of the shrub bed to its east this is misleading. The OS maps from 1881 (Figure 18) to 1947 (not reproduced) show this area rather differently with woodland to the west, across most of the area now lawn and open to the east, the area now covered with vegetation. Apart from the last 4m or so at the south end of the main section, and the isolated east/west section, this edging appears to have run very close to the edge of this woodland, so could have been related, though the associated scarps hint at a path along the edge of the trees that the stone edge may have been related to rather than directly to the wooded area. The deviation from this line to the south may be due to somewhat more extensive woodland prior to 1881 (Figure 18).

Dating these stone edges is difficult. Although several seemed to relate to paths shown on maps as early as 1830 and most to features shown on the first edition map of 1881 (Figure 18), there is no way of knowing if the edging was an original feature or if it was added later. Their uniformity suggests that they all date from one phase and if this is correct then they must all have been laid out at or after the time of the latest dateable example. This would appear to be a path that followed the base of the south-west facing scarp to the north of the Orangery, which suggests a date after the Orangery was built in about 1840. The edging to the path over the Cascade and the lateral features appeared to be integral to it though, so may have been original features. This would mean that the edging was of multiple phases. However, it is equally likely that later work was undertaken on the Cascade, perhaps to make it suitable for fern planting, for which it was noted in the later 19th century (Way 2005, 71-2).

20th century and later features

50. Within the triangular grass area, to the west of gully [20], was a faint counterscarp, apparently creating a slight ridge, which could have been related to these earlier features. However this appeared to be on the same line as the western side of an enclosure first shown on the 1922 (Figure 20) and 1947 OS maps (not reproduced) so it is likely to be later. It is also possible that the apparent gully to the immediate west, described as part of [20], is illusory and the actual feature is a ridge.
51. To the south of the track approaching the Orangery service yard were several irregular but generally south facing scarps, some related to the current track, and others not. These were reminiscent of made ground; perhaps the result of episodes of dumping or building up of the ground to ensure firm access to the service area. This is likely to have been related to increasing use of heavier vehicles in the inter war and post war periods and the increasing dampness of the area to the south which may have affected the track, which seems to cross a broad gully here (there was a general fall and rise in the track as it approached the service area).
52. Apart from to the south [12] and north-east [52], the marshy area south-west of the Orangery was generally defined by irregular scarps. To the east these

were moderate, perhaps the result of erosion from the steep scarp above [36], with a large hollow, bulge, mound and a slight spur all probably the result of vegetation growth. To the north the scarp was better defined, though broken by gullies in the north-west [57]. To the east of this, within [53], a slight south facing scarp could be a continuation of this scarp, pre-dating that feature.

53. To the south of the Orangery service area was a roughly rectangular platform, about 12m east/west by 6m north/south, that appeared to encroach on the low marshy area to south. It was defined by short steep scarps to south and west and at the north end of the western scarp was a roughly built drain inlet. It had several irregular features on the surface suggestive of made ground. To the east was a rectangular concrete base and the bottom of scarp [36] appeared to have been reshaped to accommodate this. A service line could also be traced running into but not through this area. Pre-war OS maps show the southern limit of the service yard running to the north of this area so it seems likely that the creation of this area post-dates the Second World War. The first map to show any features here is the 1975 OS map (Figure 21) which shows a square yard containing two buildings one to the north and one to the south, with an area taken out of the south-east corner. The west scarp of the platform closely correlated with the western extent of this yard and the southern boundary ran across the platform suggesting that it must have been in place by this date. Some of the features on the platform may relate to the boundary here or perhaps the southern building. The service line may have supplied this building but could also have pre-dated the construction of the platform, perhaps the earlier drain that supplied the later inlet to the west. The concrete base lay in the area excluded from the yard which had apparently been constructed to run around its north end. It therefore seems likely that it was intended for something deliberately excluded from the service yard, such as a generator, due to its noise, or a fuel tank for safety.
54. Features relating to this fairly modern service yard continued to the north. Here a west facing scarp lay on the line of the yard's western boundary, continuing the alignment seen to the south.
55. To the east of this a sub-rectangular hollow area about 7m across, to the immediate north of the current service area, was on the approximate site of the northern building mentioned above. It appeared to be to the south of it though, so it could actually be the result of activity in front of this building rather than the footprint of the building itself. Both scarp [54] and hollow [55] could be related to a building [45] shown here on maps from 1881 (Figure 18) to 1947 (not reproduced) however.
56. There were also hints of a north/south gully seen on both sides of the track in the west of this service area, running between the buildings and the western boundary.
57. To the north west of the marshy area, south of the track to the service yard, two gullies ran to the NNE. The eastern was short and fairly well defined, the western longer and more irregular, with a low spur between. Both appeared

to be draining water into the marshy area to the south and had probably been modified relatively recently to improve drainage, but they were probably originally part of a much earlier feature [1].

58. The path over the Cascade was seriously eroded and a bulge at the foot of the path to the south-west was probably re-deposited path material. Much of this damage must have occurred as a result of a relatively recent period of neglect, perhaps during the war or more likely in the 1970s/1980s when much low maintenance planting was initiated and foot traffic might have been heavier.
59. Scarps fell away to either side of the 'S' track along its full length, though it was not always possible to survey them due to bordering hedges. In most places they fell away from close to the track edge probably relate to the re-laying of the track in about 2012. In places, particularly at the very north end and to the south as it approached Broadwalk, these scarps diverged somewhat more from the edge suggesting that the line and width of the track had changed slightly, either during the recent works or some other episode of resurfacing.
 - a. The track itself first appears as a later addition, thought to be from the 1840s, to an earlier map of about 1809 (Figure 17). It may well have been originally laid out as part of works to this area associated with the construction of the Orangery. It is not clear if any of the scarps mentioned here relate to any very early form of the track, but beneath the yew hedge, immediately to the west of the current track, a slight west facing scarp could be related to an early incarnation of it, perhaps that apparently under discussion in 1776 (above) or more certainly that laid out at about the time the Orangery was constructed.

Undated and miscellaneous features

60. Immediately to the north of the track to the Orangery service area were two undated west and north-west facing scarps. It is possible that they were related to the trees in the immediate area.
61. Within the wooded area north of the Bathhouse were several features that could not be certainly explained or dated. These included a generally linear south facing scarp, rather disturbed by a tree stump to its immediate south, that could not be related to any known features and did not appear to respect any known relationships. To the south of this was a semi-circular hollow with a possible gully running off to the south-west, and to the west was a low mound. The latter was possibly associated with an existing tree but by the 1899 OS map (Figure 19) this was an open area labelled 'Nursery' so it is possible that these features were related to activities here.
62. Several amorphous features were also surveyed in the rough area to the south-west of the Bathhouse. These consisted of a north-west/south-east ridge and a mound to the south-east of this with a north-east facing scarp extending to the south-east. It is possible that the mound sat upon a larger

ridge but this was unclear. There was also a smaller north-east facing scarp in the very south of this area. These features also could not be explained or dated but very probably post-date the creation of the Bathhouse Grounds.

63. In the south of the western triangular grass area were several unidentified and undated features:
- a. A slight, fairly straight, SSW facing scarp that decreased noticeably in size to the east. This had a return to the NNE that ran parallel to the top of [19] so may postdate it. A scarp to the south also ran parallel to [19], so the two might have been conflated, if so the western section would postdate both the NNE/SSW scarps.
 - b. A short, straight WNW facing scarp.
 - c. A curving generally east facing scarp defining a low mound adjacent to the east/west path to the south.
64. Due east of the Bathhouse on the other side of Bathhouse Water was a small semi-circular scoop, about 3.5m across. This was probably from vegetation but it seemed to open out to form a short, parallel-sided gully and was rather more regular than other examples so may not have been. This obscured the relationship between the scarps to north and south. It probably post-dated scarp [6] which it seemed to cut.

Across the survey area there were numerous other features related to vegetation (shown as green hachures). Apart from the yew hedge [9] discussed above, these consisted of:

- Small discrete hollows less than 2m across and scattered randomly. These probably related to self-seeded saplings or similar, that established during periods of neglect.
- A few larger hollows and scoops dotted about, up to about 5m across, probably the boles of more established trees. The semi-circular and the more irregular examples could be from trees that had blown down rather than felled and left to rot in situ.
- Larger hollows in the triangular western area, with hints of regularity in their distribution. They may relate to the orchards or tree nurseries and perhaps the 'Aspen ground' mentioned in some documents.
- Several mounds relating to extant trees/shrubs were surveyed as well as a few small isolated mounds probably related to old plants.
- Some breaks in, or damage to, larger features such as the hedge that had grown along scarp [18] were also seen.

There were also several features related to services. Some could only be identified as very narrow linear features (shown as dotted lines). These included a service approaching the north-west corner of the Orangery from the walled garden which was clearly modern as plastic conduits could be seen running up the wall from it. There was another [52] running from here towards the site of a building shown on the 1975 map (Figure 21), which was probably older. Others were also recorded to the west, close to the modern fence.

Some were more substantial (shown as grey hachures). These generally took the form of gullies, where a back filled trench had settled, or ridges, where an overfilled trench or more resistant feature beneath (such as a conduit) stood proud. Many had relatively modern surface hatches and other features associated but these are not necessarily a good guide to date as they are frequently replaced.

65. To the north of the Cascade mound a gully ran for 30m roughly ENE/WSW towards the possible cistern or tank [28] though it stopped well short of it. It had a fairly modern service hatch to the east and appeared to align with a similar hatch to the west, which seemed to be on a low mound, perhaps spoil from works here. Despite this it is possible that this trench could have once been related to [28] as any continuation may have been effaced by remodelling of fall [29] to accommodate one of the paths shown on the 1881 OS map (Figure 18). It is rather well defined however, so perhaps a later date is more likely.
66. Of the other features thought to be related to services most ran through the triangular western area. Several roughly followed the fence line suggesting one or more services along here, with others apparently running into it from the NNE. These took a range of forms including both broad and narrow shallow gullies and ridges so probably represent multiple phases and multiple types of service. Given the location and topography it is likely that many were drains from the walled garden into the inlet to the south.
67. There was also what appeared to be a relatively modern rectangular concrete covered chamber in the wooded area north of the Orangery service yard. This was probably also related to drainage or perhaps sewerage. Scarps to the north could be related or disturbed by this.

There were some areas of animal damage (not shown), notably to scarp [19] north of [28] and apparently associated with the former hedge line, and to the north-east of the Cascade mound.

68. Finally, there was extensive active gullying (and associated deposition below) from the north-west corner of the Orangery. This could lead to damage to the building and may require remedial action.

DISCUSSION AND CONCLUSIONS

Overall the complexity of earthworks in this area is perhaps surprising and indicates both a complex history and a high level of archaeological potential.

Early land use

It is perhaps surprising, given the amount of subsequent development, that it is possible that surface evidence for some elements of earlier landscapes may survive. This evidence is clearest to the south of the yew hedge and the Orangery and comprises remains of previous incarnations of Broadwalk going back to the early 18th century (such as [8] and [13]), and remains associated with the Greenhouse which, although dating back to the 1730s, survived until the 1830s (such as [10]). The other main area of possible survival was to the east of the Cascade mound and north of the track to the Orangery service yard, though here the evidence was less clear cut, in part because of vegetation making survey difficult but also because of a more complex land use history particularly given the paucity of visual sources in the century from the 1730s. However, if correct, these remains could be earlier, perhaps late 17th century in origin.

The late 18th century: the Bathhouse and its grounds

It seems likely that the Bathhouse site was chosen for the presence of the spring, the chalybeate waters thought to be beneficial to health, its relative seclusion (enhanced by the greenhouse) and its accessibility from the house. It is also possible that the rectangular pond, shown on maps from 1719 (Figure 6) to 1737 (Figure 8) and described as ‘the Spring Head’ in 1769 was laid out as a relatively formal feature in order to allow bathing - a precursor to the Bathhouse.

The historical summary makes it clear that the Bathhouse and the arched Cascade were contemporary features, planned as part of the same scheme which was underway by 1769. In order for the Cascade to work as such, Bathhouse Water must also have been an original feature but its original layout is unknown. There are no contemporary visual sources, and the early 19th-century ones are rather sketchy; most even omit the Bathhouse. These early maps shown the water roughly as today but it is first mapped accurately on the 1881 OS map (Figure 18) where it appears to be in its current form. It is also shown in the sketch of the Bathhouse from ‘Views of Wrest 1831’ (Figure 12) where the Bathhouse and Cascade appear to have the same relationship with one another and a form close to today’s would be in keeping with a late 18th-century ‘natural’ aesthetic.

These earlier 19th-century sources indicate that by this time the Bathhouse Grounds lay mainly to the east of the Bathhouse, in the area behind the Greenhouse. Again it is not known if this was always the case, due to the lack of sources, but the position of the Greenhouse would have separated this area from the rest of the grounds lending it the air of romantic isolation that seems to have been intended from the start. In about 1800 the Bathhouse Grounds seem to have been defined by a NNE/SSW boundary to the west of the Bathhouse, the yew hedge to the south, a fence

paralleling the avenue to the north and another to the east of the Greenhouse (Figure 9). The east/west section of the yew hedge was of considerable antiquity, possibly dating back to 1716 ([12] above). The northern boundary could also be of some age as the avenue that it paralleled appears in sources from about 1704 though it is first shown on the 1800 map (Figure 9). It lay outside the survey area but may have been preserved as a southwards fall noted within the dense vegetation north of the 'S' track. It seems more likely that the eastern and western boundaries were contemporary with the Bathhouse. They first appear on the 1800 map (Figure 9) and there are no obvious earlier or later contexts for their creation. The western boundary was clearly visible ([19] above) and some possible hints of the eastern boundary were recorded during previous survey work on the lawns to the east of the Orangery (Alexander et al 2014).

The lack of useful visual sources from the 1730s to about 1830 makes it very difficult to determine the initial layout of the grounds or assign any surveyed features to this period, other than those mentioned above. It seems likely that there was always a distinction between a slightly higher drier area to the north and a lower wetter area to the south with scarp [29] marking the transition between the two in the west the transition being obscured by the approach to the Orangery service yard to the east. This was probably contemporary with the Bathhouse since [29] did not continue to the west of [19], though the picture to the east is clearly more complex.

Subsequent development of the area

Although to some extent the result of the lack of sources mentioned above it would appear that much of what can be seen today dates from the 19th century. Setting aside the evidence for the survival of some remnants of the Greenhouse and associated features, many of the earthworks to the west of the survey area clearly relate to the Orangery, its service yard and the approach track. Elsewhere a number of the earthworks surveyed would appear to relate to features first shown on the 1881 OS map (Figure 18), though many of these could well be earlier.

It also seems likely that the stone edgings are from this period. They appear to be quite uniform which suggests a single period of construction and if so must post-date the Orangery since an edged path runs at the foot of scarp [39]. Some appeared to be closely integrated with the Cascade and rather than suggesting an earlier date, it seems more likely that in this area works were rather more general than simply edging the paths. Perhaps 'rockery' areas were created or extended to accommodate the ferns for which the area was noted by the end of the 19th century.

Further work

For the restoration, it will be important to resolve the date and role of the stone edging if possible, since not all the paths identified for reconstruction appear to relate to these edged paths and vice versa. An area requiring particular attention is that to the south-east of Bathhouse Water. The current planting is largely the inverse of the position on the 1881 map (Figure 18) with open areas formerly vegetated

and vegetated areas open. The edging recorded here may therefore be particularly significant.

Another area that requires better understanding, particularly since it is likely to be directly affected by the redevelopment plans, is the group of features to the north-west of the Bathhouse [28]. These appeared to comprise a springhead or tank, wall, and path ramp and it is important to resolve how these elements relate to each other and in particular: how these features related to scarp [19] and path [34]; if the tank was originally covered; if the tank was actually a springhead or supplied by a conduit (perhaps related to [65]); where its outfall ran; how this related to the ditch to the south-west (the south end of which was surveyed as [30]); and how the path to the Bathhouse was carried over it.

It would also be valuable to know the role of the building shown in the Orangery service yard in 1881 (Figure 18), and that of the small building to the north of the Orangery. Although not directly affected by the redevelopment plans, it would also be helpful to know the function of the building formerly located in the west of the survey area. The functions of these buildings might inform us about the ways in which this area was used in the late 19th century.

Further documentary research may answer some of these questions and it is to be hoped that the current archaeological excavations will address others.

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APPENDIX: MAPS AND IMAGES USED IN THIS ANALYSIS

Most of the following images have been enhanced for legibility. Note that full versions of many of these images are available in Alexander et al 2014. North is at the top of all maps.

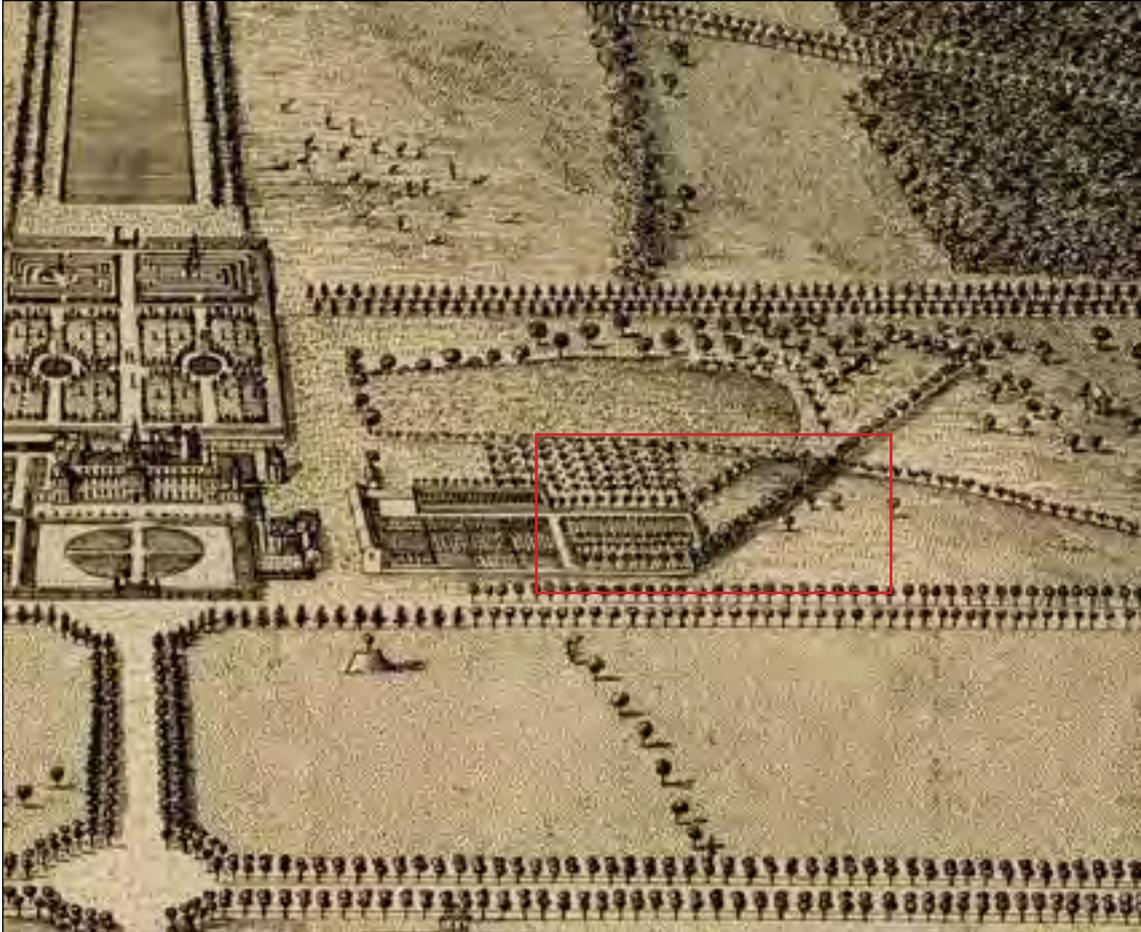


Figure 5 Detail from Kip and Knuff view of Wrest Park based upon a survey of about 1704, looking south with the approximate location of the survey outlined in red (Patricia Payne © Historic England DP029355)

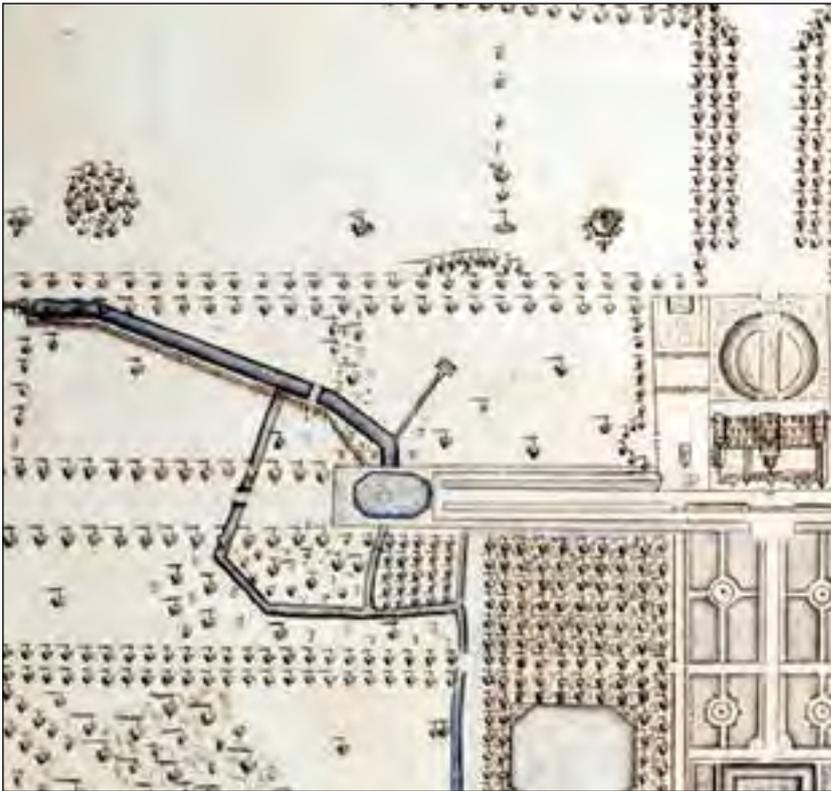


Figure 6 Detail from the Laurence map of 1719, rotated so that north is at the top to match the other maps (BLARS L33/286 f3 Patricia Payne © Historic England DP110990)

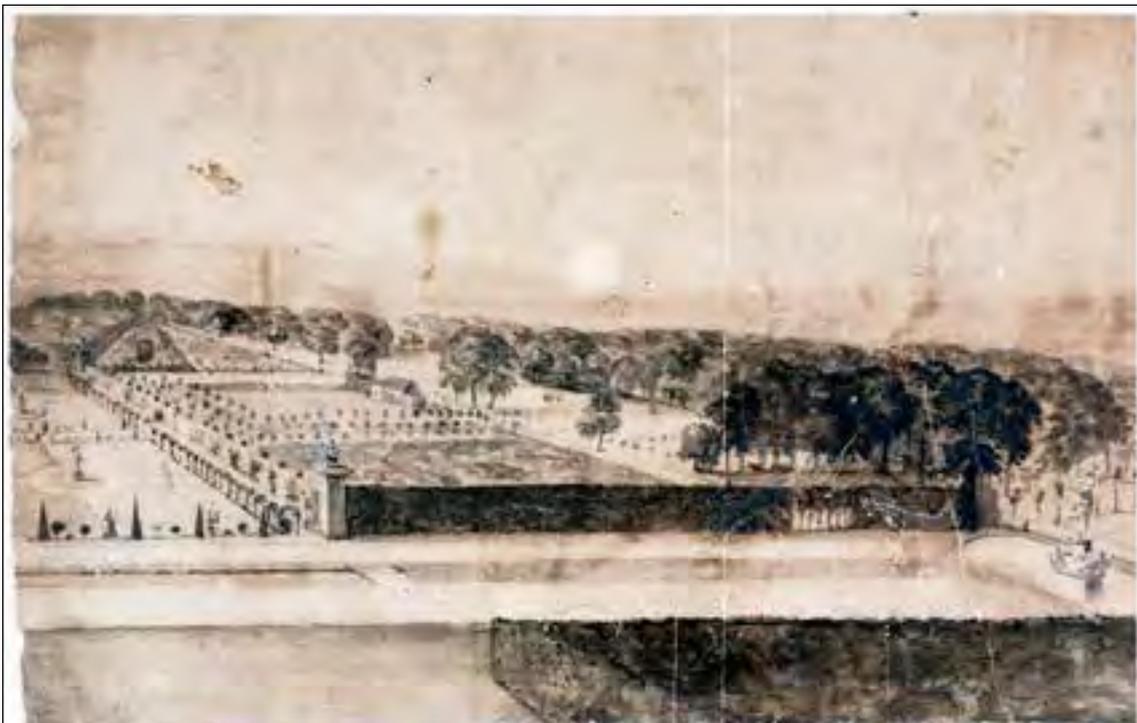


Figure 7 Part of Angelis' panoramic views of the gardens from the north showing the Neptune Basin and west end of the terrace (Broadwalk) though rather foreshortened, with the bowling green beyond, (BLARS L33/128A © Historic England e850345/7/8)



Figure 8 Detail from a monochrome photograph of a rather damaged version of the Rocque map of 1737 (© Historic England Archive, Map Room 99/7)



Figure 9 Detail from a 'pre-inclosure' map of about 1800 (BLARS L33/21, Patricia Payne © Historic England DP110957)



Figure 10 Detail from an 'inclosure' map of about 1809 (BLARS MA56, Patricia Payne © Historic England DP110953)



Figure 11 Detail from an undated and anonymous copy of a map of about 1830, inverted so that north is at the top, note the 'chalybeate spring' to the north-east of the bathhouse (BLARS L33/208 Patricia Payne © Historic England DP110948)

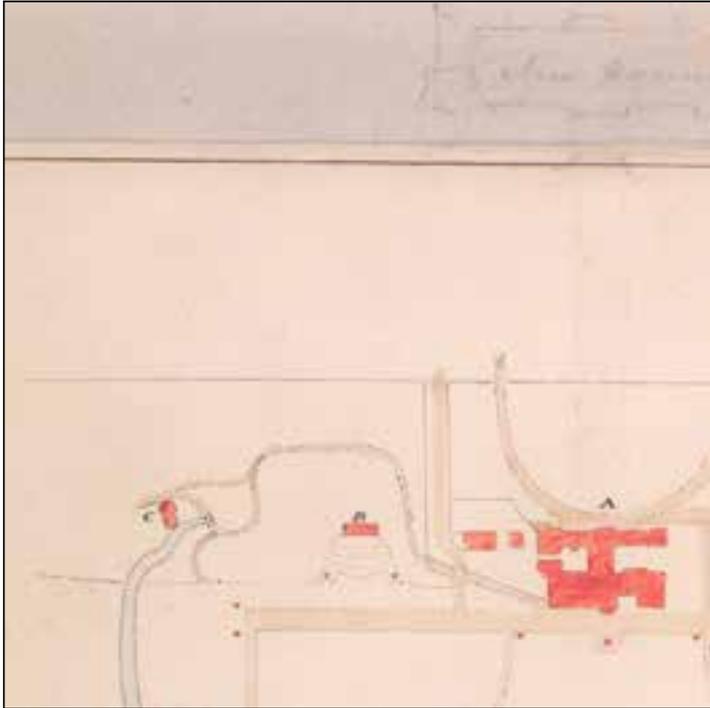


Figure 12 Detail of the map from 'Views of Wrest 1831', A is 'The House' (note the 'New House' pencilled in above), B 'The Greenhouse', C 'The Bath' (Steve Cole © Historic England DP110018, by permission of a descendent of Thomas Earl de Grey)

Figure 13 Ink and wash sketch of the Greenhouse from 'Views...' (Steve Cole © Historic England DP110040, by permission of a descendent of Thomas Earl de Grey)



Figure 14 Ink and wash sketch of the Bathhouse from 'Views...' (Steve Cole © Historic England DP110042, by permission of a descendent of Thomas Earl de Grey)

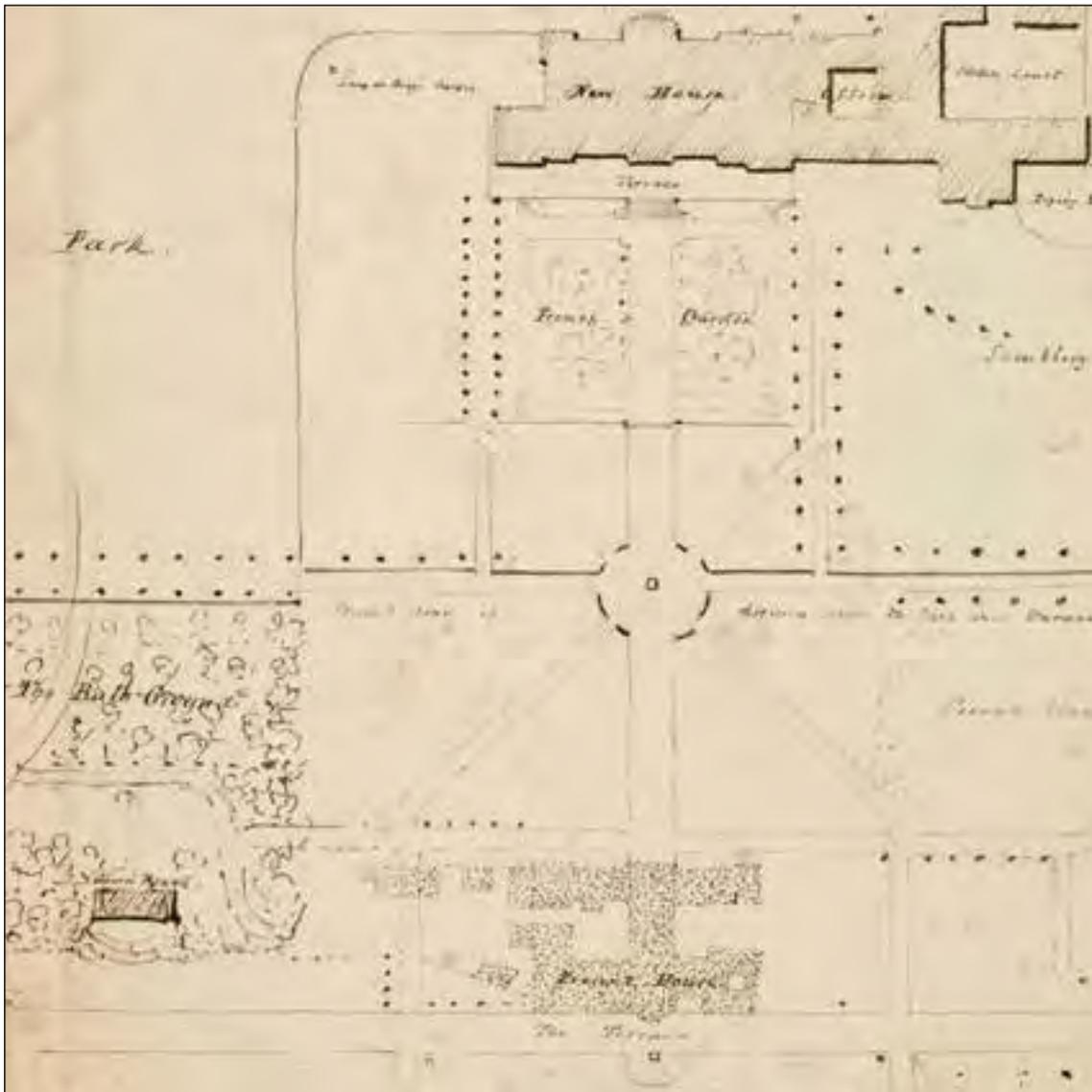


Figure 15 Detail from 'Plan showing the relative positions of the old and new houses at Wrest, Earl de Grey 1834', (BLARS L33/150, Patricia Payne © Historic England DP110942)



Figure 16 Detail from a 'pre-inclosure' map of about 1800 'on which inclosure has been plotted', apparently in about 1840 (BLARS L33/7, Patricia Payne © Historic England DP110958).



Figure 17 Detail from an 'inclosure' map of about 1809 with additions probably of about 1840 (Patricia Payne © Historic England DP110956)



Figure 18 First edition 25" to 1 mile OS map, surveyed 1881, published 1887, taken from the Historic England corporate GIS, NTS. It is planned to restore most of the paths to this layout. (Historic Ordnance Survey mapping: © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2015) Licence numbers 000394 and TP0024)



Figure 19 25" to 1 mile OS map, surveyed 1899, published 1902, taken from the Historic England corporate GIS, NTS (Historic Ordnance Survey mapping: © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2015) Licence numbers 000394 and TP0024)



Figure 20 25" to 1 mile OS map, surveyed 1922, published 1925, taken from the Historic England corporate GIS, NTS (Historic Ordnance Survey mapping: © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2015) Licence numbers 000394 and TP0024)

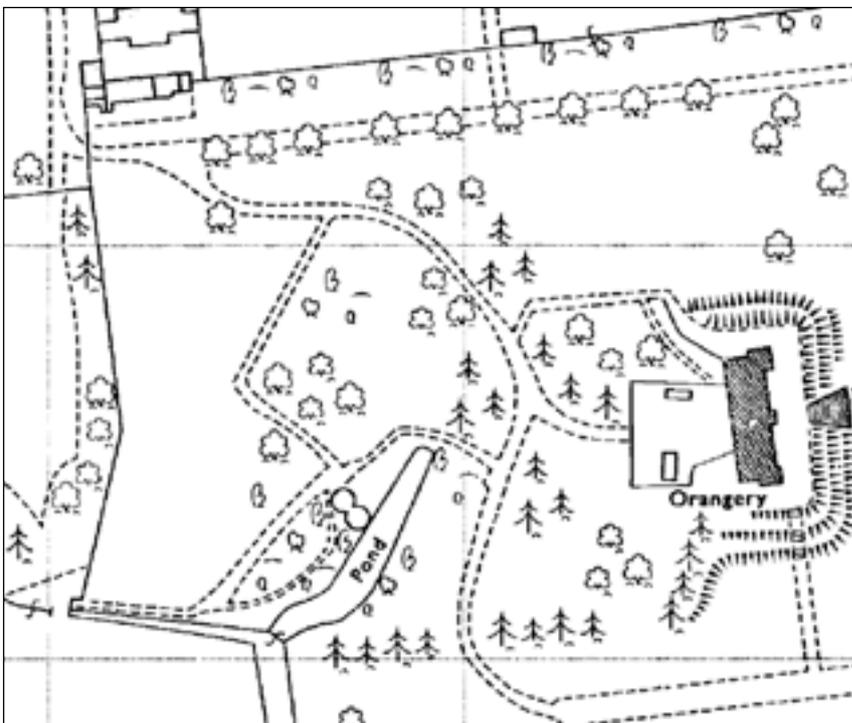


Figure 21 25" to 1 mile OS map, surveyed 1972, published 1975, taken from the Historic England corporate GIS, NTS (Historic Ordnance Survey mapping: © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2015) Licence numbers 000394 and TP0024)

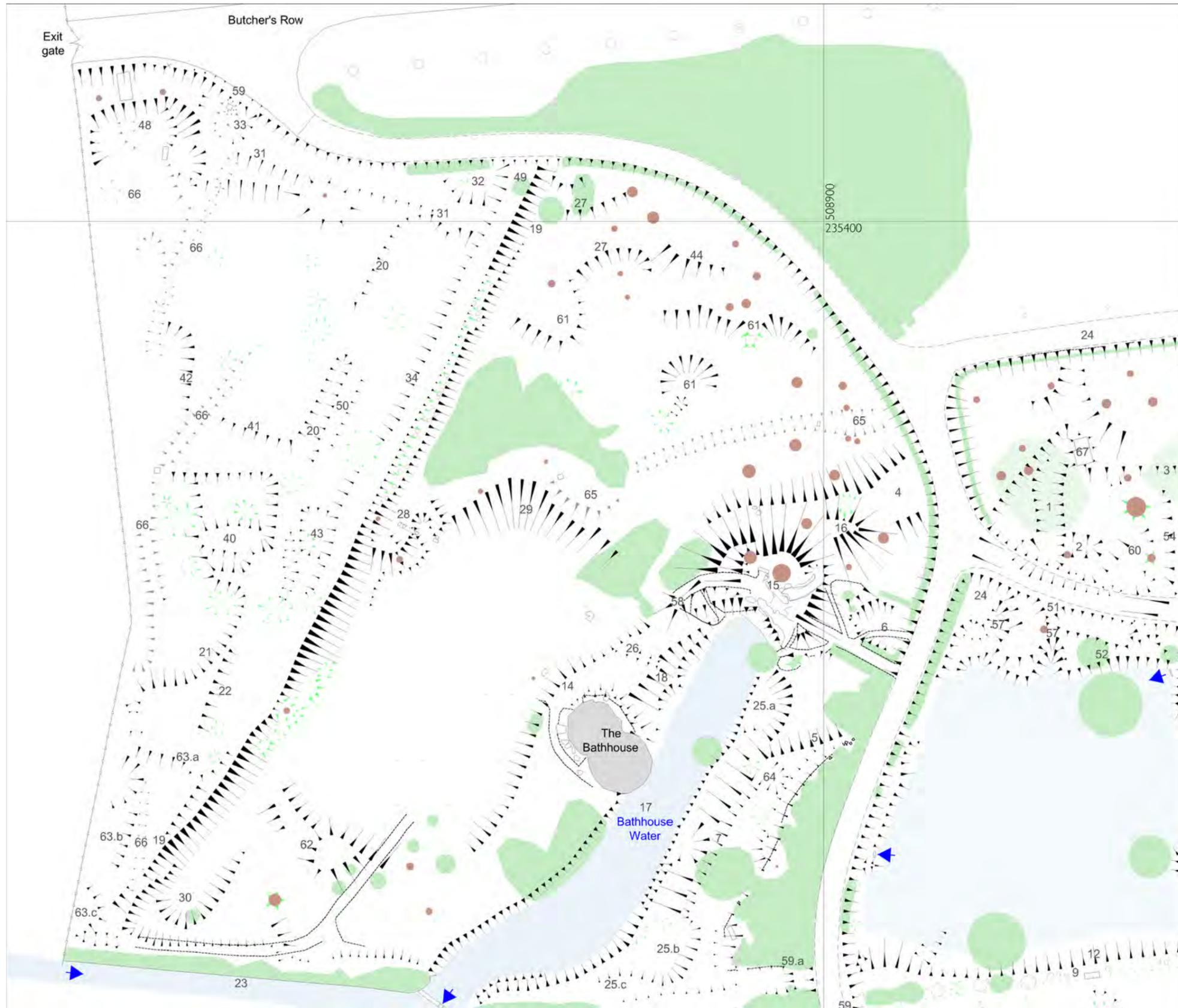


Figure 22 Survey plan (north-west section)
 1:500 at A3, green hachures relate to
 probable vegetation, grey hachures
 to services, greyed out features from
 Atkins 2005

KEY:

- Fence (posts indicative)
- Track edge (metalled/unmettaled)
- Line of service
- Stone edging
- Building (surveyed / unsurveyed)
- Shrub or hedge (no / some survey possible)
- Tree trunk / stump
- Rough ground
- Very marshy area
- Water (flow indicator)



Figure 23 Survey plan (south-east section)
 1:500 at A3, green hachures relate to
 probable vegetation, grey hachures
 to services, greyed out features from
 Atkins 2005

- KEY:
- Fence (posts indicative)
 - Track edge (metalled/unmetalled)
 - Line of service
 - Stone edging
 - Building (surveyed / unsurveyed)
 - Shrub or hedge (no / some survey possible)
 - Tree trunk / stump
 - Rough ground
 - Very marshy area
 - Water (flow indicator)



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