



581 | MARBLE HILL REVIVED

J&L GIBBONS

05.09.18

WOODLAND QUARTER TREE WORKS REPORT | Rev G

INTRODUCTION

This report has been prepared as a supporting document to the Marble Hill Revived Design & Access Statement (September 2018). The report aims to provide greater detail and clarity with regard to the tree works proposed within the Woodland Quarters at Marble Hill and support further refinement of our tree and Woodland Quarter management strategy.

One of the first priorities of this strategy is to protect and prolong the longevity of trees of heritage significance. The longer term strategy is to move towards a treescape that is diverse, references the 18th century landscape design and acknowledges that changes to the climate and issues of biosecurity will influence species selection.

The trees in the woodland quarters, in particular, have suffered from a lack of proactive management and successional planting to maintain healthy diverse habitats of varied ages. Our strategy aims to restore the lost character of these areas to ensure the growth of a successional landscape for future generations.

Tree cover currently extends to approximately 10.5 hectares (40%) of the park, of which 3.7ha. (14%) is Broadleaved Woodland. Much of the canopy cover is very dense and as a result shrub and ground layers are limited. Approximately 38% of our proposed tree removals focus upon clearing self-seeded and suckering species (predominantly Holly, Yew, Ash and Sycamore) to diversify the woodland by allowing more light into the understory and encourage a more diverse field and shrub layer. Other tree removals are proposed to reduce the number of low quality trees, provide space for higher quality trees to grow to maturity and enable the implementation of the historic landscape structure. The decision making criteria for proposed removals is outlined on page 3 of this report.

This diversification is supported by the wider introduction of different tree based character areas, in the form of avenues, groves and orchards. These are proposed in existing open amenity grassland as well as the broadleaved woodland. This approach will reintroduce a diversity of spatial character and habitats within the park which it currently does not offer.

It is estimated that after all the proposed tree removals and the proposed re-planting programme is completed, tree cover will extend by approximately 0.5 ha to % of the site.

Please read this report alongside the illustrative Woodland Quarter Plans, drawing numbers:

- 581_PL_L_26
- 581_PL_L_27
- 581_PL_L_28
- 581_PL_L_29

We have been able to refine our proposals within the Woodland Quarters having now re-surveyed these areas on a tree by tree basis. As a result we have refined our approach in certain areas. Ultimately this has led to a reduction in the number of 'specimen' trees to be removed site wide from 31 to 13.

The Woodland Quarters have been surveyed in accordance with British Standard BS5837:2012. Under this guidance a tree is categorised under the following descriptions:

Category A - Tree of high quality with an estimated remaining life expectancy of at least 40 years

Category B - Tree of moderate quality with an estimated remaining life expectancy of at least 20 years

Category C - Tree of low quality with an estimated remaining life expectancy of at least 10 years, or young tree with a stem diameter below 150mm

Category U - Tree in such a condition that it cannot realistically be retained as a living tree in the context of the current land use for longer than 10 years

On this basis, the digram below demonstrates the decision making process taken when proposing trees for retention, coppice or removal within the Woodland Quarters. All high and moderate quality Category A and B trees are proposed to be retained. The remaining Category C & U low quality, young or dead trees are proposed for retention, coppicing or removal under the following criteria.

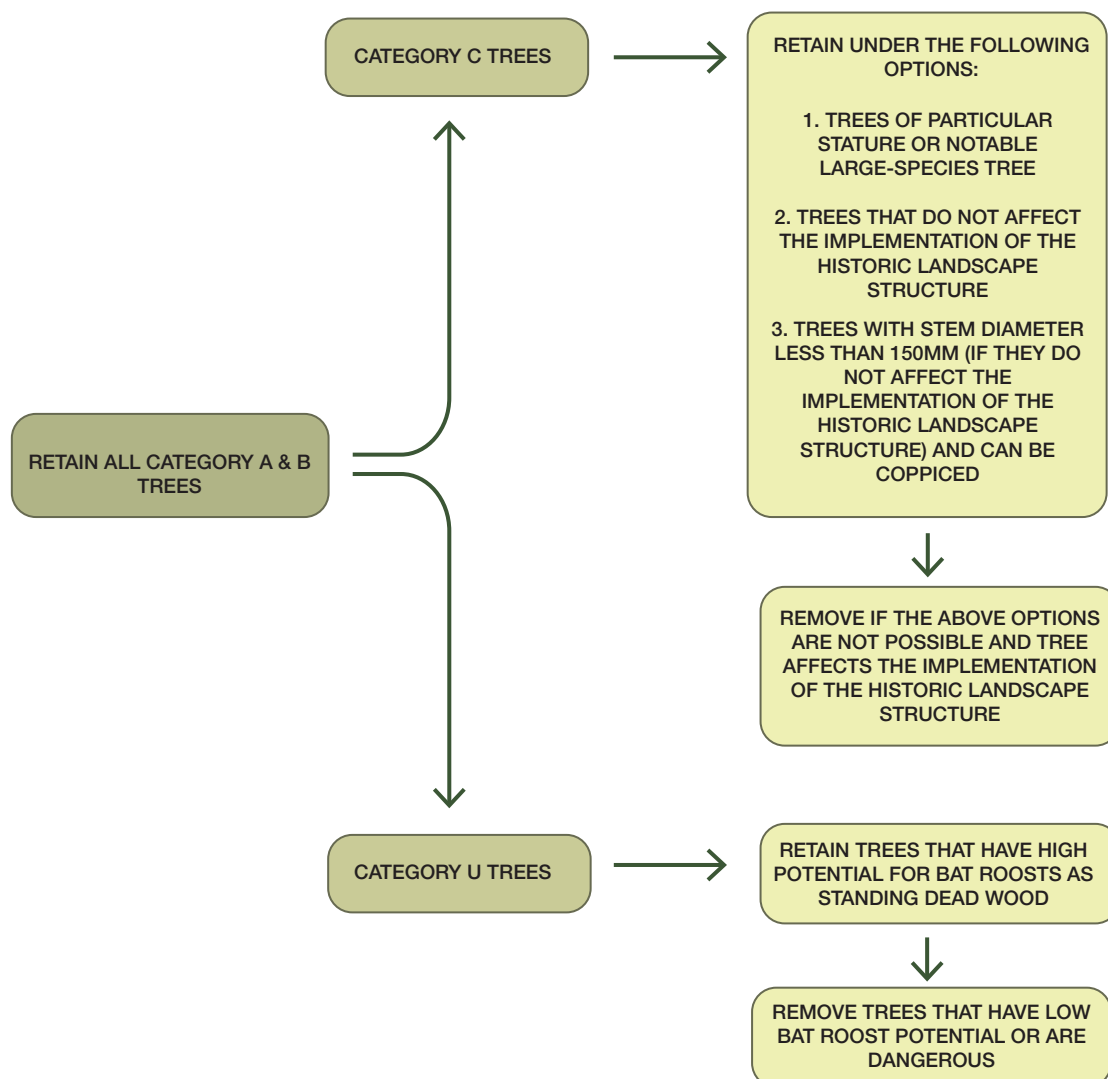


Figure 1: Tree Works Decision Making Criteria

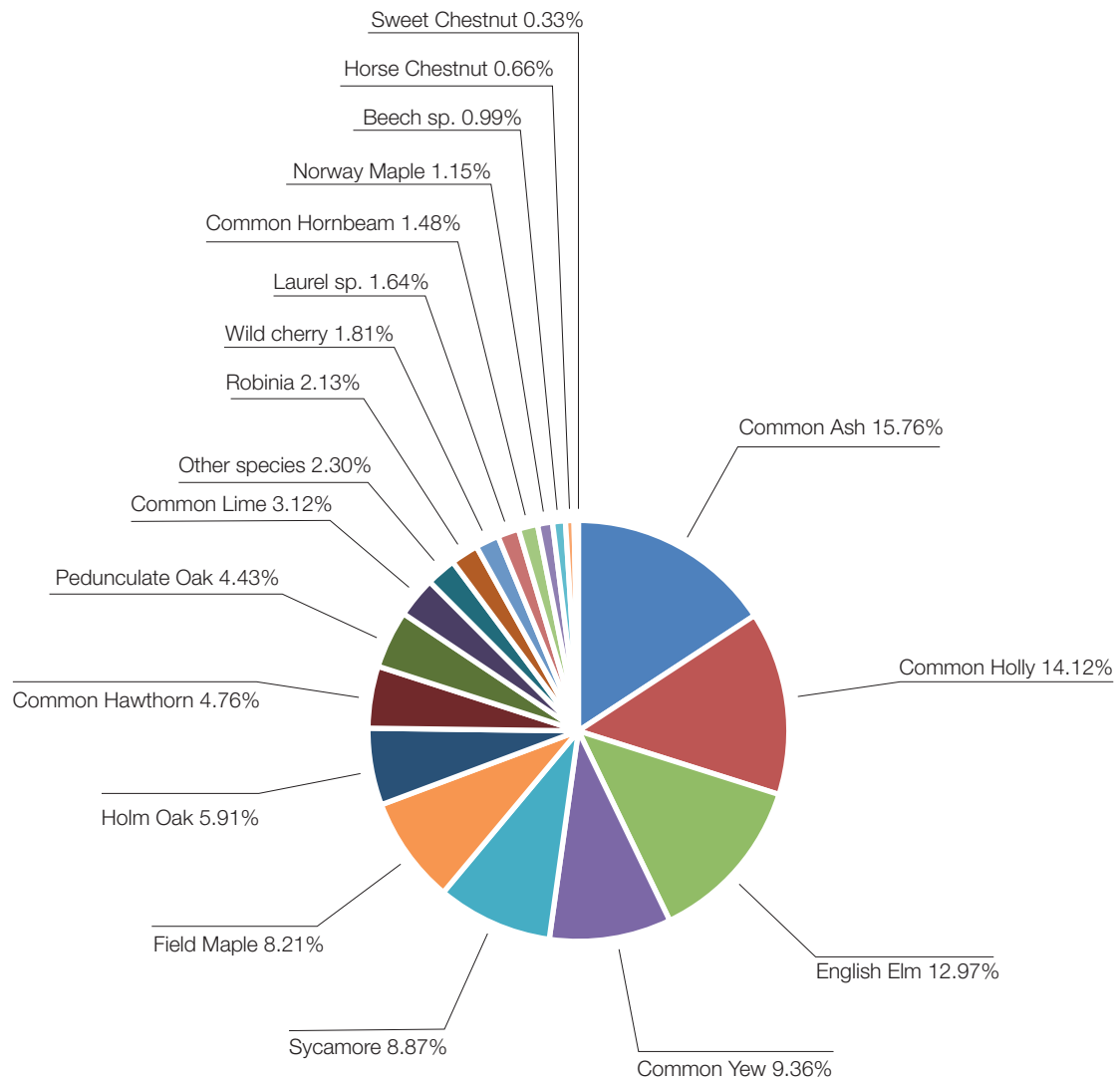


Figure 2: Existing Woodland Quarter Species Mix

The Woodland Quarters are predominantly composed of Ash and Elm as large-species trees with a high proportion of self-seeding species such as Holly, Yew and Sycamore.

Woodlands are a dynamic resource. A key aim of the Marble Hill Revived proposals is to create long-term sustainability and diversification of tree species by increasing the proportion of long-lived, large-species trees. The Woodland Quarters have limited ground cover and field layer diversity due to limited sunlight. Selected coppicing and removal of low quality and young self-seeded trees would increase sunlight reaching the woodland floor, providing ecological enhancement by enabling a richer and more diverse habitat to thrive.

The project aims to plant a large number of specimen trees in a wide variety of species within the Woodland Quarters as well as re-introduce the field and groundcover woodland layers as part of the historic 'Wilderness' and 'Thicket' planting palette. Details of the planting palettes can be found in the Marble Hill Revived Design & Access Statement (September 2018).

SPECIES EXISTING	TOTAL NO.	CAT. A	CAT. B	CAT. C	CAT. U
Common Ash	96	0	11	80	3
Holly sp.	86	0	0	80	6
English Elm	79	0	0	79	0
Common Yew	57	0	3	53	1
Sycamore	54	0	1	52	1
Field Maple	50	0	0	50	0
Holm Oak	36	0	0	36	0
Common Hawthorn	29	0	0	28	1
Pedunculate Oak	27	0	1	24	2
Common Lime	19	0	2	15	2
Other	14	0	0	14	0
Robinia	13	0	0	13	0
Wild Cherry	11	0	0	10	1
Laurel sp.	10	0	0	10	0
Common Hornbeam	9	0	1	8	0
Norway Maple	7	0	0	6	1
Beech sp.	6	0	0	6	0
Common Horse Chestnut	4	0	0	4	0
Sweet Chestnut	2	0	0	2	0
TOTAL	609*	0	19	570	18

(*Excluding 2no. trees removed since the survey was carried out)

Table 1: Woodland Quarters Summary of Arboricultural Survey

Table 1. above shows the majority of trees within the Woodland Quarters are surveyed as Category C with a few notable specimen Category B trees.

All Category B trees are proposed for retention within the Woodland Quarters, in accordance with the criteria shown on page 3 (Figure 1). Two Category U Oak trees are proposed for retention as standing dead wood within the North-west quarter due to their habitat value and potential for bat roosts.

SPECIES	TOTAL NO.	RETAINED	COPPICED	REMOVED	REMOVED SINCE SURVEY
Common Ash	96	58	10	26	2
Holly sp.	86	33	8	45	0
English Elm	79	26	11	42	0
Common Yew	57	23	1	34	0
Sycamore	54	19	6	29	0
Field Maple	50	32	1	17	0
Holm Oak	36	13	3	20	0
Common Hawthorn	29	10	4	15	0
Pedunculate Oak	27	18	1	8	0
Common Lime	19	15	0	4	0
Other	14	5	0	9	0
Robinia	13	4	0	9	0
Wild Cherry	11	7	0	4	0
Laurel sp.	10	5	0	5	0
Common Hornbeam	9	6	0	3	0
Norway maple	7	2	0	5	0
Beech sp.	6	5	0	1	0
Common Horse Chestnut	4	3	0	1	0
Sweet Chestnut	2	2	0	0	0
TOTAL	609	286	45	277	2

Table 2: Summary of Woodland Quarters Tree Works Proposals

Table 2. above shows the retention of most Ash, Oak and Lime trees as specimens. A large proportion of proposed coppicing and removal is of self-seeding species and species that respond well to coppicing, such as Ash, Elm, Yew, Sycamore and Holly. This provides opportunity to bolster populations of large-species trees such as Elm and Horse Chestnut with more disease-resistant varieties and increase numbers of less-predominant species such as Beech, Hornbeam and Oak. Planting of new specimen trees is crucial to diversify the tree population age range to secure its longevity, biosecurity and resilience to climate change for future generations.

Across Marble Hill Park a total of 285no. trees are proposed for removal (277no. within the Woodland Quarters) as part of the development proposals. To mitigate tree removal, extensive large-species tree planting is proposed across the whole park. A total of 342no. new trees are proposed to be planted, representing a net increase of 20% in the number of trees across the park.

Most of the proposed trees are large-species varieties such as Oak, Lime and Scots Pine. The proposed planting stock will be a mix of sizes, ranging from 5-9m specimen semi-mature trees within the new avenues, groves and where possible in the Woodland Quarters. New trees in habitat edges along the Sweet Walk and East and West Meadows are proposed as a mix of semi-mature and extra-heavy standard stock.

The proposed orchard in the north-east Woodland Quarter will contain smaller fruiting varieties, such as apple, pear and cherry. The smaller trees, proposed as 2-3m containerised stock, provide volunteer planting opportunities, another important aim of the project.

The proposals follow best practice guidance for woodland management, under the London Tree and Woodland Framework, produced by The Mayor of London and the Forestry Commission. This project will kick-start the beginning of pro-active management practice of the woodlands and tree population in Marble Hill Park, as a dynamic resource with long-term management plans including successional tree planting.

SPECIES	TOTAL NO.	PROPOSED REMOVALS	PROPOSED REMOVAL STEM DIAMETER				
			<75mm	76-150mm	151-250mm	251-350mm	>350mm
Common Ash	96	26	2	8	9	6	1
Holly sp.	86	45	1	17	18	8	1
English Elm	79	42	4	34	4	0	0
Common Yew	57	34	3	16	8	6	1
Sycamore	54	29	1	16	9	1	2
Field Maple	50	17	1	13	3	0	0
Holm Oak	36	20	2	13	5	0	0
Common Hawthorn	29	15	2	9	4	0	0
Pedunculate Oak	27	8	0	7	0	1	0
Common Lime	19	4	0	1	1	0	2
Other	14	9	3	5	0	1	0
Robinia	13	9	0	0	1	8	0
Wild Cherry	11	4	0	1	1	2	0
Laurel sp.	10	5	0	4	1	0	0
Common Hornbeam	9	3	0	1	2	0	0
Norway maple	7	5	0	3	2	0	0
Beech sp.	6	1	0	1	0	0	0
Common Horse Chestnut	4	1	0	1	0	0	0
TOTAL	609	277	19	150	68	33	7

Table 3: Woodland Quarters Proposed Tree Removal Breakdown

The breakdown above demonstrates that the majority (61.1%) of trees proposed for removal within the Woodland Quarters are of stem diameter 150mm or less. Of the 7no. large trees proposed for removal, with a stem diameter greater than 350mm, 4no. are Category U (cannot be retained as a living tree) and 3no. Category C (Holly and Sycamore).

The images on the following pages show a range of tree stem diameters in each Woodland Quarter, representative of the categories in the table above.

Tree Stem Diameter - Reference Photos

The images below illustrate the comparison between stem diameters, and how this influenced our proposals. In accordance with BS5837:2012, tree stem diameter is measured at 1.5m above the highest adjacent ground level.



North-west Woodland Quarter



North-east Woodland Quarter

Tree Stem Diameter - Reference Photos



South-west Woodland Quarter



South-east Woodland Quarter

Snapshot of North-west Woodland Quarter



Large specimen trees retained along western edge; understorey clearance to allow views through beneath the canopies



Large specimen trees retained along northern edge as screening from the Lawn; selective coppicing and improvement of understorey



Central group of Oak, Horse Chestnut and Sycamore retained as fine specimens (G9.11, G9.12, G9.13)



Large specimen trees retained along eastern edge, including corner Beech (G9.6)



Feature trees, such as Yews at the Ice House retained (G9.75, G9.76)



Snapshot of North-east Woodland Quarter



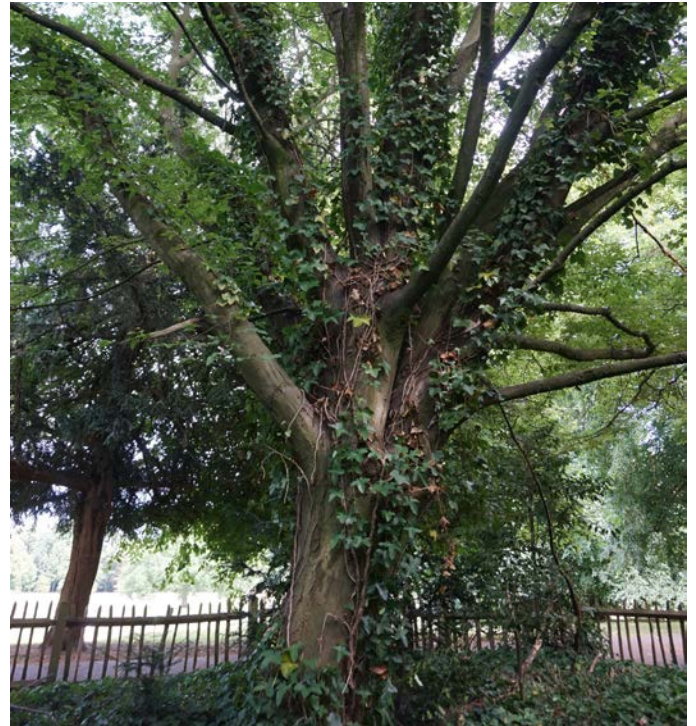
Large Category B Ash and Sycamore retained as specimen trees (G8.5, G8.6)



Removal of small self-seeded trees to increase light levels to woodland floor and make room for the orchard establishment



Retention of large Yew (G8.4)



Large Category B Hornbeam retained as fine specimen in the south-east corner of the quarter (G8.1)



Large specimen trees retained along the northern edge to maintain screening from the Lawn



Snapshot of South-west Woodland Quarter



Large Ash, Lime and Hornbeam retained as specimen trees (G10.1, G10.17, G10.105, G10.113, G10.121)



Retention of Oak, Ash and Sycamore corner group as specimen trees (G10.128, G10.129, G10.130, G10.131)



Retention of Category B Ash tree as a fine specimen (G10.2)



Removal of small self-seeded trees to increase light levels to the woodland floor for biodiversity



Snapshot of South-east Woodland Quarter



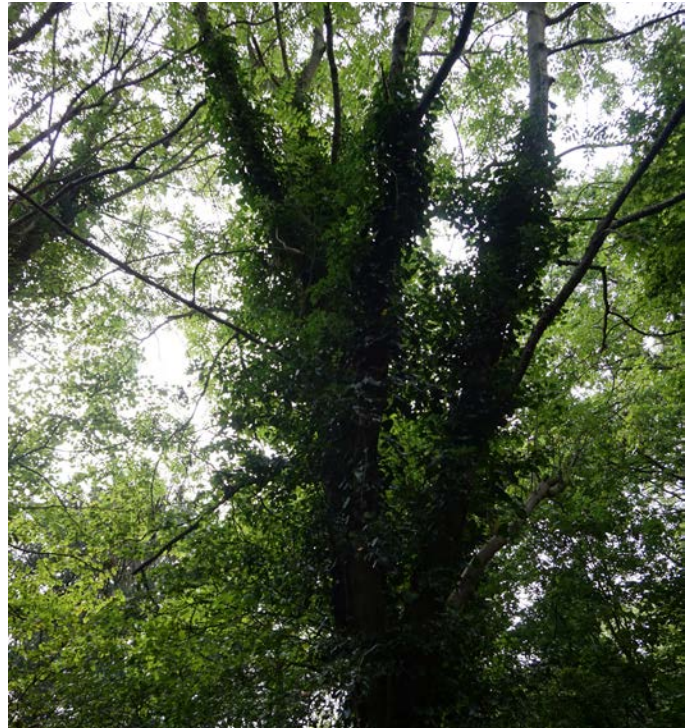
Large Ash, Cherry and Sycamore group retained as specimen trees (G7.3, G7.4, G7.5, G7.6)



Retention of large Category B Yew as a specimen tree (G7.1)



Removal of small self-seeded trees to increase light levels allow the implementation of the historic landscape structure



Retention of Category B Ash as a fine specimen (G7.2)



Retention of large multi-stemmed coppiced Holm Oak to hold the corner of the quarter (G7.74)

