



Figure 38 – Earthwork survey of the Pleasure Grounds 1:1000@A3 (background Greenhatch Group 2015 © Historic England)

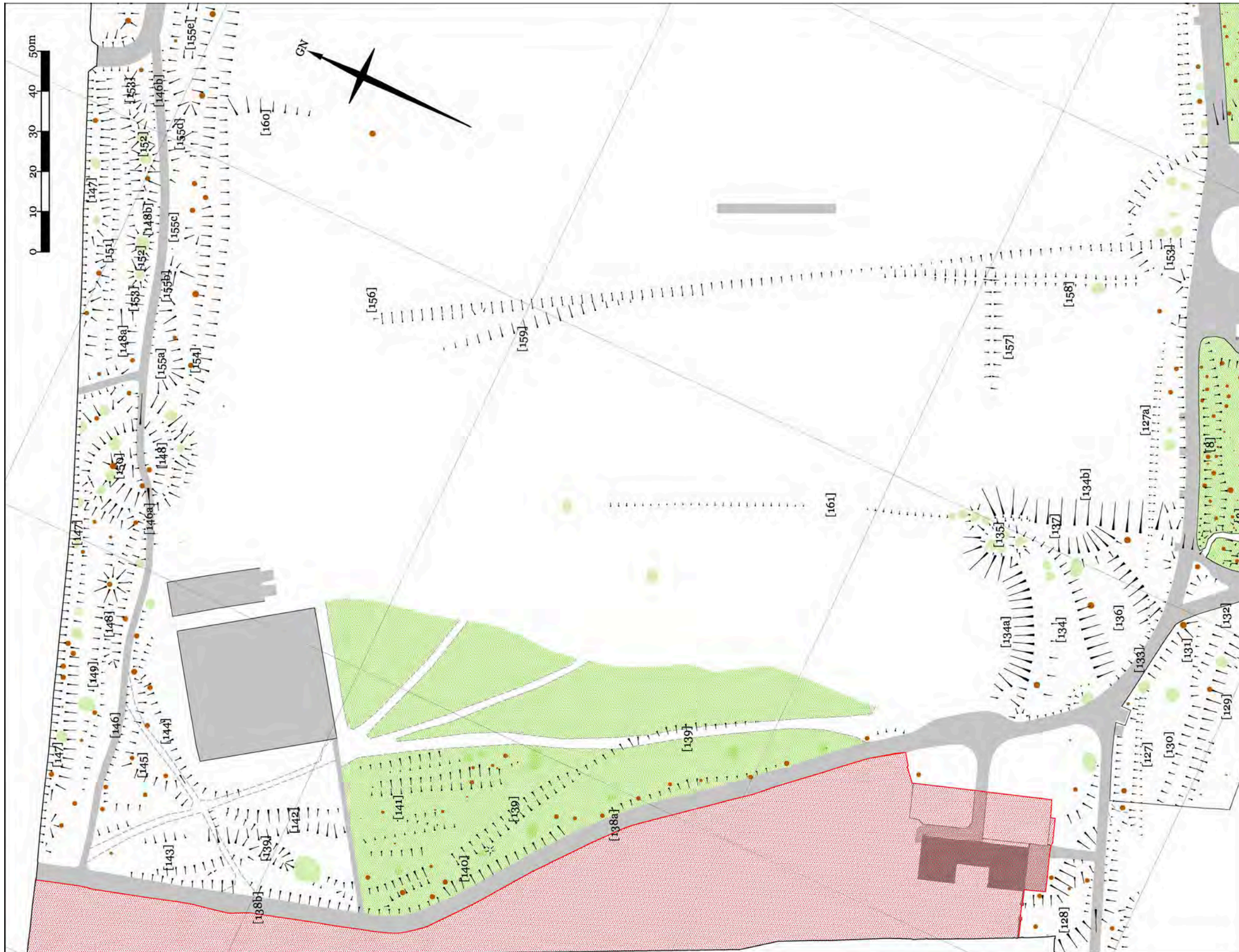


Figure 40 – Earthwork survey of Sweet Walk and Great Lawn 1:1000@A3 (background Greenhatch Group 2015 © Historic England)



Figure 41 – Earthwork survey of ‘Worple Way’ and the north of East Meadow, inset is the area north of Little Marble Hill, 1:1000@A3 (background Greenhatch Group 2015 © Historic England)



Figure 42 – Earthwork survey in the south of East Meadow and Little Marble Hill 1:1000@A3 (background Greenhatch Group 2015 © Historic England)

Coring

Matt Canti

Coring was carried out on the 15 December 2015 to determine the origin of the large, rectangular, sunken area to the east of the house. The cores (numbered 1, 2 and 3) were taken along a transect produced by extending the NE-SW line of the penalty box of the football pitch within the hollow (Figure 47).



Figure 43 – Locations of the three cores 1:2500@A4 (background Greenhatch Group 2015 © Historic England)

The grid references for the three cores were:

- 1 = 517446.689, 173684.613, 7.268mOD
- 2 = 517490.646, 173708.204, 5.556mOD
- 3 = 517518.834, 173723.806, 6.194mOD

Methods

All sampling was carried out to 1 or 2 m below the present surface with an Eijelkamp power auger. 10 cm diameter cores were mechanically driven in, and

then extracted for field description, colour determination with a Munsell colour chart (Munsell Soil Color Charts (1971). Baltimore: Munsell Color Company Inc) and photography before being emptied back into the holes.

Results

Measurements are depths below surface at core location.

Core 1

South-western core. Elevated position above the sunken area.

0.00 – 0.62/0.70 m	Dark brown (7.5 YR 4/2) moist silt loam with no stones. 8 cm boundary to:-
0.62/0.70 - 1.00 m	Strong brown (7.5 YR 5/6) moist loamy sand with no stones.
1.00 – 1.12/1.16 m	Brown (7.5 YR 4/4) moist sand with 80%, angular and subangular stones, 2 – 15mm. 3 cm boundary to:-
1.12/1.16 – 2.00 m	Strong brown (7.5 YR 5/6) moist loamy sand with 80%, angular and subangular stones, 2 – 15mm.



Figure 44 - Core 1a 0.00m – 1.00m



Figure 45 - Core 1b 1.00m – 2.00m

Core 2

Central core. Low position in the hollow. Stopped by gravel; only 90 cm cored.

- | | |
|------------------------|---|
| 0.00 – 0.43/0.49 m | Dark brown (7.5 YR 4/2) moist silt loam with no stones. 6 cm boundary to: |
| 0.43/0.49- 0.72/0.75 m | Brown (7.5 YR 4/4) moist sandy clay loam with no stones. |
| 0.72/0.75 – 90.00 m | Strong brown (7.5 YR 5/6) moist sand with 70%, angular and subangular stones, 2 – 20mm. |



Figure 46 - Core 2 0.00m – 1.00m

Core 3

North-eastern core. Low position in the hollow.

0.00 – 0.50/0.55 m	Dark brown (7.5 YR 4/2) moist silt loam with no stones. 5 cm boundary to:-
0.50/0.55 - 0.80/0.85 m	Brown (7.5 YR 4/4) moist sandy loam with no stones. 5 cm boundary to:-
0.80/0.85 – 100.00 m	Strong brown (7.5 YR 5/6) moist sand with 70%, angular and subangular stones, 2 – 20mm.



Figure 47 - Core 3 0.00m – 1.00m

Discussion

The results (Figure 52) show that the geology here comprises Brickearth over a river terrace, both Pleistocene. The upper level of the gravel is much lower in the sunken area which suggests strongly that about 0.7 – 1.2 m of gravel has been removed and most of the overburden replaced to make the current soil profile of the football pitch. It therefore seems highly likely that the hollow is an artificial gravel pit.

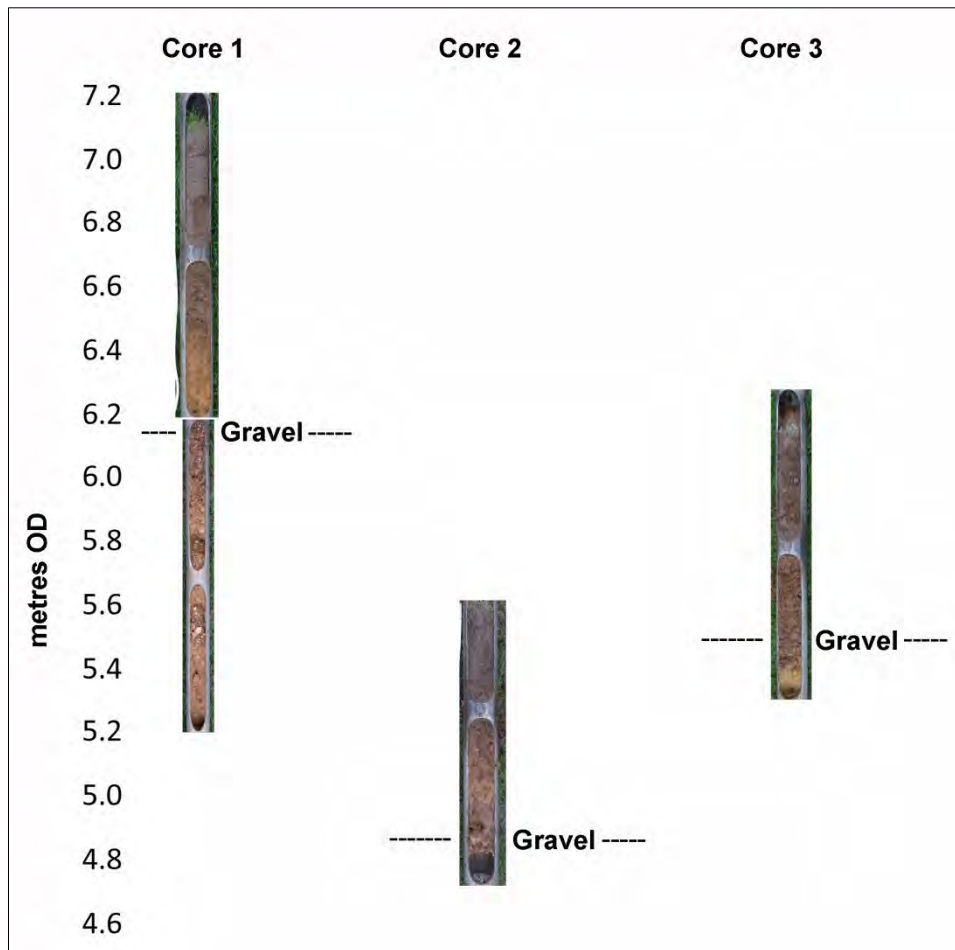


Figure 48 The three cores plotted in approximate lateral positions, but at their correct depths OD

Survey and identification of tree-stumps within ‘The Quarters’

Gill Campbell and Zoë Hazell

Introduction

The plans for the restoration and presentation of the gardens at Marble Hill Park involve the restoration of the historic core of the grounds. In order to inform this work English Heritage wished to learn as much as possible about the trees, dead or living, within this area and how these might relate to Henrietta Howard’s design or later developments. To this end Historic England were asked to undertake a tree-stump survey in order to identify the unknown dead tree stumps that might relate to the original or later plantings.

Methods

Fieldwork was carried out over two days at the end of January 2016. It comprised a walkover survey of The Quarters to locate and identify large diameter tree-stumps using the existing tree map and survey (FDA Ltd 2014) as a guide. It should be noted that all the living trees and many of the trees stumps have four-digit individual tree numbers. Many of the trees bear metal tags (giving their tree number) on the main trunk or branch, although these tags sometimes fall off, or are removed by squirrels (Brian Clarke, pers comm). Where a tree stump or living tree had a metal tag or could be confidently identified from its position on the tree map, it is referred to (below) by its individual tree number where appropriate.

All stumps that could be regarded as the remains of mature trees were either identified on-site or sampled for more detailed examination. Some smaller diameter tree stumps were also examined where it was thought they might represent the offspring of long dead trees or where it was suspected that they could represent moribund hedging. Each tree stump examined was given a unique identifier as follows (and see Table 1):

- north-east quarter: HE A to F (HE=House East – enclosed planting immediately to the east of the house)
- north-west quarter: HW A to O (HW=House West – enclosed planting immediately to the west of the house)
- south-east quarter: HEL A to P (HEL=House East Lower – enclosed planting east of the house below the wide tarmacked walk), and
- south-west quarter: HWL A to N (HWL = House West Lower - enclosed planting west of the house below the wide tarmacked walk)

The position of each tree stump examined was recorded using tape measures by Magnus Alexander (Historic England). This information was then added to the survey plan (see Figure 53).

During the walkover survey in January 2016 it was realised that some of the shrubs and under-planting might be of considerable age and therefore a second visit to the site was undertaken in mid-May to observe the quarters in growth/bloom and in light of the results from the tree-stump identifications. Observations on this planting are considered in the discussion of the results below.

Where a stump could not be readily identified in the field, either from the wood itself or from branches sprouting out of the decaying trunk, small wood samples were removed from the trunks using a pruning saw. These samples were placed in re-sealable plastic bags, labelled and taken back to the Historic England laboratory at Fort Cumberland. Water was then added to each sample bag, the bags re-sealed and the wood samples left to soak for several weeks whilst in cold storage at circa 4°C. Each wood sample was then identified using standard procedures (Gale & Cutler 2000).

Thin sections were prepared in three planes (Transverse (TS), Radial Longitudinal (RLS), and Tangential Longitudinal (TLS)) by slicing each wood sample by hand with a double-edged razor blade. Each section was then mounted in distilled water on standard microscope slides. The sections were then examined at up to x400 magnification on a Leica DM2500 high power microscope. Reference was made to the identification criteria published in Schweingruber (1982; 2011), Gale & Cutler (2000) and Hather (2000), and to modern comparative wood slides held by Historic England at Fort Cumberland.

Results

The full results, including identifications made in the field, are presented in Table 1. Nomenclature follows Stace (1997). The locations of the tree stumps recorded during the survey in January 2016 are shown in Figure 53. Yew (*Taxus baccata*), followed by elm (*Ulmus* sp.) and maple, including possible sycamore (*Acer* cf. *pseudoplatanus*), were the most frequently identified taxa, with holly (*Ilex aquifolium*) and deciduous oak (*Quercus* spp.) only slightly less so.

Notes on wood identification

The wood of many trees is sufficiently distinctive to allow identification to genus, for example: plums, cherries, laurels etc. (*Prunus* spp.). However, it is rarely possible to assign a wood sample to species, apart from in a few cases, for example holly (*Ilex aquifolium*) and yew (*Taxus baccata*). Thus while sycamore (*Acer pseudoplatanus*) tends to have wider and higher medullary rays than

Norway maple (*A. platanoides*) and other maple species (Gales and Cutler 2000, 29; Schweingruber 2011, 117), there is some overlap in ray size in addition to variation caused by different growing conditions. For this reason where a maple wood sample had rays greater than 4 cells wide, these have been reported as possible sycamore (*A. cf. pseudoplatanus*).

Similarly the wood of the apple sub-family (Maloideae) which includes apples (*Malus* spp.), pears (*Pyrus* spp.), hawthorns (*Crataegus* spp.), and whitebeams (*Sorbus* spp.) amongst others, cannot be distinguished to genus and therefore such wood is termed Maloideae. Lastly while most oaks have a ring porous vessel arrangement those of the subgenus *Sclerophyllodrys*, which includes holm oak (*Quercus ilex*), have a diffuse porous vessel arrangement (Schweingruber 2011, 401). Therefore oak with ring porous wood has been reported as deciduous oak (*Quercus* sp.) to distinguish between the deciduous subgenera and those of the subgenus *Sclerophyllodrys*.

Table 1 Tree-stumps identified within the area known as The Quarters that forms part of the historic core of the grounds at Marble Hill, Twickenham

Quarter	Sample name	Description
NE	HE-A	Smaller diameter stump next to 1143. From its distinctive bark it was identified on site as yew (<i>Taxus baccata</i>). No sample was taken.
	HE-B	A chopped down tree-trunk lying next to a large/tall stump. No sample. This is likely to be 1150 described as holly (<i>Ilex aquifolium</i>)-gone.
	HE-C	Cut-off tree stump, waist height. Sampled. Identified as yew (<i>Taxus baccata</i>).
	HE-D	Very degraded low level stump next to the fence. Sampled. Identified as a species of plum/cherry etc. (<i>Prunus</i> sp.). Likely to be tree 1185, a dead Japanese flowering cherry (<i>Prunus serrulata</i>).
	HE-E	Sampled. But not very old. Identified as elm (<i>Ulmus</i> sp.).
	HE-F	Very large tree stump, tipped over. Identified on site as deciduous oak (<i>Quercus</i> sp.). No sample. This may be tree 1189.
SE	HEL-A	A sprouting stump. Identified on site as holly (<i>Ilex aquifolium</i>) from the leaves on the shoots. No sample.
	HEL-B	A degraded low-level stump. ?1359 "gone". Sampled. Identified as yew (<i>Taxus baccata</i>).
	HEL-C	Low-level stump. Sampled. Directly next to a tall, living ash tree. Identified as cf. false acacia (cf. <i>Robinia pseudoacacia</i>).
	HEL-D	Fallen tree across path near gate. Sampled. Identified as deciduous oak (<i>Quercus</i> sp.).
	HEL-E	A multi-branching trunk ?cut down recently? Sampled. Identified as holly (<i>Ilex aquifolium</i>).
	HEL-F	Multi stem trunk. Sampled. Identified as horse chestnut (<i>Aesculus</i> sp.)
	HEL-G	Tall stump with thorny shoots coming off it. Identified as hawthorn (<i>Crataegus</i> sp.) on site. No sample.
	HEL-H	A tall stump on the very edge of the wooded area (fence line).Losing its bark off most of its trunk. Sampled. Identified as elm (<i>Ulmus</i> sp.).
	HEL-I	Holm oak (<i>Quercus ilex</i>) on the very corner of the woodland. It has a decaying central stump, with c15 large living trunks growing up off it. No sample.

Quarter	Sample name	Description
	HEL-J	A large diameter stump at very low level (ground level). Sampled. Identified as deciduous oak (<i>Quercus</i> sp.).
	HEL-K	An ivy covered stump. Decaying wood. Located on the bottom edge of the woodland, opposite the grotto. Possible ring porous/tangential bands. Sampled and identified as elm (<i>Ulmus</i> sp.)
	HEL-L	30cm-high stump, ivy-covered. Opposite the eastern end of the grotto. Sampled. Identified as possible maple species (cf. <i>Acer</i> sp.)
	HEL-M	Probable stump, but little evidence of it remaining, other than a young shoot of holm oak (<i>Quercus ilex</i>) from its leaves. Identified on site. No sample.
	HEL-N	A smaller, low level stump. Sampled. Rotten. Identified as possible sycamore (<i>Acer</i> cf. <i>pseudoplatanus</i>).
	HEL-O	Waist height stump – ivy covered. Sampled. Identified as yew (<i>Taxus baccata</i>).
	HEL-P	2-3m long stump, fallen over, with the root system exposed. A tree tag (1303 “dead”) is present (had been repositioned) on the transverse section. Sampled. Identified as yew (<i>Taxus baccata</i>).
NW	HW-A	Stump near the lavatory building. Identified on site as deciduous oak (<i>Quercus</i> sp.). No sample.
	HW-B	Holly (<i>Ilex aquifolium</i>) stump with living shoots and leaves. At the corner of the lavatory building. Identified on site.
	HW-C	Leaning stump with partial roots exposed. Holly saplings at base – unclear if from the same plant. Sampled. Identified as hornbeam (<i>Carpinus</i> sp.). Almost certainly tree 1534.
	HW-D	Holly (<i>Ilex aquifolium</i>), recently cut down. Lots of shoots. Not sampled.
	HW-E	Small, low stump. Sampled. Identified as yew (<i>Taxus baccata</i>).
	HW-F	A sprouting small stump. Sampled, including leaves. Identified as elm (<i>Ulmus</i> sp.).
	HW-G	Small sprouting stump next to a big oak. Same type as F: elm (<i>Ulmus</i> sp.).
	HW-H	Very small decaying stump. Sampled. Identified as ash (<i>Fraxinus</i> sp.).
	HW-I	Tilting stump. Opposite the bench on the other side of the path. Identified on site as deciduous oak (<i>Quercus</i> sp.).
	HW-J	Degraded stump. Sampled. Identified as probable sycamore (<i>Acer</i> cf. <i>pseudoplatanus</i>).
	HW-K	Very, very decomposed. Sampled. Identified as elm (<i>Ulmus</i> sp.)
	HW-L	A degraded, formerly large diameter, stump. Abuts a living tall, narrow tree. Identified on site as deciduous oak (<i>Quercus</i> sp.).
	HW-M	A fallen tree with a long trunk. Sampled. Identified as probable sycamore (<i>Acer</i> cf. <i>pseudoplatanus</i>).
	HW-N	Large tree stump, charred outer. Sampled. Identified as a maple species (<i>Acer</i> sp.).
	HW-O	A 2ft high stump next to a lamp post. Sampled. Identified as holly (<i>Ilex aquifolium</i>).
SW	HWL-A	c. 50cm high stump. Degraded. – only 1/2 remaining. Sampled. Identified as probable sycamore (<i>Acer</i> cf. <i>pseudoplatanus</i>).
	HWL-B	A fallen over stump with roots exposed. A sapling growing out of it. Identified on site as holm oak (<i>Quercus ilex</i>) from leaves. No sample.
	HWL-C	Small stump. Not sampled. ?257 “hawthorn – gone” (cut down).
	HWL-D	Very large, fallen tree stump. Trunk sampled. Some saplings growing out of it, but thought not to be from the original tree. Identified as lime (<i>Tilia</i> sp.).

Quarter	Sample name	Description
	HWL-E	Not much left of a formerly much bigger tree. Degraded. Sampled. Identified as possible horse chestnut (cf. <i>Aesculus</i> sp.).
	HWL-F	Large, waist high stump. Sampled. Identified as horse chestnut (cf. <i>Aesculus</i> sp.).
	HWL-G	1ft high stump on an angle/tilted. Sampled. Identified as yew (<i>Taxus baccata</i>).
	HWL-H	An old cut down, yew (<i>Taxus baccata</i>) stump. Lots of new shoots. Photo taken, but no sample.
	HWL-I	A waist high stump. Eroding – 1/2 remaining. Sampled. ?369. Identified as maple species (<i>Acer</i> sp.)
	HWL-J	1ft high stump. Ivy covered. Sampled. Identified as yew (<i>Taxus baccata</i>)
	HWL-K	A short, small stump. ? <i>Crataegus</i> (hawthorn). Sampled. Identified as Maloideae and therefore consistent with the hawthorn identification made in the field.
	HWL-L	2ft high stump. Very loose in the ground. ?299. Identified as elm (<i>Ulmus</i> sp.)
	HWL-M	A very low level (ground level) stump, with a broken off section. Sampled. Identified as elm (<i>Ulmus</i> sp.)
	HWL-N	An extremely degraded, ground-level stump. Very little remaining. Sampled. Identified as probable sycamore (<i>Acer</i> cf. <i>pseudoplatanus</i>).

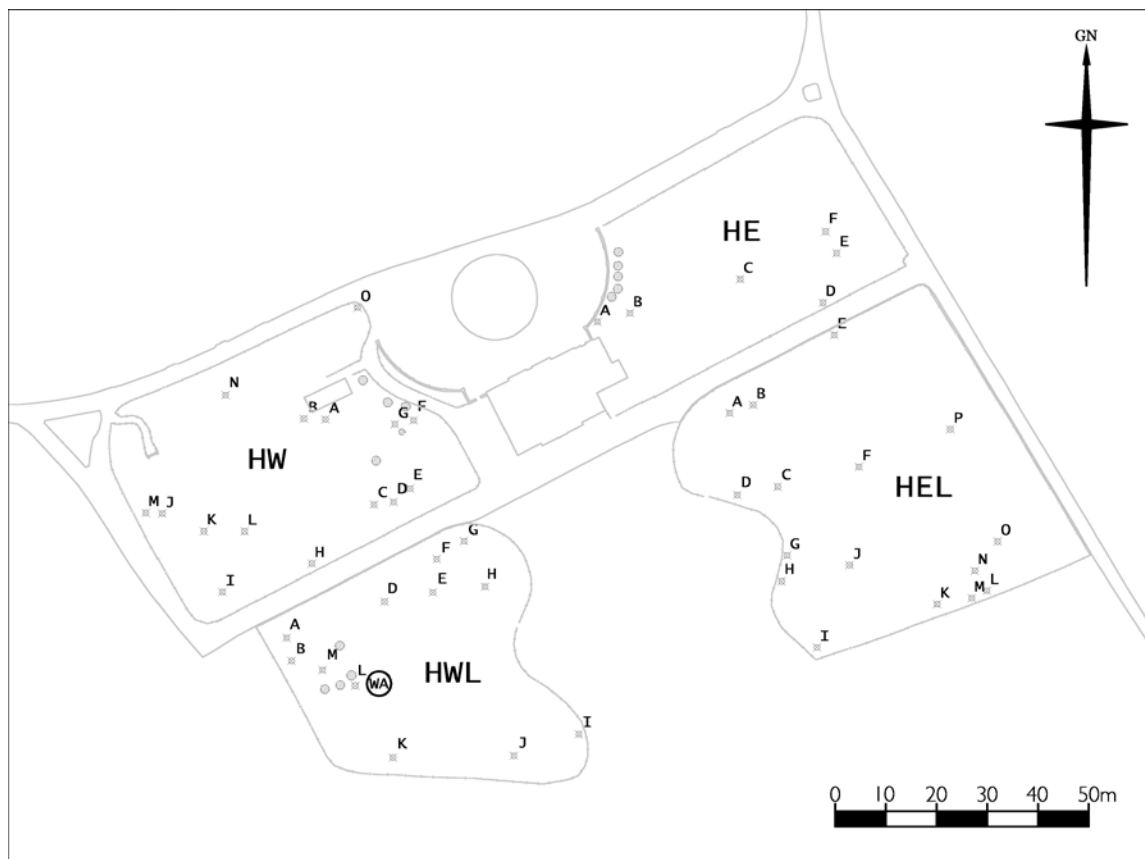


Figure 49 - Location of the recorded tree stumps – quarters and stumps identified by the letters above, WA = winter aconite, hatched circles = butcher's broom, 1:1500@A4 (background Greenhatch Group 2015 © Historic England)

Discussion

The north-east quarter

One of the first things of note in this area is the evergreen planting against the wing wall. There is a curved line of yews, including one stump (1142), sampled as HE-A, and identified as yew during this survey. The line of yews is underplanted with butcher's broom (*Ruscus* sp.) (Figure 54) and may once have been a line of high hedging acting as a screen. Almost immediately to the east of this are some box trees (*Buxus sempervirens*) of considerable age (Figure 55). These may be the remains of former clipped box hedging. Some of the existing and dead holly (e.g. HE-B) in this area may also be the remains of former evergreen screening. The nature of this planting would suggest that it could date from the 1830s-1850s planting by Jonathan Peel (EBA 1989, 30).



Figure 50 - Butcher's broom beneath a line of yew in background. © Historic England



Figure 51 - Italian lords and ladies in the foreground against a backdrop of box. © Historic England

Further to the east and on the northern edge of this area are quite a number of Italian lords and ladies (*Arum italicum* ssp. *italicum*) as well a large lilac (*Syringia* sp.) (Figure 55 and Figure 56). The former may suggest that this has been woodland planting for some considerable time. The latter is likely to be part of the 1920s planting (EBA 1989, 9 and 31).



Figure 52 - Lilac growing against the fence in the area east of the house. © Historic England

The very centre of the area is quite open, though a waist high large tree stump in this vicinity was identified as yew (HE-C). This could be all that remains of a clipped standard yew from the time when this was part of a formal garden, or it could represent later planting.

On the eastern edge of this area there is also considerable evergreen planting. In amongst this and in the south-east corner a large stump (HE-F) was identified as deciduous oak. There is also evidence of elm in the form of small diameter stumps and sprouting/regenerating clumps (Figure 57). This suggests that prior to the Dutch elm disease epidemic of the 1970s this area supported a number of elms.



Figure 53 Regenerating elm growing in the north-east quarter. © Historic England

The south-east quarter

The north-west, north and east sides of this area are currently dominated by evergreen planting and the stumps identified (HEL-A: holly; HEL-B: yew; HEL-holly) suggest this was of some age, possibly dating from 1830-1850. To the south several stumps were identified as deciduous oak or as elm suggesting that within this area these trees were once more prevalent. There is a large open space towards the centre of this area which in May 2016 was covered in cow parsley (*Anthriscus sylvestris*) and a tall growing comfrey (*Symphytum* sp.) (Figure 58). Two medium sized stumps on the edge of the area were identified as horse chestnut and possible false acacia.

Along the west curved edge of this area the old or dead hawthorns (including tree 1224 and HEL-G) could be part of a moribund hedge boundary. Also of interest is the multiple-stemmed large holm oak (perhaps tree 1229) which occupies the south-west corner of this area (Figure 59). The tree has regenerated from a large central stump and is of considerable age. It may have been planted during Henrietta Howard's lifetime. However, it is also possible that it was planted to frame the formal garden identified by the recent

geophysical survey (Linford *et al* 2016: gpr23) and mentioned in the sales notice of 1890 (EBA 1989, 28).



Figure 54 - Comfrey and cow parsley growing in the centre of the south-east quarter. © Historic England



Figure 55 - Multi-stemmed holm oak © Historic England

Just outside the area and along the eastern edge there is some indication of former woodland planting. Underneath lime tree 218 there is a single Italian lords and ladies surviving along with a comfrey and elder seedling (Figure 60). This suggests that woodland once extended beyond the current fencing since Italian lords and ladies tends to spread vegetatively by short creeping rhizomes (Hill *et al* 2004, 28).



Figure 56 - Woodland plants surviving beneath lime tree 218 © Historic England

The north-west quarter

The areas closest to the house are again dominated by evergreen planting, with yew under-planted with butcher's broom lining the eastern side and laurel along the southern edge against the tarmacked walk. There are also considerable amounts of holly. Saplings and small dead elms were identified on the eastern side of the planting along with a large stump in the centre of the western end of the planting. Three oak stumps were also identified within the interior of the area, along with a single dead ash and a recently removed hornbeam (tree 1534). Around the icehouse mound were several stumps of probable sycamore, reflecting current management of the planting to ensure that this species does not take over (LUC 2007, 3). In terms of living trees, lime tree (1416) is of interest. While the centre is decayed, two secondary forks are growing well. It is clearly of some age and may date back to the original planting (Figure 61).

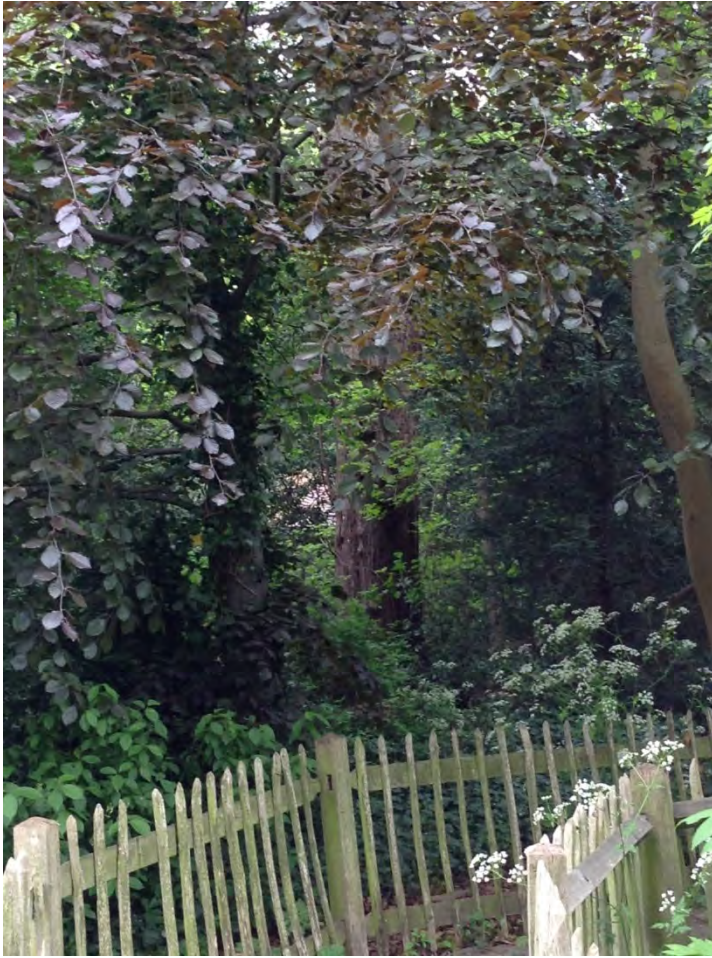


Figure 57 - Lime tree 1416 from the ice house path. Only one of the secondary forks is clearly visible © Historic England

The south-west quarter

The evergreen planting of yew, some now gone and identified from stumps, along the eastside of this area partially mirrors the planting on the other side of the grass to the east. However, there is no large holm oak corresponding to tree 1229. Within the interior of the area, are the remains of two large elms, two possible horse chestnuts and one large, dead lime. Also of interest is a large living lime with epicormic growth (tree 236). Just to the south of this large tree is a clump of winter aconites (*Eranthus hyemalis*), while just to the west periwinkle (*Vinca* sp.) is present (Figure 62). This ground cover was clearly meant to be viewed by visitors walking through the garden and could be of some age. Overall the impression of this area is that the elms, limes and horse chestnuts might reflect the original planting, with yew and/or holly being late, 1830-1850 additions.



Figure 58 - Lime tree 236 with winter aconites in the foreground. © Historic England

Conclusion

The results of the tree survey reflect the recent history and management of the quarters. It is clear that elm trees were an important element in the planting and that these were largely been lost as a result of the Dutch elm disease epidemic of the 1970s. A number of trees were also lost during the hurricane of October 1987, 39 over the park as a whole, with others damaged (EBA 1989, 99), and this may have affected the oaks and limes in particular. Lastly the need to keep sycamore under control and avoid it taking over the woodland means that trees of this species have been regularly removed over the last 30 years or so (LUC 2007, 3).

Within the historic core, earlier work (EBA 1989, 69) suggested that two large common limes could date from Henrietta Howard's time on the basis of their girths. They also postulated that an oak, holm oak, beech, plane and horse chestnut were over 150-60 years old, again on the basis of their girths.

The survey suggested that the existing limes are of considerable age. While a number of stumps indicated that deciduous oaks were once significant taxa in

the planting scheme. The importance of the large holm oak at the south-west corner of the enclosed planting to the east of the house below the tarmac covered walk was also recognised.

The 1989 analysis of the vegetation (EBA 1989, Appendix 4) did not pick up on the history of elm in this area. That both elm and lime were a feature of Marble Hill park and gardens is indicated by Hugh Walpole writing to Lewis Walpole in 1738 'of flowery lime and elm tree green' at Marble Hill.

Also of possible significance are the three identifications of (now dead) horse chestnut. The anonymous account of 1760 (possibly by Henrietta Pye) refers to groves of horse chestnut rather than avenues, so it is possible that these trees were also part of the quarters' planting from an early date (EBA 1989, 55).

Finally, the evergreen planting that lines the different parts of the quarters, especially the areas closer to the house, while likely to be 1830-50s additions, do give the impression of former boundaries within which the woodland and other plantings were made or existed; a situation somewhat suggested by elements depicted on the 1786-7 plan.

Geophysics results summary

Introduction

The following is a summary of the findings of the geophysical surveys conducted in the parkland surrounding Marble Hill House in late 2015 and early 2016 published separately as Linford *et al* (2016).

A Ground Penetrating Radar (GPR) survey of approximately 16.5 ha was carried out over all open areas and earth resistance survey (3.0 ha) was used over the terraced area immediately S of the house and to extend coverage into tree covered areas inaccessible to the GPR system. During the initial visit a caesium magnetometer survey of 3.5 ha was also carried out over the north lawn to test magnetic response at the site but despite waterlogged site conditions it was concluded that GPR was providing greater resolution, , and this technique was used over a wider area.. For details of the methods used, data analysis and presentation of resultant plots see Linford et al (2016).

The remainder of this section will present summaries of the anomalies identified together with a possible date suggested from comparison with other sources.

Results

Magnetometer survey

See Figure 63.

Anomaly	Description	Notes	Date
[m1a]	Low magnitude linear anomaly	Service pipe? Modern materials?	Modern
[m1b]	Linear high magnitude ferrous anomaly	Service pipe or cable	Modern
[m1c]	Linear anomaly	Service pipe? May be of ceramic construction.	Modern
NB	1b and 1c appear to converge in the centre of the lawn but there is nothing to suggest what they might have supplied		
[m1d]	Linear high magnitude ferrous anomaly	Service pipe or cable	Modern

Anomaly	Description	Notes	Date
[m2]	Large linear anomaly running NW-SE from Richmond Road directly towards Marble Hill House. Alternates between high magnitude positive and negative polarities suggesting a construction material with a thermoremanent magnetisation such as ceramic or asphalt. At its southernmost end it possibly widens and terminates in a circular area although proximity to the edge of the survey makes this uncertain.	Appears to represent a metalled road or drive. Believed to have been installed by the Cunard family around 1900 during their thwarted attempt to develop the park for private housing (Brian Clark, pers comm)	c1900
[m3]	A large ferrous anomaly adjacent to E side of [m2]	Corresponds with a complex of anomalies detected in the GPR survey and is likely to represent a structure or installation either contemporary with the drive or associated with later C20th use of the site	C1900? WWII?
[m4]	A rectangular configuration of four discrete ferrous anomalies, other similar anomalies have been indicated across the survey area	Magnitude and symmetrical form suggests they are caused by vertical ferrous rods probably associated with the modern use of this area for sports pitches	Modern
[m5a-b]	Weak narrow ditch anomalies	Cause unclear; may date from any period, prehistoric - modern	Unknown
[m6]	Several broad, weak anomalies	Likely to be caused by variations in the superficial geology, topographic variation possibly more pronounced prior to C18th landscaping	Geological
	Distributed across the survey area were a series of weak, parallel, linear ditch anomalies running ~SW-NE spaced ~3-3.5m apart	Probable drainage ditches, possibly established at the time the area was landscaped	Modern

Earth resistance survey

See Figure 63.

Anomaly	Description	Notes	Date
Area 1			
[r1]	A rectilinear pattern of high resistance linear anomalies which exhibit strong contrasts in both the shallow 0.5m and deeper 1m separation datasets	Potentially substantial wall footings. Remains of a brick wall were discovered just to the N of the survey area (King 2016, pers comm). These anomalies may be related, possibly representing rectangular walled gardens as suggested by the 1898 Richmond and Twickenham Times map. Alternatively there may have been a building here.	Modern

Anomaly	Description	Notes	Date
[r2]	A low resistance ditch anomaly that appears to have one or more discrete, square pit anomalies set into its edges, near [r1] it turns a right angle to run ~15m W	Forms a link between the kitchen garden area and the landscape garden anomalies further S [r4] and may be associated with either.	19th
[r3]	A combination of discrete low and high resistance anomalies appears to form a rectilinear pattern on a broadly N-S axis	Immediately W was a football pitch on a similar alignment; [r3] may represent the remains of a temporary stand erected for a sporting event. Or, may mark the site of a structure associated with the earlier formal garden or planting beds associated with the kitchen gardens.	19th/20th
[r4]	High resistance linear anomalies	Probably metalled paths and layout suggest probably associated with the C18th designed landscape; a very similar arrangement of paths is shown on the 1st edn OS maps (Ordnance Survey 1871).	18th/19th
[r5]	One of the [r4] paths runs S past a line of discrete low resistance anomalies. One is particularly strong with an inverted response; high resistance centre surrounded by low resistance circular area ~8m across.	These may represent tree planting pits perhaps screening the view E from the house. The largest might represent remains of a statue base or similar monument intended as an 'eye-catcher'.	19th
[r6]	The path above [r5] continues S through an amorphous high resistance area which, given its localised nature, suggests a rubble spread rather than geology.	This is likely to represent demolition debris, perhaps from Little Marble Hill which the 1st edn OS maps shows stood immediately to the south	19th
[r7]	Near the SE corner of the survey area path [r5] turns a right angle to run south-west, eventually joining the track detected by the GPR survey (see below) running across the football pitches.	An offset curving projection and a triangular spur suggest possible areas of hard-standing in front of buildings; Little Marble Hill would have been near the former.	19th
[r8]	Fragmentary evidence for rectilinear wall footings on an alignment parallel to the adjacent bank of the Thames	May indicate that other structures once stood in this vicinity. The 1711 'scatch' shows three buildings here labelled 'the hatters'. The absence of any clear ground plans may indicate later remodelling of the area removed these structures, possibly when Little Marble Hill was constructed.	18th
"	Several low resistance linear anomalies on different alignments, some expressed in surface topography, also ran through this area.	The strongest of these appear to correspond with a body of water marked at this location in the 2nd edn OS maps (1898)	19th?
"	Also, a sharp boundary separates high background resistivity to the N from very low resistance to the S near the Thames.	This may indicate the transition of the superficial geology from Langley Silt to alluvium	Geological
Area 2			

Anomaly	Description	Notes	Date
[r9]	Three parallel low resistance, linear anomalies, possible ditches, run out of the survey area on an NW-SE axis	Possibly associated with either previous landscaping or sports pitches	Unknown
[r10]	Linear high resistance anomalies	Suggests this area might once have been landscaped to form earthen banks screening the edge of the property similar to those still extant running parallel to Richmond Road to the N. It is also possible that the stronger linear anomalies in this vicinity reflect remains of the 'Sweet Walk'.	19th?
Area 3			
[r11]	Narrow high resistance linear anomaly running SSE through the survey area from Marble Hill House towards the Thames	Corresponds to a known modern service (see [gpr8] below).	Modern
[r12]	A high resistance linear anomaly showing strongly on both 0.5m and 1m electrode separation surveys suggesting that it extends to some depth (~2m).	This is a brick culvert known to run from the E wing of the house towards the Thames. It has a break ~25m S of the house adjacent to an area of high resistance which may suggest some damage, or that it is crossed by another anomaly running E-W. The c 1752 plan shows a broad E-W walk here which may support the latter conjecture.	
[r13]	A possible rectilinear feature measuring ~10m E-W by 7.5m N-S. This is highly conjectural as it is only visible in the combined 0.5m and 1m separation results after subtraction and occurs in an area where the latter were affected by electrical noise.	Nevertheless, the central position relative to the S aspect of the house and the two areas of tree planting to the E and W would be an attractive place to site a garden feature	18th?
[r14]	A complex of high resistance anomalies appears to form a line of, possibly, three square panels. Each is ~5m across and the complete arrangement would close the gap between the two stands of trees that bracket the S aspect of house. The anomaly of the easternmost panel is disrupted by culvert [r12] although it is not clear whether this is simply the superposition of anomalies or whether it represents actual intercutting. The other two panels both show evidence for a circular central feature ~2m in diameter. While the plan revealed is rather fragmentary, some of the anomalies are of high magnitude suggesting substantial construction.	A formal garden design. At the position labelled [r14], where the culvert anomaly intercuts, the deeper 1m separation results suggest the possibility of substantial buried remains – a possible site of the second grotto?	

Anomaly	Description	Notes	Date
[r15]	A high resistance linear feature divides ground exhibiting higher background resistivity to the N from the noticeably lower background resistivity of the lawn running S towards the Thames.	This may denote the line of change in superficial geology (as suggested at [r8] above) as the strength of anomalies forming [r14] changes markedly as they cross its line which is suggestive of changing subsurface conditions. [r15] may indicate the strike of the original slope of the land in this area, C18th landscaping having since altered it to be parallel to the S face of the house. However, the 1752 plan shows paths around the grotto and [r15] correlates with the southernmost of these.	18th?
[r16]	Two approximately rectilinear low resistance anomalies ~2-4m across surrounded by areas of higher resistance	These may represent former planting pits with the linear low resistance anomaly passing between them being a former path.	18th/19th
[r17]	Linear high resistance anomalies running around the grotto	Appear to correlate with paths depicted on the 1752 plan	18th

Ground Penetrating Radar survey

See Figure 64.

Anomaly	Description	Notes	Date
[gpr1]	Very shallow anomalies	Areas of un-mown grass	21st
[gpr2]	Very shallow anomalies	Well-worn pathways	21st
[gpr3]	Very shallow anomalies	Astroturf cricket pitch	21st
[gpr4]	Low amplitude anomalies from approximately 0.16m onwards	Line markings of past and present sports pitches. Clearly have a long term impact on the local conductivity of the soil.	21st
[gpr5]	Various near-surface anomalies	Roots of mature trees	20th
[gpr6]	Various near-surface linear anomalies	Pipes across the site but mainly serving the house	20th
[gpr7]	Various near-surface linear anomalies	Service trenches across the site but mainly serving the house	20th
[gpr8]	A near-surface linear anomaly	A recent electricity supply installed on the South Lawn to facilitate the staging of events (Brian Clark <i>pers. comm.</i>)	21st
[gpr9]	Near-surface anomaly to the N of the house	Perhaps former cricket nets	20th
[gpr10]	Near-surface anomaly to the N of the house	Most likely to represent former playing surfaces or facilities	20th
[gpr11]	Near-surface anomaly to the N of the house	Ditto	20th
[gpr12]	Near-surface anomalies N of the house	Perhaps former practice pitches	20th
[gpr13]	Planar areas of high amplitude response between 0.16 to 2.06m	Most likely to represent gravel deposits	Geological

Anomaly	Description	Notes	Date
[gpr14]	A series of broad, parallel anomalies overlying [gpr13] N of the house	Possibly ridge and furrow or other agricultural activity	Medieval?
[gpr15]	The linear anomaly heading N from the house also detected by the magnetic survey [m2]	Driveway? Quite wide for road (12m) although the presence of linear services including some discrete reflectors suggests this may have been designed as a more general conduit for infrastructure to support the proposed housing development	c1900
[gpr16]	A 'T' shaped response to the E beyond the magnetometer coverage	Similar to [gpr15] so perhaps related	c1900
[gpr17]	A complex group of anomalies consists of a rectilinear feature, approximately 6m x 3m, adjacent to a 4m square reflector surrounded by an amorphous area of high amplitude response.	Possibly a building and other elements associated with [gpr15]. The presence of a possible service [gpr6] from the house may suggest alternative interpretations, perhaps a Second World War civil defence installation.	20th
[gpr18]	Curvilinear anomaly	Appears to be original arc of the carriage turning circle	18th
[gpr19]	A line of low amplitude pit-type anomalies	May indicate a former garden planting, shares an orientation with the main house	18th/19th?
[gpr20]	A line of more scattered high amplitude pit-type anomalies	May be part of a the same garden design	18th/19th?
[gpr21]	Anomalies close to the stable block	difficult to interpret but may be structural remains	Uncertain
[gpr22]	Linear [r12] between 0.32 to 1.58m, with a fall towards the river	The known brick culvert	18th?
[gpr23]	Anomalies evident in the data from about 0.16 to 1.74m, suggesting they are either quite substantial causative features or formed from material that has encouraged the signal to reverberate through the time window.	Appears to be an Italianate style formal garden layout in an area shown as a panel of trees on the 1st edn OS mapping. Consists of three semi-circular parterres with a diameter of 8m set in a rectangular layout of paths. It would appear traces of any symmetrical anomalies, have not survived to the W.	19th?
Ditto	The response is most persistent to the E of [gpr23] where the reflections apparently continue to 50ns	This could, potentially, be a deeper target such as the putative second grotto.	18th/19th?
[gpr24]	A second high amplitude anomaly to the W mirroring the extant grotto is evident within the data between 0.16 to 2.06m	Possibly an alternative location for the second grotto. May be related to the nine pin alley shown on the c1752 plan	18th/19th?
[gpr25]	High amplitude anomaly	May also be related to the nine pin alley shown on c1752 plan	18th
[gpr26]	Ditto	Ditto	

Anomaly	Description	Notes	Date
[gpr27]	Linear high amplitude anomaly	Related to the terracing	18th/19th
[gpr28]	Linear high amplitude anomalies	Possible elements of former planting or garden designs	18th/19th
[gpr29]	Additional amorphous anomalies	Difficult to interpret but possibly due to the underlying geology	Geological?
[gpr30]	A linear EW high amplitude anomaly extends beyond the South Lawn to the W where it continues through the low lying, waterlogged, West Meadow. To the E [gpr30] appears to follow two parallel low amplitude responses leading towards the E corner of the park	Probably a wall, track way or boundary. There is a marked change in response to the S of [gpr30] as the lower lying, alluvial soils close to the river attenuate the incident signal and it is possible that [gpr30] represents a limit to flooding from the Thames.	Medieval?
[gpr31]	A sub circular low amplitude anomaly	Corresponds with an octagonal feature shown on the c1752 plan surviving as mature trees recorded by the historic mapping until, presumably, wartime clearance for sports pitches and allotments	18th
[gpr32]	A modern service passing through a small, rectilinear reflector	perhaps related to an inspection chamber or silt trap	20th
[gpr33]	A high amplitude anomaly between 0.47 to 1.74m lies approximately 25m SW of the Ice House	Potentially a subterranean structure and another possible location for the second grotto.	18th?
[gpr34]	Amorphous high amplitude anomaly	Suggestion of structural remains	
NB	No evidence for the small building at the location shown on the 2nd edn OS maps was found, but survey coverage in this area was partially interrupted by mature trees		
[gpr35]	A complex response within the trees	Unknown	
[gpr36]	Straight linear high amplitude anomalies heading towards the White Lodge Gate, where it crosses the North Lawn as an interrupted low amplitude response	Driveway visible on historic maps, perhaps from 1786	18th?
[gpr37]	Curved linear high amplitude anomalies heading towards the modern car park and East Gate	Driveway visible on historic maps from 1819.	19th
[gpr38]	Straight linear high amplitude anomalies	Driveway visible on 1st edn OS maps, an E branch of [gpr37]	19th
[gpr39]	A high amplitude, wall-type response	Appears later than [gpr37] but is itself cut by the presumably more recent service [gpr6]	19th/20th?
[gpr40]	Similar wall-type anomalies	Perhaps relate to either the previous land division in the park or elements of the pleasure gardens	Post-med/ 18th/19th?

Anomaly	Description	Notes	Date
[gpr41-46]	Curious, circular anomalies of differing diameter throughout this area	Do not, immediately, suggest a direct association with recent sports activity or former pitches. It is possible they represent elements of the wider pleasure gardens. The largest [gpr41] could represent the location of the short lived "Priory of St Hubert" folly constructed around 1757 and removed a decade later.	18th/19th?

Conclusions

Three geophysical techniques were tested at Marble Hill Park and between them all accessible parts of the park (about 20 ha) were surveyed. Magnetometer survey performed as anticipated responding mainly to ferrous and thermoremanent materials deriving from structures likely to have been constructed in the last two centuries. For this reason, it was abandoned in favour of the other techniques. Ground Penetrating Radar (GPR) performed better than anticipated detecting a wealth of superimposed anomalies reflecting the changing land use of the park through time. Earth resistance survey also performed well and over Area 3 a strong correlation with the GPR results gives confidence that both revealed the primary subsurface remains likely to be present. As the GPR provided more detail, it proved the most rapid and effective method for surveying the open areas of the site. However, while slower, earth resistance survey provided the only means of surveying between closely spaced trees and bushes and was used to extend the survey area to the edges of the park in Areas 1 and 2.

The survey results have revealed a palimpsest of anomalies distributed across Marble Hill Park many of which can be correlated with features visible on historic maps reflecting the changing use of the landscape over time. There are, however, also anomalies suggesting additional features not recorded by any mapping and these will need to be verified by comparison with other forms of research.

Figures (overleaf)

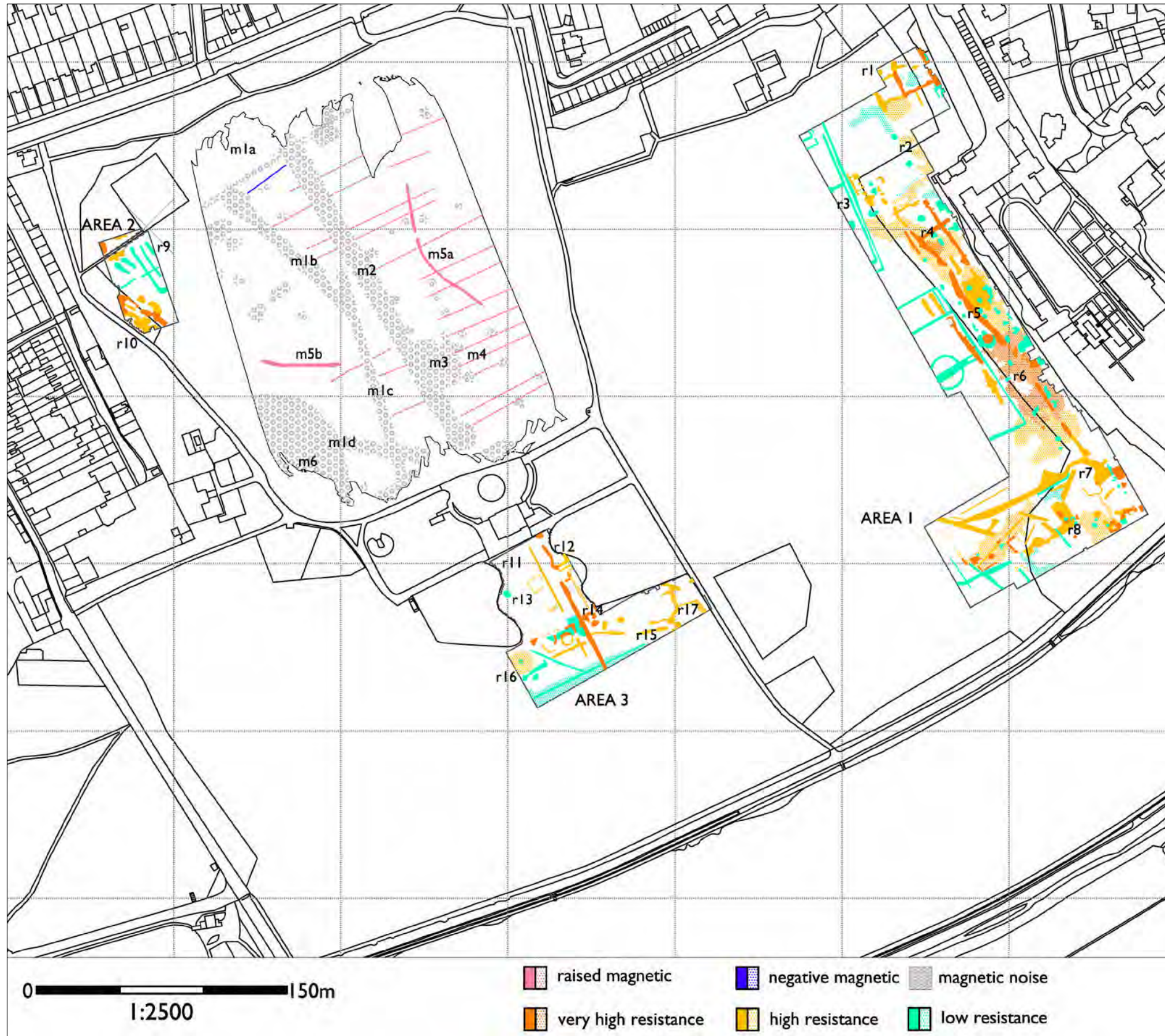


Figure 59 – Graphical summary of significant magnetometer [m1-6] and earth resistance [r1-17] anomalies identified in Linford et al 2016 (Reproduced with permission of Historic England Geophysics team. Modern Ordnance Survey background mapping: © Crown Copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100024900) NTS

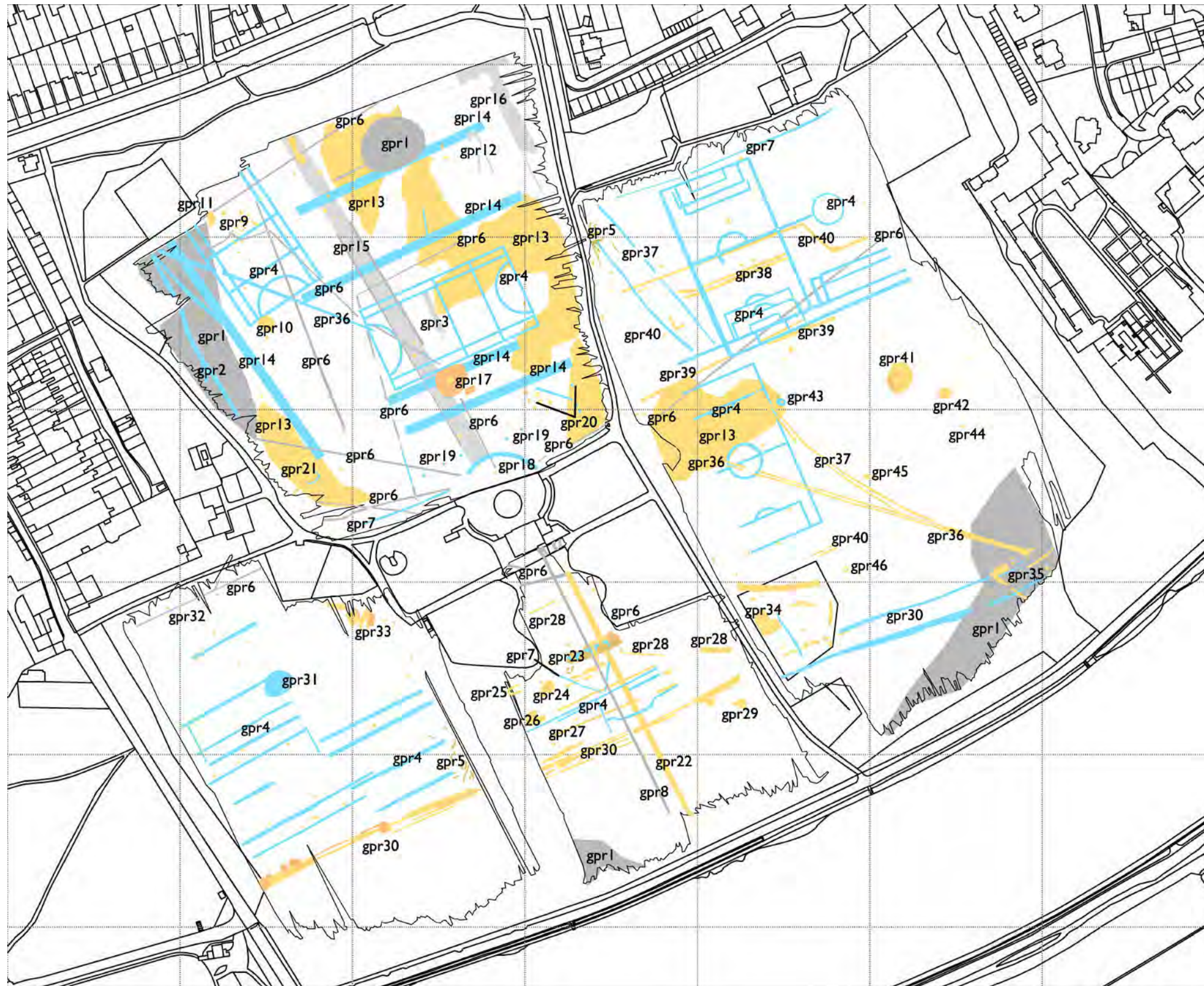


Figure 60 - Graphical summary of significant Ground Penetrating Radar anomalies identified in Linford et al 2016 (Reproduced with permission of Historic England Geophysics team Modern Ordnance Survey background mapping: © Crown Copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100024900) NTS

0 150m
1:2500

low amplitude reflectors
high amplitude reflectors
anomalies of known or recent origin

PROJECT METHODOLOGY

Project Geographical Information System

A Project Geographical Information System (GIS) was set up to allow the comparison of various data-sets, including APs, the lidar, survey results, and historic maps. All spatial data were geo-referenced using Ordnance Survey's British National Grid coordinate system.

The system was based on ESRI's ArcMap 10.3.1 software. The Historic England GIS team provide standard templates which were used to incorporate a wide range of basic background data such as current OS raster and vector topographic mapping, administrative boundary data, and recent aerial photographic and elevation datasets, as well as existing data on the historic environment, principally Historic England's own statutory datasets (on Listed Buildings, Scheduled Monuments, Registered Parks & Gardens, and the NRHE). Newly data captured for the project which was incorporated into the GIS was of two main types: i) geo-referenced historic maps and plans and ii) data from research. The latter included the topographic survey by the Greenhatch Group, the processed 16D lidar data, and the results of the main fieldwork elements all of which were available in suitable digital formats. Digital images of a variety of historic maps and plans were acquired from a number of sources (see Appendix 2). The maps used ranged in date from the 18th to the early 20th centuries and coverage focused on the house, gardens and park though some maps covered larger areas. The historic maps and plans were geo-referenced to the Greenhatch topographic survey at a nominal scale of approximately 1:1000 or where they covered a wider area to the OS Mastermap data at about 1:2500. Much of the geo-referencing of the historic maps and plans was undertaken using a local installation of ArcMap due to speed concerns though in practice these proved to be largely unfounded. When complete the final GIS was copied to the corporate GIS server and made available to internal project staff.

Following consultation with English Heritage Trust staff it was decided that a GIS accessible to themselves and their contractors was a priority. To do this it was determined that the best approach would be to use the web-based ArcGIS Online system. Data sets created in Arc Map were processed and uploaded to online servers and a Web Mapping Application created allowing access via any browser to invited persons.

Methodological conclusions

In common with other similar projects (such as at Wrest Park (Alexander et al 2014) and Audley End (Alexander et al 2015) this project has demonstrated that

a combination of non-intrusive survey techniques is able to maximise the amount of information that may be recovered.

Aerial photography and lidar mapping and interpretation is able to cover large areas relatively rapidly and cost-effectively. It does, however, have limitations in terms of locational accuracy and resolution, discovery biases, for example, created by changes in geological deposits or ground cover and in the interpretation of the evidence revealed (Bewley 2001). At the other end of the spectrum, excavation (which is expected to follow the work reported here) covers small areas in great detail and provides types of dating evidence not available with other techniques, but at a high cost in terms of time, effort and money.

Aerial photography covered the whole area of the park and areas beyond but visibility of features in wooded areas was limited. Analytical earthwork survey covered almost the whole park apart from areas of hard standing such as the car park and service yard, and the densely vegetated area adjacent to Montpelier Row. Geophysics coverage varied; magnetometer survey was not very successful and only used on Great Lawn, Ground Penetrating Radar (GPR) proved more useful and was undertaken on most open areas with resistivity being used in some wooded areas. Between them almost the whole park was covered in some way.

By incorporating the results of the field techniques used in a Geographic Information System (above) it was possible to directly compare results. Where all techniques were applied, it is clear that in many places they were recording the same features. In other places two of the techniques were in agreement and examples can be identified of all possible pairings supporting one another. Perhaps the clearest of these correlations though was between the aerial photography and the geophysics results; they were typically both plotting well-defined subsurface features. Incidentally, a comparison of the features identified by GPR survey, which was located by GPS and therefore likely to be accurate to a few centimetres, with the aerial photography mapping suggests that the latter had a margin of error of less than 1m.

There were also features picked up by one technique alone, though it was rare for AP/lidar interpretation to identify a feature not recorded by at least one of the other techniques. Geophysics picked up numerous features or additional elements of features not identified by other techniques, which is not surprising given the resolution and the depth of penetration possible. In contrast, earthwork survey identified a range of larger, less well-defined features than the other techniques and was able to access areas not available to other techniques, most significantly in terms of the current project the woodland quarters.

Coring and vegetation analysis provided specific information to complement the other research. With minimal input the coring allowed a fairly certain interpretation of the large rectangular hollow to the east of the house as a gravel extraction pit. The vegetation analysis allowed detail to be added as to the species planted during the life of the wooded quarters and suggest further details of the vegetation history of these areas.

Further work

Some targeted excavation to determine various details of the history of the site, particularly the Pleasure Grounds and service areas associated with the house (the target for garden recreation plans) has already taken place informed by the survey work reported here. Further work is planned.

If the area adjacent to Montpelier Row is cleared further analytical earthwork survey might be of value to inform the plans for reinstating Sweet Walk. Further targeted excavation will also be valuable along the whole length of the walk and the mound half way along the north side of the park should also be examined as it is likely to be affected by any works but its dating and purpose are currently obscure.

Other areas of interest, and high archaeological potential, would include:

- The area covered by the current car park, adventure playground and service yard which were the site of most of the functional elements of the 18th century estate such as the stable block, various yards and kitchen garden.
- The area of Little Marble Hill and its gardens, plus various precursors dating back to at least the early 18th century, in the eastern corner of the park and along its north-east side (with elements probably extending into Meadowside).
- The area of later 18th and 19th century buildings to the north of this, within the rough area south of the Service Yard.
- The location of the short-lived but impressive 'St Hubert's Priory' was also probably somewhere within these areas

REFERENCES

See also 'Appendix 2: Historic maps and plans used in this research'.

Anon (Henrietta Pye?) 1760 *A Short Account, of the Principle Seats and Gardens, In and about Twickenham*.

Anon 1986 *Marble Hill – The Design and Use of a Palladian Estate*. Borough of Twickenham Local History Society

Alexander, M 2015 'Marble Hill Park, Twickenham, London: Landscape Investigations - Project Proposal - RaSMIS 7382', Historic England: internal typescript report

Alexander, M, Hann, A, Small, F and O'Hara, P 2014 *Wrest Park, Silsoe, Bedfordshire: Landscape Investigations*. Portsmouth: English Heritage (Research Report Series 6-2013)

Alexander, M with Canti, M, Carmichael, K, Cole, E, Earle Robinson, D, Linford, N, Lowerre, N, McOmish, D, Morrison, K, Payne, A and Soutar, S 2015 *Audley End, Essex: Historic Landscape Investigations*. Portsmouth: Historic England (Research Report Series 46-2011)

Bevir, M 2011 *The Making of British Socialism*. Princeton: University Press

Bewley, R 2001 'Understanding England's Historic landscapes: An Aerial Perspective', *Landscapes*, **1**, 74-84

Bryant, J 2002 *Marble Hill*, Guidebook. London: English Heritage

BHC (Built Heritage Consultancy) 2016 'Marble Hill House and Park, London: Conservation Management Plan', unpublished typescript report for English Heritage Trust

Cherry, M, Howe, K & Sheaf, J 1998 *Twickenham, Teddington & Hampton: A Second Selection*. Stroud: Sutton

Chitty, G 1985 'Marble Hill Park', *The London Archaeologist*, **5**, 64-5

Crouch, D and Ward, C 1997 *The Allotment Its Landscape and Culture*. Nottingham: Five Leaves Publications

Draper, MPG and Eden, WA 1970 *Marble Hill House and its owners*. London: Greater London Council

EBA (Elizabeth Banks Associates) 1989 'Marble Hill; Restoration of the Gardens and Park', unpublished typescript report for English Heritage

Ehrenstein, C V 2015 'Erskine, John, styled twenty-second or sixth earl of Mar and Jacobite duke of Mar (*bap.* 1675, *d.* 1732)', *Oxford Dictionary of National Biography*, Oxford University Press, online edn
[<http://www.oxforddnb.com/view/article/8868>, accessed 11 Nov 2015]

English Heritage Trust 2015 'Marble Hill: Landscape Conservation Management Plan', draft internal typescript report

English Heritage Trust 2016 'English Heritage Parks for People application to the Heritage Lottery Fund for Marble Hill Park', unpublished document submitted February 2016

FDA (Fulford-Dobson and Associates Ltd) 2014 'Annual Tree Inspection', unpublished report for English Heritage

Gale, R and Cutler, DF 2000 *Plants and Archaeology: Identification manual of vegetative plant materials used in Europe and the Mediterranean to c. 1500*. Otely: Westbury Publishing and the Royal Botanic Gardens, Kew

Gelling M and Cole, A 2000 *The Landscape of Place-Names*. Stamford: Shaun Tyas

Geological Survey of England and Wales 1972 *South London, England and Wales Sheet 270*, Drift edition. Chessington, Surrey

Gover, JEB, Mawer, A and Stenton, FM 1942 *The Place-Names of Middlesex apart from the city of London*, English Place Name Society, xviii. Cambridge: University Press

Greenhatch Group 2015 'Marble Hill Park, Twickenham, Middlesex, topographic survey', AutoCAD files, for Historic England/English Heritage

Haggard, R 2001 *The Persistence of Victorian Liberalism: the politics of social reform in Britain 1870-1900*. London: Greenwood Press

Hather, J 2000 *The identification of Northern European Woods: a guide for archaeologists and conservators*. London: UCL

Hill, MO, Preston, CO, and Roy, DB 2004 *Plantatt, Attributes of British and Irish Plants: status, size, life history, geography and habitats*, Huntingdon: Biological Records Centre, NERC Centre for Ecology and Hydrology

Ikin, C 2012 *The Victorian Garden*. Oxford: Shire Publications

Inglis, S 2014 *Played in London: Charting the Heritage of a City at Play*. Swindon: English Heritage

Jacques, D 1995 'Land Tenure at Marble Hill, 1720-1820', unpublished typescript report for English Heritage [reproduced as Appendix 1, CMP 2015]

Kilburn, M 2008 'Howard, Henrietta, countess of Suffolk (c.1688–1767)', *Oxford Dictionary of National Biography*, Oxford University Press, online edn [http://www.oxforddnb.com/view/article/13904, accessed 11 Nov 2015]

Linford, N, Linford, P, Payne, A and Pearce, C 2016 *Marble Hill Park, Twickenham, London: Report on geophysical surveys, December 2015 and February 2016*. Portsmouth: Historic England (Research Report Series 19-2016)

LUC (Land Use Consultants) 2006 'Marble Hill House: Landscape Management Plan', unpublished draft typescript report for English Heritage

Potter, D 1962 *The Changing Forest*. London: Secker & Warburg

Schweingruber, F 1982 *Microscopic Wood Anatomy: structural variability of stems and twigs in recent and subfossil woods from central Europe*, Birmensdorf: Swiss Federal Institute of Forestry Research

Schweingruber, F 2011 *Anatomy of European woods*. Remagen-oberwinter: Verlag Kessel

Soil Survey of England and Wales 1983 *Soils of England and Wales: Sheet 6 - South East England*. Harpenden: Lawes Agricultural Trust

Stace, C 1997. *New flora of the British Isles*. 2nd edition. Bath: The Bath Press

Willson, A B 1996 *Mr Pope & others at Cross Deep, Twickenham in the 18th century*. Twickenham: Anthony Beckles Willson

Newspaper articles

The following articles were accessed via *The British Newspaper Archive* <http://www.britishnewspaperarchive.co.uk/> at various dates during 2016. In a few cases, articles without titles are listed as 'No Title'. Many newspapers have changed their names over time; titles listed below reflect the name of the newspaper at the date of the reference, titles in brackets give the later name for the Publication that it is indexed as in *The British Newspaper Archive*.

Anon 1853 'To be sold', *Bell's Life in London and Sporting Chronicle* 25 Sept 1853

Anon 1902 'The Vanished Hand', *Gloucestershire Echo* 28 Jun 1902

Anon 1903a 'Laying Out Marble Hill', *The Daily News (London Daily News)* 16 Mar 1903

Anon 1903b 'View from Richmond Hill: The Rescue of Marble Hill', *London Daily News* 30 May 1903

Anon 1903c 'The Richmond View', *The Daily News (London Daily News)* 1 Jun 1903

Anon 1903d 'New London River-side Lung', *The Leeds Mercury Weekly Supplement (Leeds Mercury)* 6 Jun 1903

Anon 1906 No Title, *The Framingham Weekly News*, 3 Feb 1906

Anon 1909a 'News in Brief', *The Evening News (Portsmouth Evening News)* 16 Apr 1909

Anon 1909b No Title *The Evening News (Portsmouth Evening News)* 3 Nov 1909
Anon 1910 'River Mystery', *Nottingham Evening News (Nottingham Evening Post)* 5 Feb 1910

Anon 1911 'Sale of Fruit', *Shoreditch Observer* 30 Dec 1911

Anon 1913 'Our London letter', *The Mercury (Lichfield Mercury)* 20 Jun 1913

Anon 1915 'Lady's Record Swim', *The Midland Daily Telegraph (Coventry Evening Telegraph)* 24 Aug 1915

Anon 1916a 'The Ferry Regatta', *Middlesex Chronicle* 9 Sept 1916

Anon 1916b 'Wise gulls', *The Daily Mirror* 14 March 1916

Anon 1916c '2nd Battalion Middlesex Volunteer Regiment. Official enrolment at Twickenham. The Sacramentum', *The Middlesex Chronicle* 29 July 1916

Anon 1917 'Sales by Auction' *The Middlesex Chronicle*. 22 Sep 1917

Anon 1918 'General district news', *The Middlesex Chronicle* 28 Sept 1918

Anon 1919 *Yorkshire Telegraph and Star (Sheffield Evening Telegraph)* 21 July 1919

Anon 1939a 'Another 500,000 allotments', *The Times* 20 Sept 1939

Anon 1939b 'Deputation to the minister. The case of London allotment holders', *Faversham Times and Mercury and North-East Kent Journal* 25 November 1939

Anon 1940 'Playing Fields as Allotments', *The Bucks Herald* 31 May 1940

Anon 1941a 'News in Brief', *The Daily Mail (Hull Daily Mail)* 4 Mar 1941

Anon 1941b 'News in Brief', *Birmingham Post (Birmingham Daily Post)* 22 Aug 1941

Anon 1941c 'American Seeds for Allotments', *Courier and Advertiser (Dundee Courier)* 31 March 1941

Anon 1941d 'U.S. Seeds For W.I.s', *The Western Morning News* 18 April 1941

Anon 1941e 'County Borough of Preston, Dig For Victory. Wanted, More Allotment Holders', *The Lancashire Daily Post (Lancashire Evening Post)* 3 October 1941

Anon 1942 '£4,000 for allotment holders', *Daily Mirror* 19 June 1942

Anon 1943a 'Seeds of Friendship', *Evening Telegraph (Dundee Evening Telegraph)* 11 March 1943

Anon 1943b 'Friendship Gardens', *Nottingham Evening Post* 11 March 1943

Anon 1945a '90,000 Tons Vegetables from U.S. Seed', *Evening Telegraph (Dundee Evening Telegraph)* 21 April 1945

Anon 1945b 'Women Gardeners', *The Lancashire Daily Post (Lancashire Evening Post)* 27 March 1945

Anon 1945c, 'Allotments must go on for years', *The Citizen (Gloucester Citizen)* 6 October 1945

Anon 1945d 'Allotments or playing fields? N.P.F.A. views on restoration'. *The Citizen (Gloucester Citizen)* 24 July 1945.

Anon 1945e 'Allotments to go?' *Daily Mirror* 19 Oct 1945

Anon 1946 'Farmer's urged to grow more food', *The Times* 16 Feb 1946

APPENDICES

Appendix 1: Historical detail

The following is based upon EBA 1989 although expanded, updated and restructured thematically (see also 'Appendix 2: Historic maps and plans used in this research').

Henrietta's life

It was Henrietta Howard, *née* Hobart, later Lady Suffolk, who built Marble Hill House, acquired much of the surrounding land, and shaped the development of the estate for most of its first half century. Much of what we see today is the result of her efforts and as such the key events in her life are significant. The information from EBA (1989) is here supplemented by the Dictionary of National Biography (DNB, Kilburn 2008).

Date	Events	Source
1689	Henrietta was born; the third daughter of Sir Henry Hobart of Blickling, Norfolk, and his wife, Elizabeth	DNB
1698, 1701	Her father, and then her mother died, her upbringing, and that of her sisters, was entrusted to her step-great-grandmother	DNB
about 1705,	Despite a complex inheritance, Henrietta was wealthy enough to attract Charles Howard, Lord Suffolk's third son, and a captain in Lord Cutts' dragoons regiment	DNB
Feb 1706	A few days before her marriage Henrietta protected her fortune by placing most in trust guaranteeing her a small personal income, a precaution that proved justified	DNB
Mar 1706	Henrietta and Charles married at St Benet, Paul's Wharf, London	DNB
Jun 1706	Charles sold his commission and a cycle of poverty began which Henrietta, raised to the life of a gentlewoman, found degrading	DNB
Jan 1707,	She gave birth to a son, Henry, but increasingly lived apart from her husband in Berkshire, while he stayed in London, until bailiffs seized their property and they were forced to move in with Charles' father Lord Suffolk who later ejected them when unable to pay their way. They moved to lodgings in St Martin's Street, London, under the name Smith. Howard was often absent for long periods, and when present subjected Henrietta to physical and verbal abuse. She attempted to restore their fortunes by negotiating with her husband's creditors, pawning valuables, and selling her hair; what money she raised was usually spent by Charles.	DNB
1713?	Henrietta finally held on to enough money for them to travel to Hanover and seek favour in the electoral court where she won the approval of the dowager electress Sophia	DNB
Aug 1714	Following the accession of Sophia's son as George I, the Howards returned to London with the royal party	DNB

Date	Events	Source
Oct 1714	Henrietta was appointed woman of the bedchamber to Caroline, now Princess of Wales and Charles became a groom of the bedchamber to George I; although in separate households they shared apartments in St James's Palace	DNB
1715-16	Henrietta enjoyed the Princess's circle, where she befriended Alexander Pope, John Gay, John Arbuthnot, and Jonathan Swift among others, but she continued to be harassed by her husband who wished to borrow money from the Princess's courtiers	DNB
Aug 1716	In a memorandum she reasoned with herself that Charles' brutality and neglect meant that he had invalidated their marriage contract so 'I must believe I am free', but that social conventions would make it difficult for her to leave him.	DNB; BL Add Ms 22627, f13
Nov 1717	George I expelled the Prince and Princess of Wales from St James's Palace, and Mrs Howard followed them to their new home at Leicester House. She was then told by Charles Howard that he no longer considered her his wife. He retained control of their son who she had little subsequent contact with.	DNB
About 1720	She was taken up by the brothers John Campbell, second duke of Argyll, and Archibald Campbell, Earl of Ilay, in the misplaced belief that she would have influence with the Prince	DNB
1723	The Prince settled £11,500 of South Sea stock on her which allowed her to develop an identity separate from her husband and from the prince and Princess of Wales and express her interest in architecture	DNB
spring 1727	Charles, encouraged by George I, attempted reconciliation with Henrietta which would have entailed her departure from the Princess's service and her retirement to the country; the king probably saw her as one of the ties that connected the Prince of Wales to the opposition. For weeks she lived in fear of kidnapping after Howard procured a warrant for her arrest	DNB
Jun 1727	The death of George I made Henrietta's position safer, and her husband was bought off by an annuity of £1200, paid by Henrietta but largely provided by the new king	DNB
1727	Henrietta fell out with Swift; she wrote: '... I never did desire you to talk of marrying me. I had rather you & I were dumb as well as deaf for ever than that should happen ... I have been a slave for 20 years without ever receiving a reason for any one thing I ever was obliged to do...'	DNB; BM Add Mss 4805 f160
Feb 1728	Henrietta was divorced from Charles	NRS 22956 Z76
1728 or 1729	Marble Hill House was finished which allowed her to entertain friends such as Pope and Gay who were unsympathetic towards the court. Other regular visitors included the opposition politician George Berkeley and Charles Mordaunt, third earl of Peterborough, with whom for several years she conducted a written discussion on love. He hailed her as 'O wonderful creature! a woman of reason!', paying tribute to her as a woman who could make her own way in a man's world.	DNB
About 1729	She did not enjoy her place as a servant to Queen Caroline, where her labours both physical and social were aggravated by her deafness	DNB

Date	Events	Source
1731	Henrietta and Swift's relations continued to be troubled. She wrote to him: 'You seem to think you have a natural right to abuse me because I am a woman and a Courtier; I have taken it ... with great resentment and a determined resolution of revenge ... Think to my joy to hear you suspected of folly ... I expect to hear whether peace shall ensue or war continue between us'	DNB; BM Add Mss 4806 f44
1731	Charles Howard became ninth Earl of Suffolk, and so she was promoted to mistress of the robes, which reduced her duties but increased her salary, relieving her of the fear that she would have to sell Marble Hill and allowing her to spend more time there. She continued to attend court and maintained her relationship with the king, but, to the disappointment of her admirers, her political influence was minimal	DNB
Sep 1733	Charles died so Henrietta's hard-won liberty was no longer under threat	Complete Peerage; DNB
Oct 1734	The end of her relationship with George II. He had been annoyed by 'her constant opposition to all his measures', 'her wearying him with her perpetual contradiction' and reportedly described her as 'an old, dull, deaf, peevish beast'. His visits to her became less regular, and in October, on return from a trip to Bath, he ignored her completely.	DNB
Nov 1734	She resigned from her position as mistress of the robes. Pope lamented this as the end of the intellectual court that had gathered around Caroline when Princess of Wales	DNB; NRS 21140 75 X4, DNB
Jun 1735	Henrietta married George Berkeley, MP for Heydon in Yorkshire, at Cranford, Middlesex, and enjoyed a close relationship with him. Aside from visits to friends and continental Europe, the two divided their time between Marble Hill and her new town house in Savile Row. She continued to keep up with changes in taste and it has been argued that she was the first woman significantly to encroach 'upon the gentlemanly pursuits of a connoisseur'	Complete Peerage; DNB
1745	Her son, Henry, tenth Earl of Suffolk, died childless	
1746	Henrietta's second husband died and she took up permanent residence at Marble Hill for the first time	Complete Peerage
1750s	She took a large share of the responsibility for the upbringing of her brother's children from his first marriage. John Hobart (born 1693), who became second earl of Buckinghamshire in 1756, sought her advice on a wide range of matters; she helped to manage his domestic political interests following his appointment as ambassador to Russia in 1762, and represented his private concerns about the posting to the ministry	DNB
1752	Henrietta's niece Dorothy Hobart, whom she had brought up, married Charles Hotham elder brother of William, first Baron Hotham. Their daughter, Henrietta Gertrude Hotham (1753–1816), was born the same year, and she was also involved with her upbringing.	DNB
1760s	In later life Henrietta was befriended by Horace Walpole, who shared her interest in architecture	DNB

Date	Events	Source
Jul 1767	Henrietta died at Marble Hill. Probably her closest male friend in her later years, William Chetwynd, third Viscount Chetwynd, was with her at the time. Her wealth at death has been estimated to be up to £20,000	DNB; TNA:PRO, PROB 11/933, sig. 390
1767	Horace Walpole wrote: 'I have been very unfortunate in the death of my Lady Suffolk, who was the only sensible friend I had at Strawberry. Though she was 79, her senses were in the highest perfection and her memory was Wonderful ... [she] had financial difficulties towards the end but she only mentioned them to Lord Chetwynd and HW Neverich'	Lewis: Walpole
1771	Walpole wrote: 'I have been dining at Lord Buckingham's at Marble Hill... but it was a melancholy day for me, who have passed so many agreeable hours in that house and garden with poor Lady Suffolk.	Lewis: Walpole

Acquisition and tenure

See Figure 11 for the location of the areas mentioned.

Date	Events	Source
Mar 1724	The Earl of Ilay purchased 11½ acres of Marble Hill Shot on Henrietta's behalf, perhaps as she was nervous of her husband trying to take the land from her	Syon Mss Book K ii.I.i Letter H
Sep 1724	The Earl of Ilay purchased a further 4 acres of Dolemead and 10 acres of Plumbush shot. Together with the previous purchase this formed a continuous tract from Richmond Road to the river	
1725	Alexander Pope, Sir Robert Walpole and the Earl of Ilay, all tried to negotiate for the lease of Mr Vernon's meadow lands along the river front, but were denied	Sherburn Vol.ii MH Deeds 08648 NRS 22977 Z78
1742	The lease of Mr Vernon's meadow lands along the river front was finally obtained	Sherburn vol ii; MH Deeds 08648; NRS 22977 Z78
1743	Her second husband George Berkeley purchased 21 acres of Vernon land	MH Deeds 8779
1747-52	Between 1747 and 1752 Henrietta purchased the 25½ acres originally purchased in 1724 by Lord Ilay, a further 1½ acres of Dolemead and a cottage next to Orleans House called Riverside	MH Deeds 8779, 8649
1748	She became a copyhold tenant of a further 7 1/3 acres	
1750	Two cottages on the later site of Little Marble Hill were let to a John Fridenberg but access was problematic following the closure of the Twelve Foot Way and led to a drawn out dispute with Henrietta	Draper 1970, 44

Date	Events	Source
1751	In order to deal with Fridenberg, Henrietta's brother acquired the way leave allowing Fridenberg access to the river and purchased about 24 acres including Fridenberg's holdings (that became hers on his death). Sometime soon after this Henrietta also transferred her holdings to her brother enabling him to take the legal case to the House of Lords.	Draper 1970, 44, NRS 85549 21 B6
1752	Henrietta acquired a new lease of the charity lands bordering the river. The deed was for a 60 year lease of all the Death Charity Lands on the decease of Mr Death. The accompanying plan shows a Summer House and a mound on the Osier Ground to the west of the house and some details of the Little Marble Hill area	MH Deeds D8649
1756-7	Henrietta's brother died with the Fridenberg case unresolved; it was not until a year later that he was defeated and ejected	Draper 1970, 45
1767	Following Henrietta's death Marble Hill went into trust and then to her nephew, the 2nd Earl of Buckinghamshire but the bulk of her estate passed to her great-niece Henrietta Hotham	DNB
1767	The house may have been neglected; Walpole mentions Henrietta's financial difficulties (above) and, whilst trying to find a property in the Twickenham area for a friend, wrote that he 'knew of none but my lady Suffolk's which Lord Buckingham talks of letting, but ... it will cost you 2-3 thousand pounds to put it into repair'	Lewis: Walpole
1784	The Earl of Buckinghamshire let some land (presumably in West Meadow) to a Mr Hardinge: 'you seem to enjoy so much happiness in your little territory that it is almost a duty to accomodate you. You shall therefore have the remainder of the field up to our crossing from the Ice House to the Sweet Walk, which walk cannot be parted with, as we are particularly fond of it. The quantity of land is estimated at more than six acres'	NRO/NRS 21089
1793	The Earl of Buckinghamshire died and Henrietta Hotham succeeded to Marble Hill. She let 'Great' Marble Hill to, amongst others, Mrs FitzHerbert, Lady Bath and Charles Augustus Tulk. Walpole wrote: 'Miss Hotham has given warning to Mr Pigou to quit the smaller and far more beautiful house at Marble Hill, intending to inhabit it herself'	Complete Peerage, Cobbett Ratebooks, DNB Walpole's Correspondence
1794	Walpole wrote: 'She (Mrs FitzHerbert) has taken Marble Hill and proposes to live very platonically under the devout wing of Mrs Cambridge'. She occupied Marble Hill until 1795.	Horace Walpole's Correspondence
1797	Ironside wrote: 'It was the residence of the late Earl of Buckinghamshire, on whose descease it came by the will of the late Countess of Suffolk to Miss (Henrietta) Hotham, daughter of the late Sir Charles Hotham, during her life; then again reverts to the Earl of Buckinghamshire; (and is now occupied by Mrs. FitzHerbert). Near Marble Hall, and close to the river, is a sweet little box, distinguishable for the elegance of its situation, late belonging to Daniel Giles Esq who much enlarged and improved it, as well as the gardens ... late the residence of Lady Diana Beauclerk'. The latter presumably a reference to Little Marble Hill	Ironside's Twickenham 1797

Date	Events	Source
1816	Henrietta Hotham died and the 5th Earl of Buckinghamshire succeeded. He also let the property; firstly to Charles Tulk [presumably a renewal of the lease] and then to Edward Fletcher	Cobbett
1816	Brewer wrote: 'On the east side of the building is a small but tasteful Cottage which was originally the china-room of the Countess of Suffolk ... now the residence of Charles Augustus Tulk Esq'	Brewer, J N 1816 London & Middx Vol IV
1824	The 5th Earl and his brother Rev Augustus Hobart, later the 6th Earl, decided that they did not want Marble Hill and they therefore broke an entail on the estate and sold it to Timothy Brent, who moved into Little Marble Hill	MH Deeds 08779, 08665, 08650, 08651
1825	Brent sold Marble Hill House and all the land, except the East Meadow, to Jonathan Peel, the younger brother of Sir Robert Peel	MH Deeds 08779, 08665, 08650, 08651
1876	Jonathan Peel purchased the freehold of Little Marble Hill and the adjoining land, reuniting it with the rest of the park	MH Deeds D8665
1879-87	Colonel Peel died but his widow continued to live at Marble Hill until her death in 1887	Richmond and Twickenham Times: 13 May 1887
1890	Sales notice in July for 66½ acres	The Builder: 5 May 1988
1898	Marble Hill was purchased by the Cunard family who planned to develop most of it as a housing estate	MH Deeds 08665
1902	Marble Hill was purchased by London County Council, Richmond Corporation, Surrey County Council and Twickenham Urban District Council, amongst others to save it from development	MH Deeds 08665 DNB (Kilburn 2008)
1903	Marble Hill Park was opened to the public	
1965-6	The house was restored to a close approximation of its appearance in Lady Suffolk's day	DNB (Kilburn 2008)
1986	Marble Hill House and Park came under the care of English Heritage	

The house and grounds

Date	Events	Source
1723	A letter from Mrs Howard to John Gay refers to 'the Plan you found in my room' but 'There's a Necessity, yet, to keep the whole affair secret, tho' (I think I may tell you) it's almost intirely finish'd to my satisfaction.' What appears to be a sketch design by Colen Campbell for Marble Hill House is preserved at Wilton and a revised version of this design appears in Vol 3 of Campbell's <i>Vitruvius Britannicus</i> (1725).	BM Add MSS 22626 f.29 Wilton Mss.
Undated but	Letter from Lord Peterborough to Pope: 'I intended to waite on Mrs Howard today ... I was impatient to know the issue of the affaire, and	BM Add Mss 4809

Date	Events	Source
appears related to above so ?1723	what she intended for this autumn for no time is to be lost ... if she intends to build out houses and prepare for planting' and presumably with this in mind 'Pray doe me the favour to send me the breadth and depth of the Marble Field, you may have itt measured by moon light by a Ten foot rod, or any body used to the grounds will make a neer guesse by pushing itt overs.'	
Jun 1724	Work on the house commenced; Roger Morris was contracted as builder, he was probably advised on design by Henry, Lord Herbert, later 9th Earl of Pembroke	DNB (Kilburn 2008)
1724	Pope and Allen, Lord Bathurst, contributed to the design of the gardens, but they were principally realized by Charles Bridgeman.	DNB
1724	Pope to Martha Blount about his plans for Marble Hill: '... don't let any lady from hence imagine that my head is so full of any Gardens as to forget hers. The greatest proof I could give her to the contrary is, that I have spent many hours in studying for hers & in drawing new plans for her'	
Sep 1724	Pope wrote to Fortescue; 'Marble Hill wants only its roof - the rest is finished'; this was the 'naked Carcass' that Morris was instructed to build	Sherburn vol.ii
Sep 1724	Pope wrote to a friend: 'My gardens improve more than my writings; my head is still more upon Mrs Hd and her works, than my own...'	Sherburn , Vol.ii pp 256-7
Sep 1724	Pope and Bridgeman visited Marble Hill with Mrs Howard	BM Add Mss 4809 f.141v
Late Sep 1724	Bridgeman wrote to Pope that he had 'begun on the plann, have not (lef)t from that time to this so long as I could see, nor shall (I) leave it till 'tis finish'd which I hope will be about tomorrow Noon'	BM Add Mss 4809 f.141v
Oct 1724	Lord Bathurst sent some lime trees to Twickenham, for Pope's villa or Marble Hill or both	Sherburn, Vol.ii pp 262-3
1724	Receipts for money paid to Morris by the Earl of Ilay for the building at Marble Hill: £200 in June, £200 in August and £100 in December. Morris' bill in September to Lord Ilay for carpenters' work: fencing and gates for the meadows with stiles and stops on the Thames side and a grindstone, trough and garden roll 'by the order of Mr Pope', and also mentions a Mount, a Bowling Green and a Yew hedge	NRO Hobart MSS NRS 8862 21 F4
1724	Mrs Campbell wrote to Mrs Howard: 'I suppose you are up to the ears in bricks and mortar'	
1725	Two further receipts from Morris for money received from the Earl of Ilay for building Marble Hill: £100 in February and £100 in July.	NRO Hobart Mss NRS 8862 21 F4
Mar 1725	Two farmers surveyed damage done to Mr Vernon's land by Mrs Howard's newly planted trees: 48 trees in the 'Wheat field' caused two pence damage each and 74 trees in the 'Ditch and Meadow' caused a penny's damage each	NRO Lothian Mss MC3, 608 516x8
1725	Pope wrote to Lord Bathurst 'let him (as the Patriarchs anciently did) send flocks of sheep & Presents in his stead: For the grass of Marble Hill Springeth, yea it springeth exceedingly & waits for the Lambs of the Mountains ... to crop the same	Butt: Pope 2:292

Date	Events	Source
	Till then, all Mrs Howard's Swains Must feed - no flocks, upon - no plains'.	
1726	James Richards, the master carver at the Office of Works, carved mouldings for doors, windows and frames.	NRS 8862 21 F4
1726	Pope wrote to Mrs Howard congratulating her 'upon the encrease of your family, for your Cow is this morning very happily deliver'd of the better sort, I mean a female calf...' Pope celebrated this event with friends at Marble Hill: 'Mrs Susan offer'd us wine upon the occasion, and upon such an occasion we could not refuse it. Our entertainment consisted of flesh and fish, and the lettuce of a Greek Island, called Cos' this last no doubt produced in the kitchen garden	Butt: Pope 2:435-6
1726/7	The House appears to have been inhabitable: Swift wrote to Henrietta 'I hope you will get your house and wine ready, to which Mr Gay and I are to have free access when you are safe at Court'. Pope wrote 'we will take up with what we can get that belongs to you and make ourselves as happy as we can in your house'	I BM Add Mss 22625 ff. 13- 14
Early 1727	Work on the house seems to have stopped altogether for a time, perhaps due to the attempted reconciliation by her husband and her fear of kidnapping mentioned above	DNB
1727	Jonathan Swift wrote his <i>Pastoral Dialogue between Richmond Lodge and Marble Hill</i> which contains a description of the estate. The rather bitter tone suggests it post-dates his falling out with Henrietta. "My House was built but for a show, My Lady's empty Pockets know: And now she will not have a shilling To raise the stairs or build the ceiling. (23-26) ... No more the Dean, that grave Divine, Shall keep the Key of my (no) wine; My Ice-house rob as heretofore, And steal my Artichokes no more; Poor Patty Blount no more be seen Bedraggled in my Walks so green: Plump Johnny Gay will now elope; And here no more will dangle Pope. (43-50) ... Then, let him care and take a nap, In Summer, on my verdant lap: Prefer our Villaes where the Thames is, To Kensington or hot St James's; Nor shall I dull in silence sit; For, 'tis to me he owes his wit; My Groves, my Echoes, and my Birds, Have taught him his poetic Words. We Gardens, and you Wildernesses, Assist all Poets in Distresses, Him twice a Week I here expect, To rattle Moody for neglect. (85-96)"	Miscellanies in Prose and Verse, Vol.5, 1735, P.451
1728	Two receipts from Morris for money received from Henrietta: £200 in	NRO Hobart

Date	Events	Source
	August and £200 in December for finishing the principle story (plus the sweep walls and four buildings in the garden)	MSS NRS 8862 21 F4
1729	Two further receipts from Morris for money received from Mrs Howard: £200 in April , and £763 in June, for finishing all work done at her house in Marble Hill	NRO Hobart MSS NRS 8862 21 F4
1731 onwards	Undated Gardeners' accounts and documents refer to the Ice House, Orange Tubs, grass and gravel, Wilderness Quarters, Sweet walk, Nursery, Plantations, flower seeds for the Borders, etc	NRO Hobart MSS NRS 8862 21 F4
1738	Horace Walpole wrote of Marble Hill: 'of flowery Lime or Elm Tree green before some decent Villa seen, In seemly now: some yonder Seat Fair Howard's elegant retreat'	Lewis: Walpole
1739	Lady Suffolk wrote to Lord Pembroke that 'My Cheney room will make you stare if not swear tho' I must tell you 'tis the admiration of the Vulgar ... '. The 'China Room' was a two-storey cottage east of the house, the first floor of which was for displaying china. The letter suggests that it couldn't have been built much earlier. It was later joined to the main house by a Service Wing Also: 'I am at this time over head and ears in shells. I wish I had Ribs head and hands to assist me.' Suggests work on a grotto	Wilton MSS
1739	Roger Morris was paid £200 for unspecified work, possibly related to Lady Suffolk being 'head over ears in shells' that year	Ashmolean Museum Gibbs Collection Vol.ii f91b
1742	George Grenville wrote to Lady Suffolk sending compliments 'to the inhabitants of the Grotto (which ... I hope goes on prosperously)'. 1750-1770 The Thames at Marble Hill became tidal	BM Add. MSS 22628 F57
1750-1	Alterations were made by Matthew Brettingham, including: 'venetian window in ye wall next Garden glaz'd with Crown Glass'; 'naked framing & boarding for collonade in front of Kitchen' Work in the grounds included: '1/2 day covering cespool of the drain at Marble Hall; making circular kerb for new well'	NRS 8862 21 F4
1750s	A note records produce sent up to the Savile Row house from the kitchen garden and dairy at Marble Hill, including: green vegetables, herbs, grapes and walnuts	
1752	Bill for supplying materials for the bee house	NRS 8862 21 F4
1752 - 1767	Mention of a 'sweet walk nursery': 'Proposals for Keeping the Gardens of the Rgt+ Honble Countess of Suffolk at Marble Hill By the Year 'I undertake to keep all the pleasure ground about ye house that to say grass and gravel Wilderness Quarters Trees & Shrubs, to find all Labour Tools and materials for carring on ye same, the sweet walk nursery and plantations about Monpiller Row, to Keep ye same clean and Hansom, the nursery to be planted and stock[e]d with what	An Estimation for the cost of maintaining gardens (NRO 22)

Date	Events	Source
	cuttings ripe seeds, our own garden & plant[at]ion will addord in these proper seasons.'	
1757-8	The Gothick 'Priory of St Hubert' was built to a design by Richard Bentley Walpole gives an account of it: 'The Gothic farm at Lady Suffolk's at Marble Hill, Twickenham called the Priory of St Hubert's (from Hobart, her maiden name) was partly designed by Mr Bentley, particularly the spire, but she caused it to be executed too low. The South side of the imaginary church there was designed by Mr Walpole. The two square little towers were Lady Suffolk's own'; it functioned as a barn for the Marble Hill farm. It was pulled down after Lady Suffolk's death.	Drawing in Lewis: Walpole
June 1758	Walpole wrote to John Chute: 'My Lady Suffolk has at last entirely submitted her barn to our ordination. As yet it is only in Deacon's orders; but will very soon have our last imposition of hands ...'	Lewis: Walpole
1760	'The Countess of Suffolk's 'Is most properly stiled <i>Marble Hill</i> , for such it resembles, in a fine green lawn, open to the River, and adorned on each side by a beautiful Grove of Chestnut Trees; the House is as white as Snow, a small building without wings, but of a most pleasing Appearance; the Garden is very pleasant; there is an Ally of flowering shrubs, which leads with an easy Descent down to a very fine Grotto; there is also a smaller Grotto, from whence there is a fine view of <i>Richmond Hill</i> .	Anon
1764	Description from river tour: 'But among all the Villas of this neighborhood, Lady Suffolk's, wh we sail past, on the left, a little below Twickenham, makes the best appearance from the river. It stands in a woody recess, with a fine lawn descending to the water, & adorned with wood well-disposed ...'	Gilpin Mss p.25 1764 V & A
1765	Henrietta Hotham, Lady Suffolk's great niece, whilst staying at Marble Hill wrote to her parents saying that she had "Worked so hard in the Grotto and Rock that it is fear'd I shall damage my fingers ...'	Pickering: Hothams
1770	Work was carried out on the Summer House on the edge of the West Avenue to the south of the House for the Earl of Buckinghamshire; it can be seen on the 1786/7 Sauthier map	NRO Hobart MSS NRS 8641 21 C4 Syon MSS
1773	Lead and wash was supplied to the 'Summer House on the lawn the waterside front'.	NRO Hobart MSS, NRS 8641 21 C4
1773/4	The Summer House was painted: 'Summer House Does Shuts; also the Iron palasades by Hot House'	NRS 8641 21 C4
1781	Repairs were carried out for the 2nd Ear1 of Buckinghamshire to an alcove seat, to common benches and 650 yards of post and rail fence between the field and the Sweet Walk	NRS 8641 21 C4
1782	Recorded the house as 'adorned on each side by a beautiful group of horse chestnut trees... has a beautiful grotto to which you are conducted by a winding alley of flowering shrubs'.	'The Ambulator'
1785	Earl of Buckinghamshire wrote to Mr Hardinge asking him to remove a clump of fir trees that he had planted and which would interrupt the view of the river from the Summer House. He also asked him to keep	NRO/NRS 21089

Date	Events	Source
	his fowls under control because they were destroying flowers and 'occassion other inconveniences'. Finally he asked him to remove the embankment that Hardinge was creating along the river, which would again ruin the view. Mr Hardinge replied that: 'if (he) had considered either the bank or the clump as any obstructions to your view I should not have been so indelicate or so imprudent as to have directed them without previous consent'	
1786	The Earl was informed by his gardener that Thomas Dean of Montpelier Row had 'yesterday set his gardiner to cutt the boughs of the trees in the Sweet Walk which hang over the pales facing his house', he also had a chestnut and young elm topped. The Earl wrote to the Chancery Office hoping to prosecute because Dean had not asked for permission: 'The branches do not grow over the highway which is so wide that the grass grows under them, nor tho. I have known the place from a child, did I ever hear of their being cut before'	NRO/NRS 21089
1816	James Brewer wrote: 'The grounds are of a pleasing character, and contain much venerable wood ... A grotto, once of much celebrity for the beauty of it's spars, and the felicity with which they were arranged, is now forsaken and delapidated; but aged elms, which Pope particularly admired ... are still carefully preserved and flourishing'	Brewer <i>London & Middx</i> Vol IV 1816
1827	The original stable block was demolished when the new (existing) stable block was completed	MH Deeds 08779
1832	Account of Marble Hill: the lawns 'open down to the water and only divided from the walk in question, (that beautiful terrace running by the river), by an ha-ha'	<i>Richmond and it's Surrounding Scenery</i>
1842	Marble Hill: 'The house has a magnificent lawn before it: magnificent Chestnuts in the foreground whose boughs nearly overhang the public walk, are covered in spring with an immense profusion of blossom, and are the admiration of all the country around'	<i>Handbook to Richmond and Twickenham</i>
1850	Marble Hill: 'The carriage road enters a long shady grove and sweeps up to the north front entrance which is adorned with the finest Portugal laurels in this country ... North Park bounded by plantations of evergreen oak, elms and other forest trees of large dimensions ... to the South Front is a terrace walk, a lawn as smooth and level as a bowling green encompassed on each side by masses of evergreen shrubs retiring amongst groves; on a lower level is a flower garden on grass, then the park slopes down for a considerable distance to the bank of the Thames ... The terrace is 200 yards long crossed at right angles on the east point by a broad walk running North-South through a large grove. The North end of this walk is bounded by an Orange house and the South by a few trees that impede a view to the river.	Keene <i>Beauties of Middlesex</i>
About 1874	Little Marble Hill (also known as Spencer Grove and Marble Hill Cottage) was demolished	MH Deeds D8665, D8651
May 1887	Auction of 'the valuable HERD of Pure-bred (pedigree) JERSEY CATTLE, comprising 13 cows, 2 bulls, 5 calves, and 4 heifers...' part of the estate of Lady Alicia Peel	<i>Richmond and Twickenham Times</i>
July 1887	Auction of 'valuable items from the gardens including: a variety of	Christies

Date	Events	Source
	chairs, palms, aloes, azaleas, oranges, lemons, choisya, bee house and hives, euonymus etc and 'a pair of large stone flower vases on pedestals end of flower beds'	Catalogue: 19 July 1887
1887-98	Marble Hill House was unoccupied	
1890	Sales particulars described the estate: 'The delightful ornamental grounds adorned with some stately timber, and ranging to the East and West of the Mansion and approached by Broad Gravelled Walks skirted by Luxuriant Shrubberies and Flower Beds while to the South front is a fine expanse of lawn with Italian Garden and an avenue of lofty trees'	The Builder: 5 May 1988
Feb 1900	Marble Hill: 'The gardens and groves are a very tangle ... on the river front is an arrangement of groves and gardens so overgrown as to be only traceable with difficulty ... the layout, which though very late in date, is good and compact and simple'	F Inigo Thomas, <i>Country Life Illustrated</i> 24/2/1900
1903	The house served as a tea-room for the public park	
1909	The Servants' wing connecting the China Room to the house was demolished. It was larger in area than the house and had two venetian windows in its east wall and a colonnade	
1965/6	Marble Hill House was restored by the Greater London Council.	

Appendix 2: Historic maps and plans used in this research

The following are the main maps and plans of the Marble Hill area used in the landscape analyses described in this report. Dates given in headings are of publication. Where dates of survey are known they are given in the text.

1635: The Glover view

The charming but broad brush 1635 Glover map of ‘Istleworth Hunderd’ (Figure 64) shows the landscape prior to enclosure of many of the area’s open fields. A detail of the Marble Hill area is reproduced as Figure 7.



Figure 61 - Facsimile by E Stanford (1876) of ‘Istleworth Hundred being the Mannor of Sion and one of the seven Hundreds in Comita Middlesex: totally described ...’ by M Glover 1635 (© British Library Board (Maps 189.a.11), with permission)

1711: The Earl of Mar’s ‘Scatch’

The 1711 ‘Scatch of the Grounds at Twickenham...’ by the Earl of Mar seems to be a reliable, though rough, map of the field layout following enclosure and shortly before the development of the site. On the ‘scatch’ the basic layout of fields is depicted with those to the north and west shown as corn fields, those to the east as fruit and kitchen gardens and those to the south as meadows. These last seem to be as shown on the 1635 map. In the south-east corner of what would become Marble Hill Park is a group of three buildings within closes, apparently labelled ‘The Hatters’.



Figure 62 - 'Scatch of the Grounds of Twitinhame from the Earle of Straffords to Richmond ferry & also the Grounds of Ham. Octob: 1711' by John Erskine, Earl of Mar (National Record of Scotland RHP13256/67B)

There is also an overlay attached to the 1711 map dated 1719 that shows a design for the grounds implying that he had intended to build here. However, following the 1715 Jacobite rebellion he had to flee to Paris where he fell victim to homesickness. In the winter of 1717 he recorded that he would 'die ... were it not for building castles in the air of several kinds' (quoted in Ehrenstein 2015), which has been taken to suggest a 'renewed enthusiasm for architectural drawings' (Ehrenstein 2015). In this context it seems more likely that his plans were simply a diversion to alleviate boredom. He was briefly in England in 1719 though, so this particular 'castle' may have been more grounded, but he was arrested in Geneva in May and was back in Paris by 1720 (Ehrenstein 2015).



Figure 63 - the 1719 overlay to the 'scatch' above (National Record of Scotland RHP13256/67A)

There is also a larger and more detailed plan which is inscribed on the back:

‘Designe for a House, gardens & Park near by Twintinham, in the fields betwixt Mr Johnston’s & Sr James Ash’s grounds east & west & the road from Twitinham to Richmond ferry & the River Thames to south & north.

The middle line of the Avenue and gardens to be parallel wt the Avenue of Ham.

Drawn at Postoia April 23rd 1719

C

[and in smaller script beneath:]

& some alterations made in it at Geneve Oct 1719

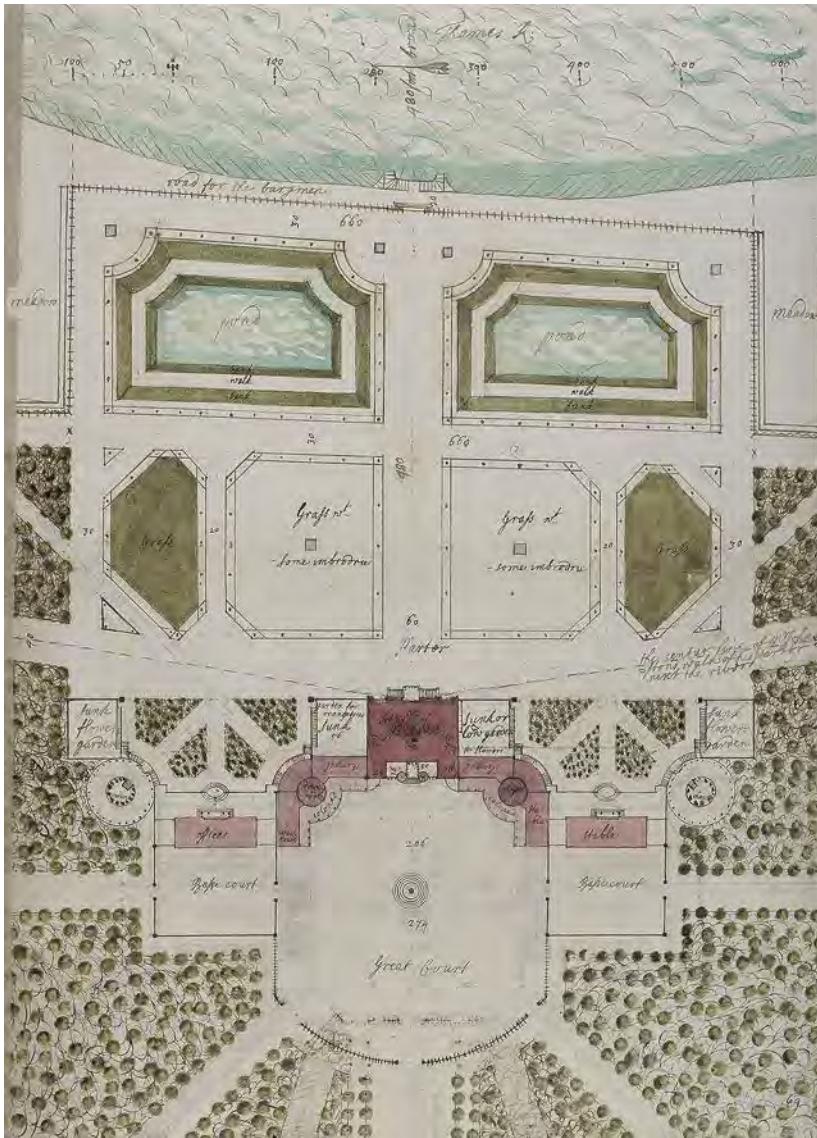


Figure 64 - 'Design for a house...' (National Record of Scotland RHP13256/68)

About 1724: Garden design attributed to Pope

This plan is anonymous and undated but has been attributed to Alexander Pope and dated to 1724, apparently based on references in his letters though the handwriting on the plan looks remarkably similar to the untrained eye to that on a plan reproduced in Willson (1996, 86). It is unclear how much, if any, of this plan was ever implemented but this is discussed in more detail above. Reproduced as Figure 15 above.

1746: Rocque

The 1746 Rocque map (surveyed 1741-5) is rather too small scale to provide much information other than the local context (the 1754 Rocque map below is even smaller scale however). The house is shown with an avenue running south

from it to the river and with roughly parallel avenues to east and west running from further north also to the river. The three buildings shown as the Hatters on the 1711 plan appear together with another building to the east. 'The Glass House' runs above all four but as it is singular and later Rocque plans (such as 1754 below) show the text to the east it seems likely that it only refers to the eastern building.

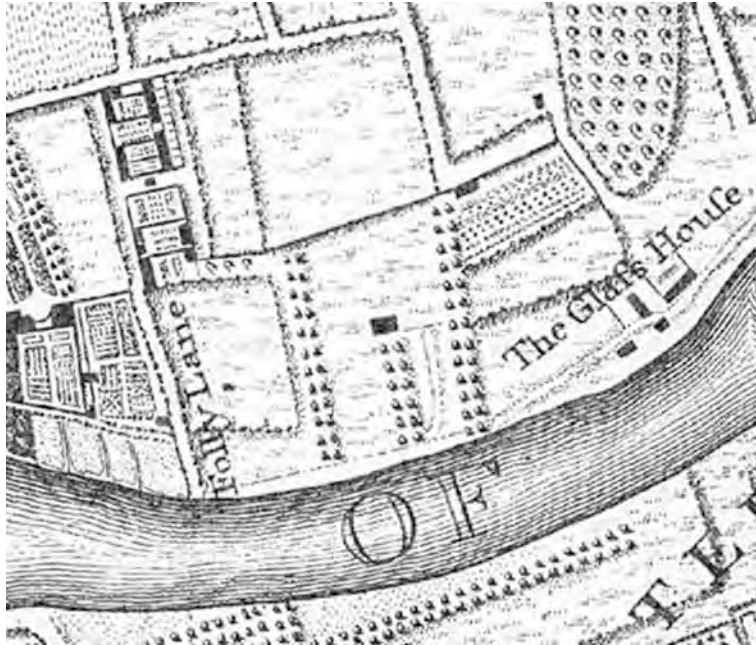


Figure 65 - 'Plan of the Cities of London and Westminster and Borough of Southwark and the country near ten miles around', by John Rocque, published 1746

1752: Deed plan

This plan shows the southern part of the Marble Hill area in a rather stylised form, from two houses to the east of Orleans House and west of Marble Hill Park, apparently the focus of the deed, to two buildings on the later site of Little Marble Hill the western identified as 'Mr Fridenberg's' and the eastern as 'Mr Barlow's'.

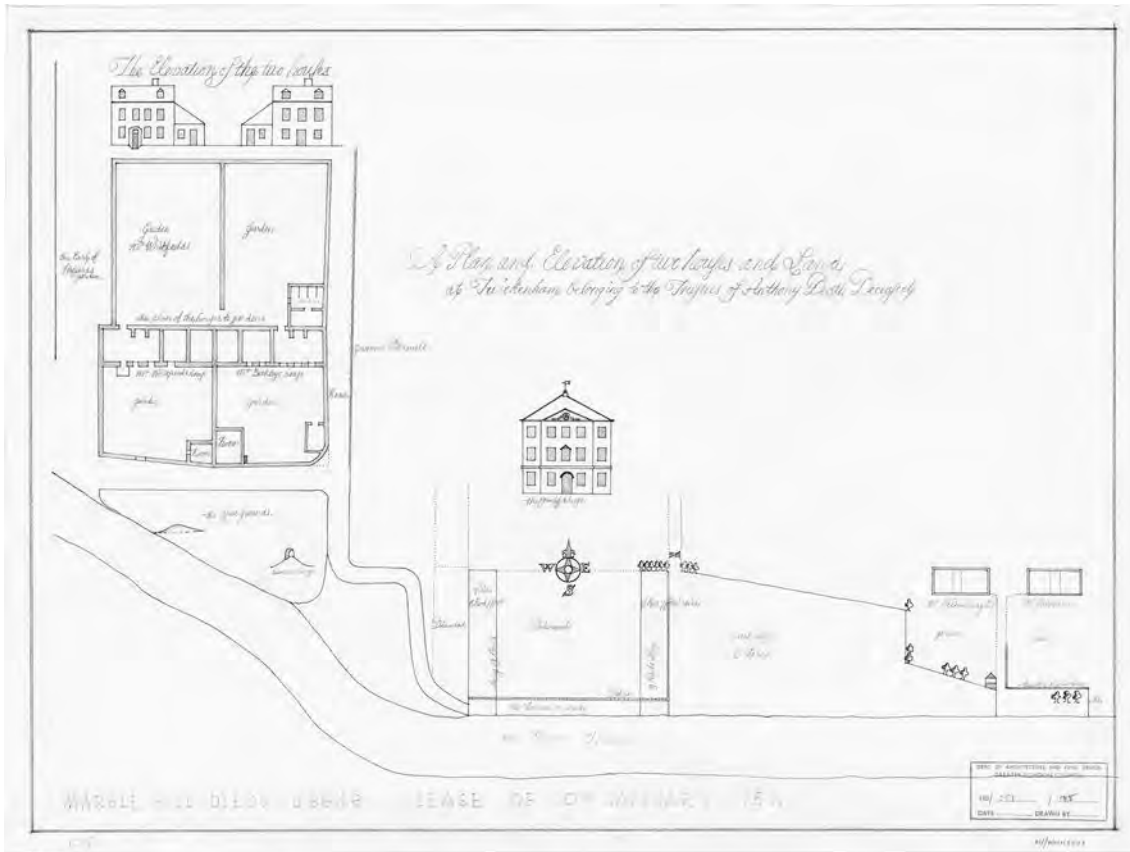


Figure 66 - Tracing of Marble Hill Deeds plan (London Metropolitan Archive D8649) from Historic England Archive Map Room MP/MHH0001

About 1752: Plans of Marble Hill Park

These plans are anonymous and undated but they are thought to have been drawn up as part of the drawn out dispute between Henrietta Howard and John Fridenberg, perhaps at the instigation of her brother John, the Earl of Buckinghamshire. He acquired land in the area and the Countess surrendered her property to him in 1752 allowing him to take over the legal case as a lord. If so then it is likely that the plans were accurate as they would have had legal weight.

In relation to the current English Heritage project these are the key plans of Marble Hill House and its grounds and are to be used as the basis of the reconstruction of the 18th-century gardens. Two versions exist, one probably a draft for the other. Although very similar their differing condition and drawing styles allow some features to be seen more clearly in one rather than the other. For these reasons the draft map is shown in detail here in addition to the final plan which is reproduced above as Figure 12 with details as Figure 13 and Figure 14.

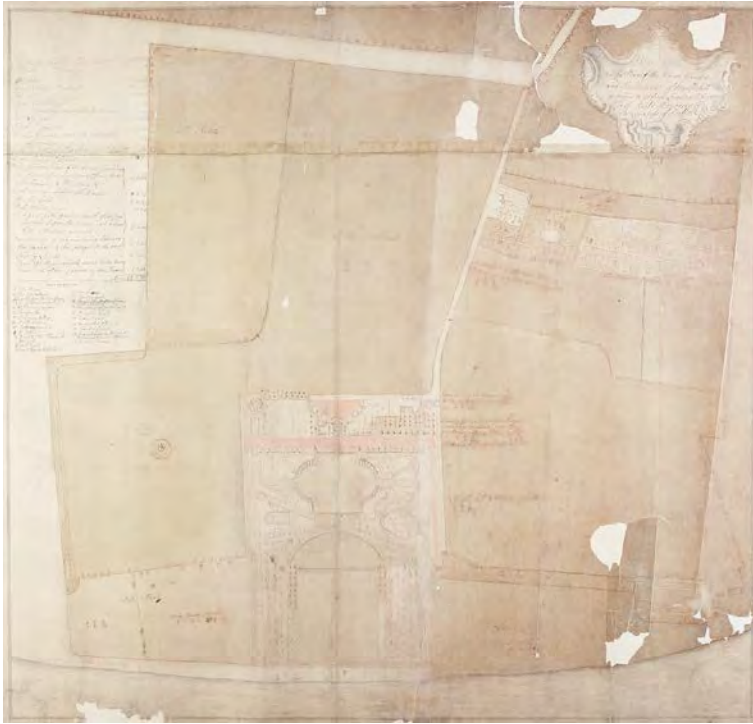


Figure 67 - The draft plan, note its faded condition (reproduced with the permission of the Norfolk Record Office NRO MC184/10/2, rights reserved)

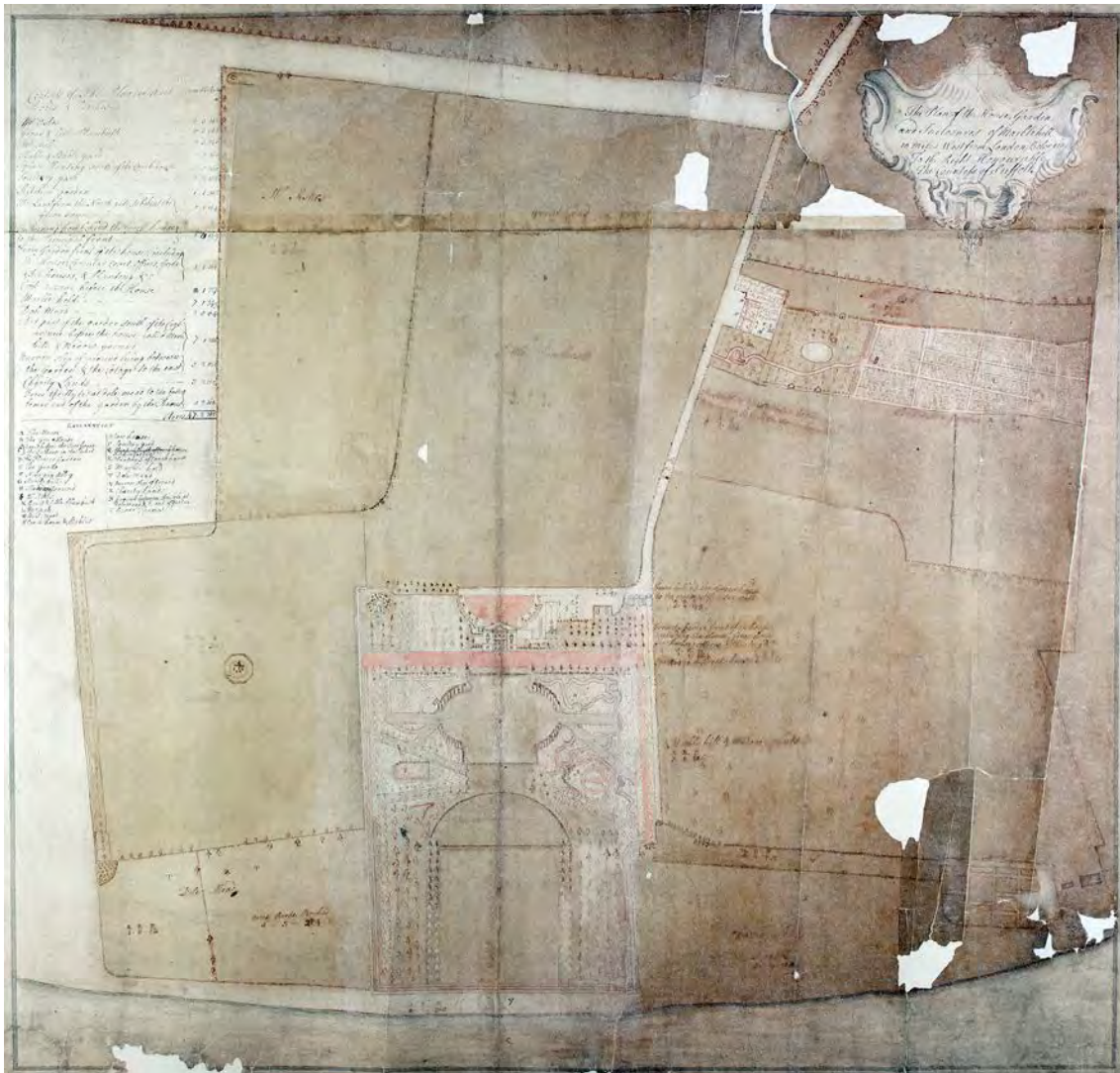


Figure 68 - The same draft plan tone enhanced for clarity, used as basis for details below (reproduced with the permission of the Norfolk Record Office NRO MC184/10/2, rights reserved)

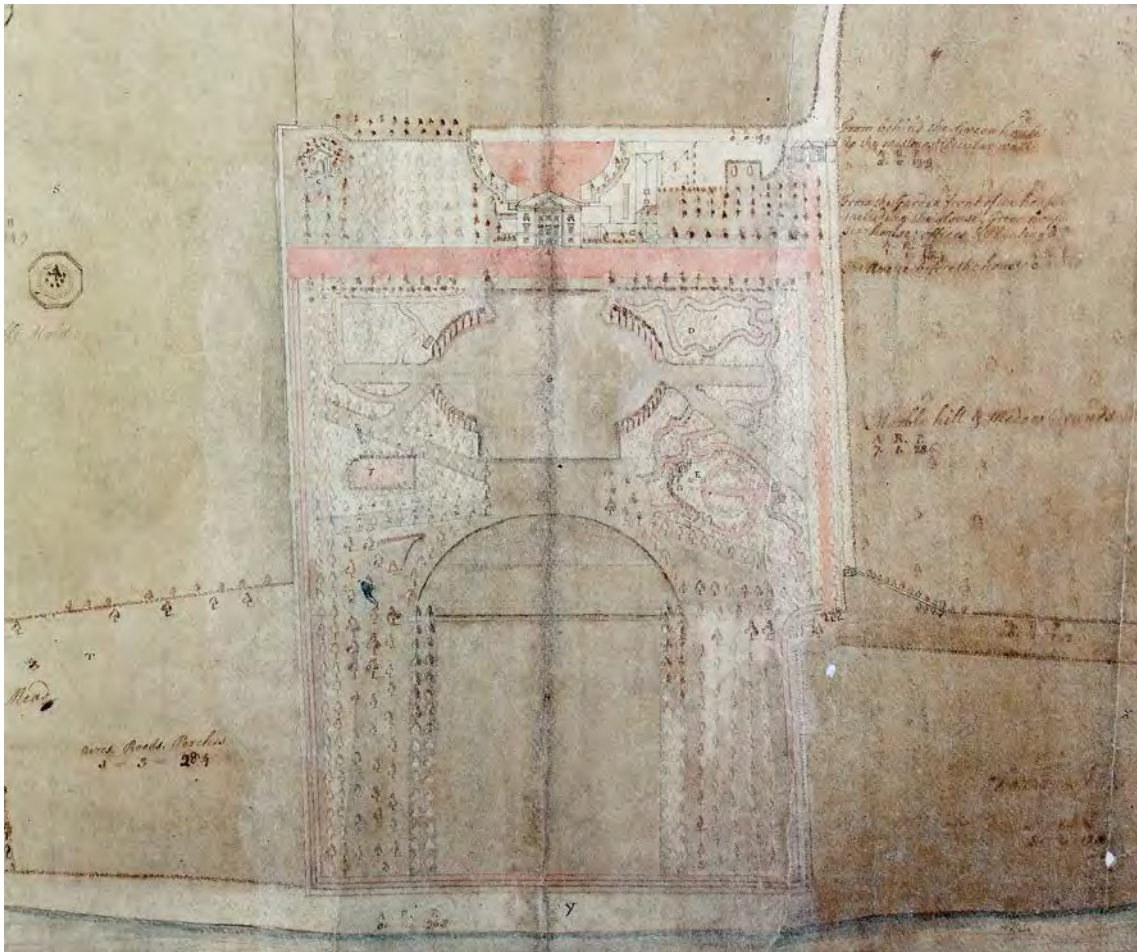


Figure 69 - Draft plan, detail of Pleasure Grounds (reproduced with the permission of the Norfolk Record Office NRO MC184/10/2, rights reserved)



Figure 70 - Details from the draft (left) and final (right) plans of the Little Marble Hill area in the eastern corner of the park (reproduced with the permission of the Norfolk Record Office NRO MC184/10/2 and /1 respectively, rights reserved)

1754: Rocque map

This map was printed on 4 sheets at a scale of approximately 1:32,500 (1 mile = about 2 inches). It is rather small scale to be very useful.



Figure 71 - 'A Topographical Map of the County of Middlesex' by John Rocque, 1754 (© British Library Board (Maps 175.t.1.(2.), with permission)

Note that from the information in the British Library catalogue the 1757 Rocque map would appear to be reduced from the 1754 Rocque map to allow publication on a single sheet. At a scale of about 1:65,000 (1 mile = 1 inch) it is likely to show even less information than the 1754 map and was not used.

1786/7: Sauthier map

The 1786/7 Sauthier map is of about the same scale as the 1746 Rocque map but provides a little more detail on the layout of the grounds at this time. This map is also to be used by the English Heritage Trust to inform the reconstruction of the 18th century garden. Not reproduced due to a lack of copyright permission.

1819: the Greenwood map

The 1819 Greenwood map of Middlesex is again rather small scale but provides some information on the layout of the grounds at this time, though its reliability at this level is questionable. Reproduced as Figure 16 above).

1819: 'Inclosure award'

In contrast to the above, the 1819 Inclosure map is much larger scale but lacks any detail other than field boundaries and the occasional building. Only a rather rough tracing was available.

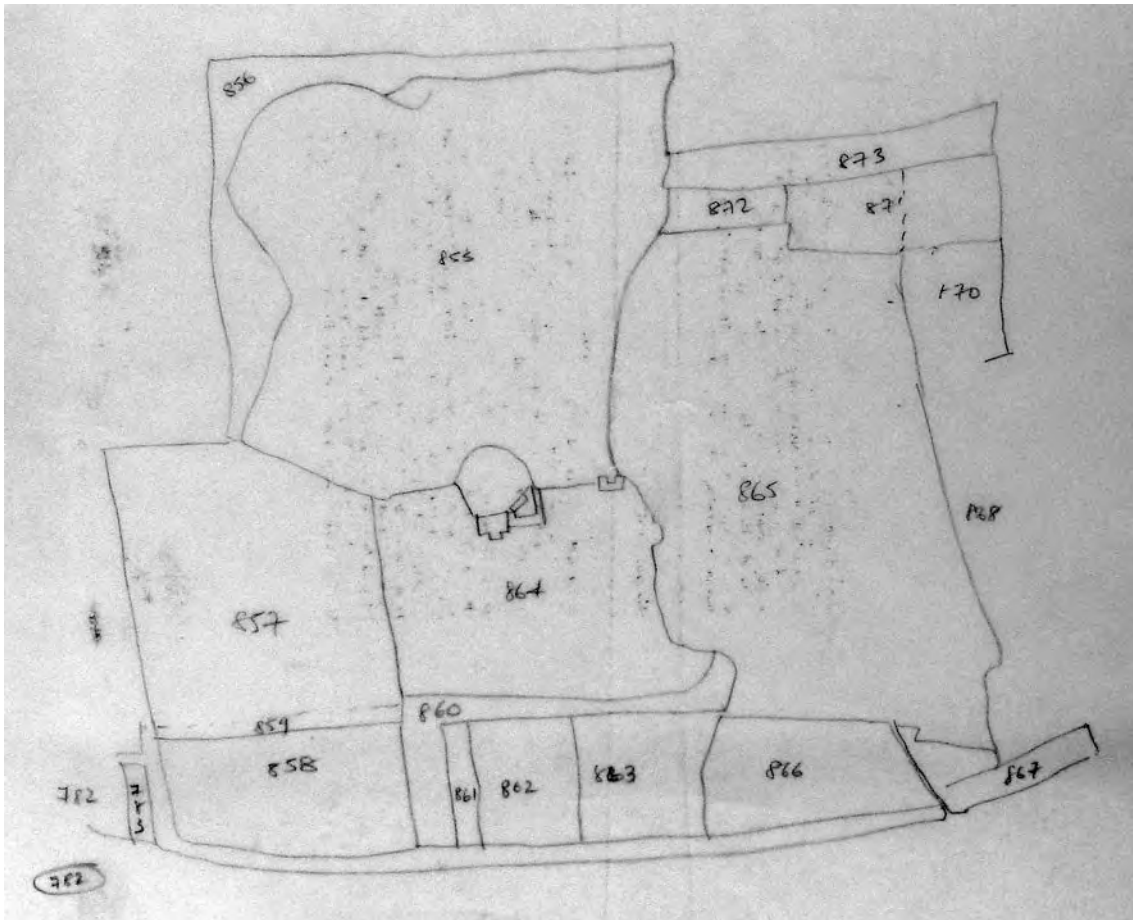


Figure 72 – A 1991 tracing of the 1819 'inclosure award'; note on tracing reads '1 large plan with 8 detailed plans; Below is part of detail H; very similar to 1824 tithe/lease plan' (Historic England Archive Map Room MP/MHH0581)

1846: Warren map

The Warren map of 1846 is on a par with the later OS 6 inch maps and provides considerable detail on the landscape. Detail reproduced above as Figure 17.

1873: Marble Hill deed plan

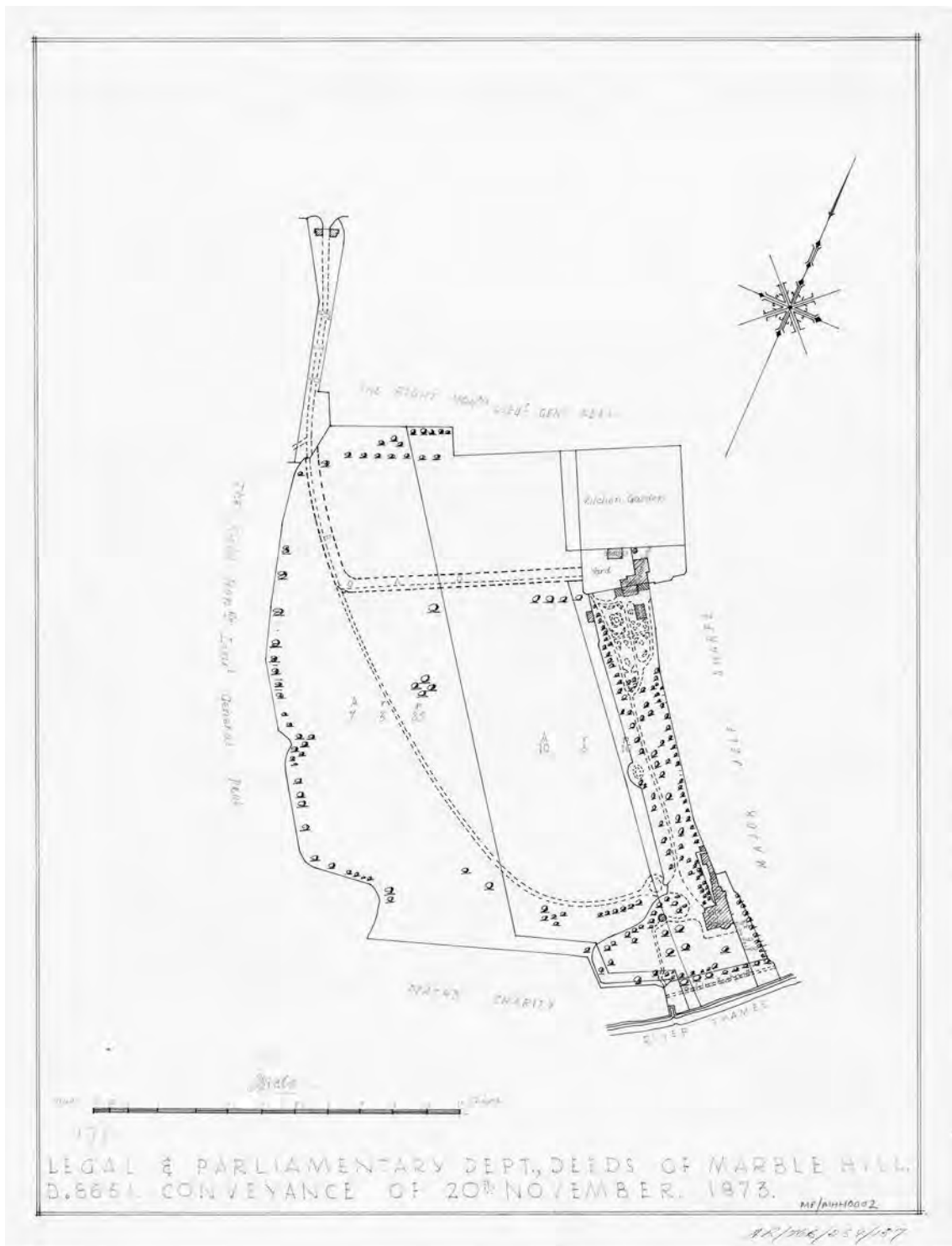
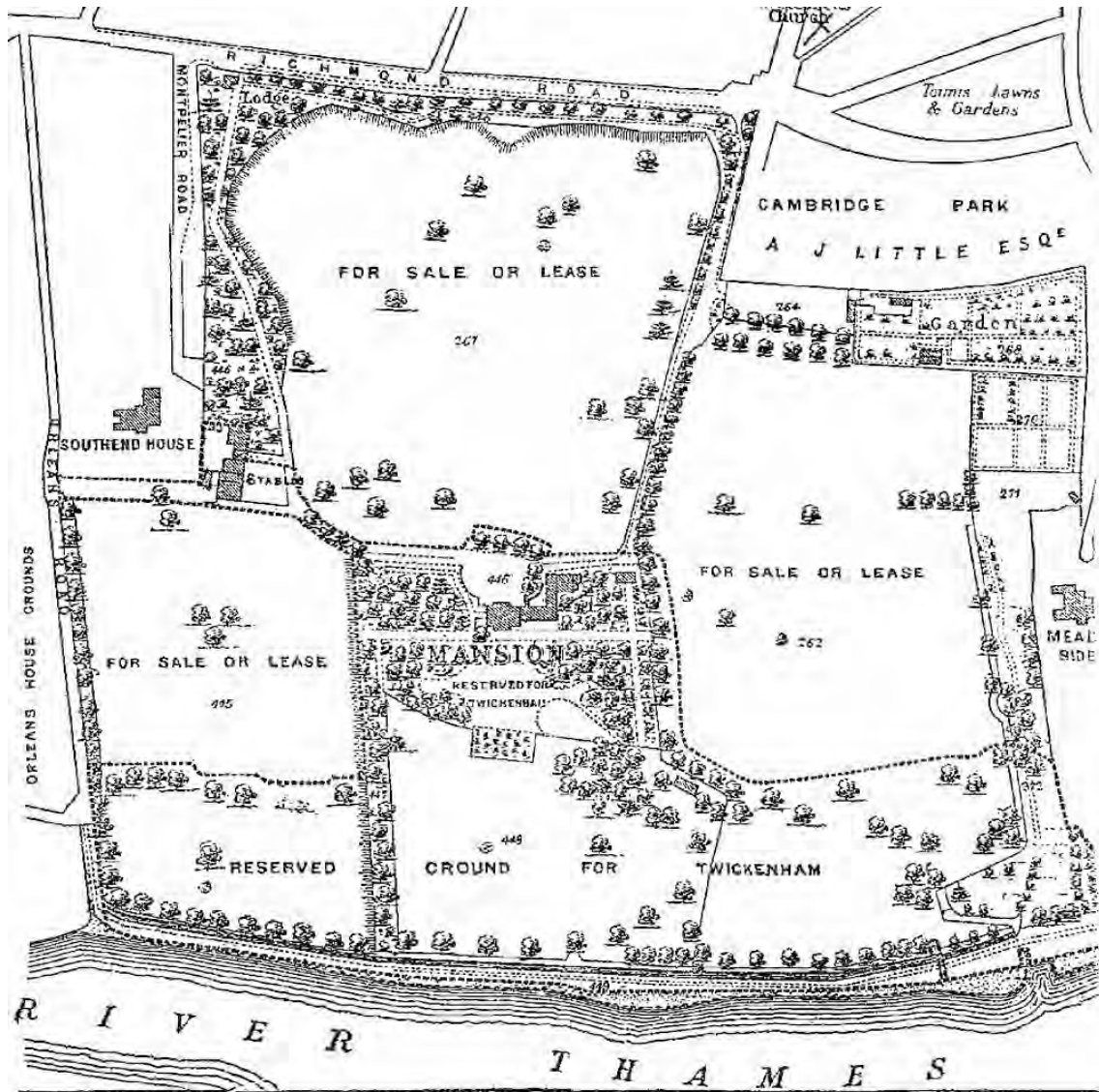


Figure 73 - Tracing of 1873 Deed Plan (Historic England Archive Map Room MP/MHH0002, original in London Metropolitan Archive; Marble Hill Deeds D8651)

A map was reproduced in the Richmond and Twickenham Times in May 1898 that was based upon the contemporary OS map but which provides some information on the planned development of the site for housing.



A PARK FOR TWICKENHAM.

The above plan shows the land respecting which Mr. J. N. Gosly has given notice of motion for next week's meeting of the Twickenham District Council, the object being to purchase the estate, lay out the riverside portion as a public park, and get such recoupment as may be obtained by selling or leasing the remainder as building land. We should add that Mr. Gosly is in no way responsible for the above plan. It is merely a suggestion as to the manner in which the estate might be dealt with so as to secure a charming park for Twickenham at very small expense.

Figure 74 - Plan of 'A park for Twickenham' from the Richmond and Twickenham Times, 7th May 1889

1900: Country Life Illustrated

In February 1900 a plan in *Country Life Illustrated* purported to show the layout of the Pleasure Grounds at some unspecified time in the past. Although a few elements appear to tie in with known features, on the whole it looks to be highly speculative and is not supported in any detail by other sources.

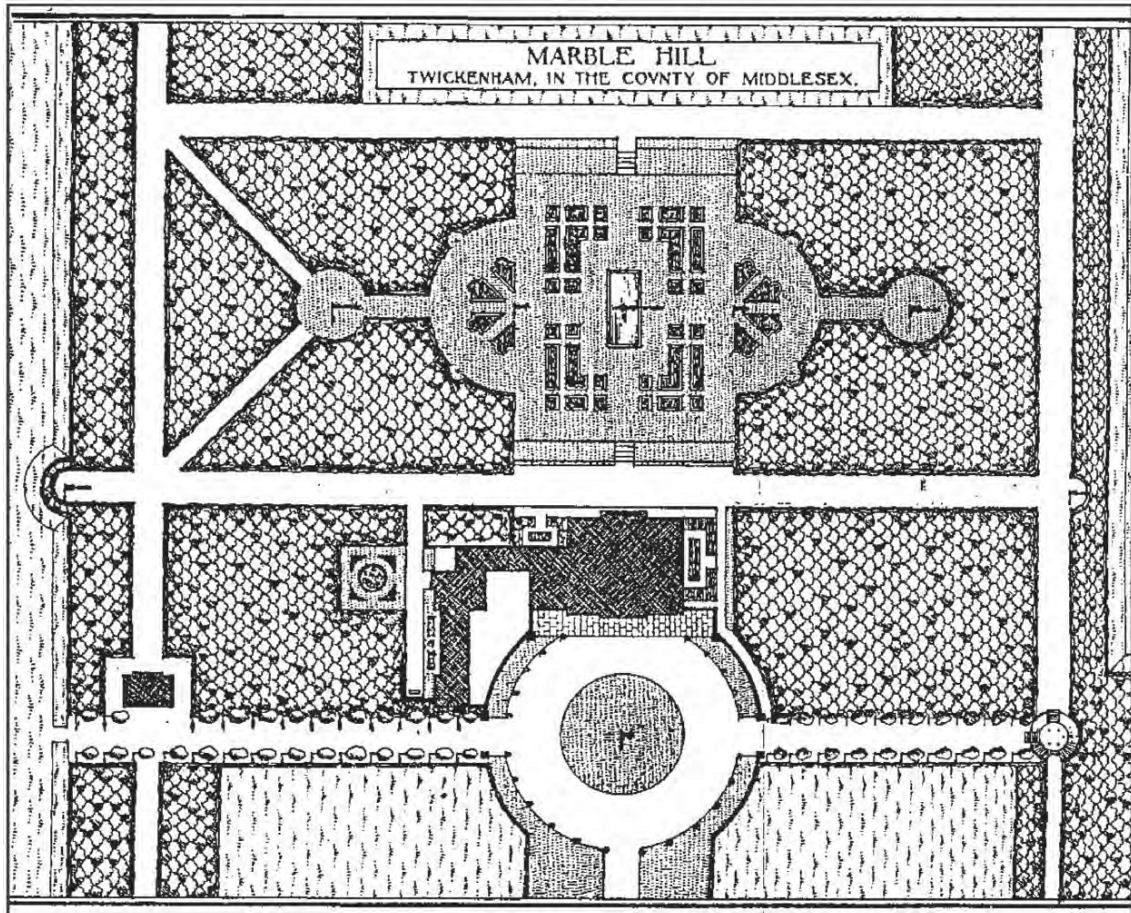


Figure 75 - 'Marble Hill; Twickenham, in the county of Middlesex' (*Country Life Illustrated*, 24th February, 1900)

Ordnance Survey maps

From 1871 there are 25 inch and 6 inch to the mile OS county maps (equivalent to approximately 1:2500 and 1:10,000 modern maps). Marble Hill lay in Middlesex but due to its proximity to the Thames it is also shown on some Surrey 6 inch and 25 inch maps and on London maps when published.

Epoch	Edition	Sheet	Surveyed <i>Revised</i>	Published
1	6"	Middlesex XX Surrey VI	1863-4 1867-8	1869 1871
	25"	Middlesex XX.12 (N) & 16 (S)	1863	1866
2	6"	Middlesex XX Surrey VI London IX.SE	1891-94 1893-4	1896 1898 1894-6
	25"	Middlesex XX.12 & 16		
3	6"	Middlesex XX.SE Surrey VI.NE London M	<i>1912</i> <i>1910-12</i> <i>1910-11</i>	1920 1920 1920
	25"	Middlesex XX.12 & 16		
4	6"	Middlesex XX.SE Surrey VI.NE	<i>1934-5</i> <i>1933</i>	1939 1935
	25"	Middlesex XX.12 & 16		
	6"	Middlesex XX.SE Surrey VI.NE London M	<i>1938</i> <i>1938</i>	1944 & 1946 (w NG info) 194? & 1947 (w NG info)
	25"	Middlesex XX.12 & 16		
		National Grid		
5	1:10,000	TQ17SE		
	1:2500	TQ1773	1959	1960