SIMON JONES ASSOCIATES Ltd.

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Tree Surveys and Reports · Advisory Service
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Report on Likely Impact on Trees of the construction of an Orangery at:

Witanhurst
41 Highgate West Hill
Highgate
London N6

Compiled & presented by
Simon R. M. Jones, Dip. Arb. (RFS), F. Arbor. A.

June 2009

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APPENDICES.

1. INTRODUCTION.

1.1. Formal Details.

1.1.1. My name is Simon Reginald Marcus Jones. I am the director and principal consultant of Simon Jones Associates Ltd., Arboricultural Consultants, of No. 17, Cross Road, Tadworth, Surrey.

1.1.2. I have been instructed by Witanhurst Construction Ltd.

1.2. Issues to be Addressed.

1.2.1. This report examines the likely impacts on trees of the construction of an Orangery at Witanhurst. This proposal also includes the demolition of the existing staff wing and garaging, and the construction of a permanent site access from Highgate West Hill.

1.2.2. It also makes recommendations for the protection of trees adjacent to this proposal.

2. THE SITE.

2.1. Site Inspection.

2.1.1. The tree schedule at **Appendix 1** is based on a tree inspection undertaken by Matt Rew & Andrew Bigg of Simon Jones Associates Ltd., during April and May

2009. Weather conditions at the time were clear, dry and bright. Deciduous trees were in partial leaf.

2.1.2. The information contained in this report covers only those trees that were examined, and reflects the condition of these specimens at the time of inspection. We did not have access to the trees from any adjacent properties; we have thus confined our observations of them to what was visible from within the site and from the surrounding public areas.

2.1.3. The trees were inspected from the ground only and were not climbed. No samples of wood, roots, or soils were taken for analysis.

2.1.4. We did not make a full hazard or risk assessment of the trees. No guarantee, either expressed or implied, of the safety, stability or internal condition of any of the trees can therefore be given. Furthermore, no warranty that problems or deficiencies may not arise in the future can be given.

2.1.5. Care has been taken to obtain all information from reliable sources, and all data has been verified where possible. However, no guarantee can be given of the accuracy of information provided by others.

2.2. Location.

2.2.1. The proposed Orangery is situated to the North of the main house, as shown on the Tree Protection Plan (SJA TPP 04) at **Appendix 2**.

2.3. The Trees.

2.3.1. There are several trees with trunk diameters of 75mm and above growing within or immediately adjacent to the site of the proposed Orangery[2]. These have all been inspected, and details entered into the tree schedule that can be found at **Appendix 1**.

2.3.2. For ease of identification the trees have all been numbered: these numbers appear in the tree schedule and also on the enclosed site plan.

2.3.3. The most significant trees close to the proposal, in terms of size and visibility, are listed below:

2.3.3a. Two large specimens, a Copper beech (no. 300) and a sycamore (no. 329) growing in the neighbouring garden of No. 1 The Grove.

2.3.3b. A mature sycamore (no. 198) growing within the grounds of Witanhurst, 2m from the base of the high retaining wall at the western end of No. 1 The Grove.

2.3.3c. A Common lime (no. 197) growing within the grounds of Witanhurst, on the north side of the house close to the north-western corner of the existing staff wing.

2.3.3d. A young Copper beech tree (no. 223) growing in a grassed area in the centre of the existing Witanhurst forecourt.

2.3.3e. A large sycamore tree (no. 173) growing on the bank between the main house and the lower gardens, to the north of the main house.

2.3.3f. A row of young Common lime trees (nos. 213-222) growing on the north side of the retaining/boundary wall alongside Highgate West Hill.

[2] The British Standard 'Trees in relation to construction – Recommendations', BS 5837: 2005 recommends that in most circumstances all trees over 75mm stem diameter should be included in a pre-planning land and tree survey.

2.3.4. There are other trees close to the footprint of the proposals, but these are either small, young, or ornamental trees, and are not particular feature in the landscape of Witanhurst itself, or of the wider surrounding area.

2.4. Assessment of Suitability for Retention.

2.4.1. All trees have been categorised in accordance with the British Standard 'Trees in relation to construction – Recommendations', BS5837: 2005. Further information on the criteria used for this process can be found in the notes that accompany the tree schedule.

R:- Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.

A:- Trees of high quality and value: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).

B:- Trees of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested).

C:- Trees of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm.

2.4.2. The significant trees referred to above include five Category 'B' specimens (the two off-site trees nos. 300 & 329, the sycamores nos. 173 & 198, and the young Copper beech no. 223).

2.4.3. At the time of writing three of these (nos. 173, 197 & 198) are covered by Tree Preservation Order no. C7, dated 1969; whilst the remainder are not covered by preservation Orders, the entire site is within a Conservation Area.

3. IMPACT OF PROPOSED DEVELOPMENT ON TREES.

3.1. Trees to be Removed.

3.1.1. The development proposals, as shown on the site layout drawing, indicate that ten trees will have to be removed to permit their implementation. These are tree nos. 167 – 170, 174, 197 – 199, 226 & 305.

3.1.2. They include one Category 'B' tree (the sycamore no. 198); the remainder are Category 'C' trees, of low quality or value, or both.

3.1.3. Two of the trees to be removed (the Common lime and the sycamore nos. 197 & 198) are covered by the Tree Preservation Order. The removal of these specimens is discussed below.

3.2. Common lime tree no. 197.

3.2.1. Within a fissure at 500mm on the North West side of the trunk a fruiting body of a *Ganoderma* decay fungus can be seen, and around this is a greater than average basal trunk flare, suggesting possible internal decay. Internal tests undertaken with a *Resistograph* indicate an area of decayed and degraded wood between 125mm and 290mm on SW side; but all other traces were normal. The decayed area therefore appears localized, possibly associated with an occluded internal crack or fissure but of insufficient extent to be at imminent risk of failure. Slightly above average dead wood and epicormic growth in crown suggests that the tree is drawing on plenty of root resources and that therefore the fungal infection is probably at an early stage. Nevertheless, the tree is likely to be of reduced potential, and depending on rate of progression, may be of only short-term potential only.

3.2.2. The tree is partially visible from some of the rear elevations and gardens of properties on The Grove; but is not a significant feature being largely hidden in views from other directions by the house to the South and East, and by other trees to the North and West.

3.3. Sycamore tree no. 198.

3.3.1. This is a 17m tall mature specimen. Most probably self-seeded (as sycamore only very rarely features in residential landscape schemes such as these, and yet self-seeds easily in neglected areas (this is adjacent to the former compost bins). Leaf size, colour and density suggest that it is of average physiological condition, and no evidence of significant disease or decay can be seen. It is of indifferent structure, as it has a restricted and asymmetrical root disposition, being restricted by the high retaining wall to the east, and has several tight stem and branch unions in the crown. Despite this, it is still of moderate quality.

3.3.2. Being situated internally to the site it is of restricted visibility despite its height, and is screened in views from south and south-east by the two large trees in the garden of No. 1 The Glade, in views from the west by the large sycamore (no. 173) and other trees on the bank, and in views from the south and south-west by Witanhurst itself. A small section of the canopy is visible from Highgate West hill, in the gap between the Witanhurst Gate house and No. 1 The Glade; but this is too small and narrow a view to contribute to public visual amenity in any significant way.

3.3.3. The tree will be readily visible from the rear elevations of Nos. 1 & 2 The Glade, but it does not screen any buildings or undesirable views from these houses; indeed it's removal might be considered as beneficial in that it will open up views of the larger sycamore (no. 173), and of longer-range views towards Parliament Hill and Hampstead Heath beyond. The sycamore no. 173 is 22.5m in height (5.5m taller than no. 198), but stands on ground that is 7.5m lower than at the base of tree no. 198. Hence in terms of the surrounding skyline, a reduction of only 2m will be incurred as a result of the removal of tree 198.

3.3.4. The tree has a high canopy, approximately 4.5m above the surrounding ground at its lowest point. Hence it will not provide any meaningful screening of the proposed orangey in views from Nos. 1 & 2 The Glade. Indeed, the roof of the orangery will be at the same height as the retaining wall, which will mean it will not be visible from the rear elevations of these properties, irrespective of the tree.

3.3.5. Its removal will also be of benefit to both Witanhurst and Nos. 1 & 2 The Glade in that being a densely branched and foliaged tree, with large leaves; it casts a heavy shade, over Witanhurst and the proposed Orangery in the late afternoons and evening, and over Nos. 1 & 2 The Glade in the mornings. Its removal will allow sunlight back into both gardens at these times, and will improve daylight levels at all times through the day.

3.3.6. The base of the trunk of the tree is very close (1.75m) to the adjacent retaining wall, and to the associated buttresses (only 450mm). Whilst roots are unlikely to be growing beneath the wall in any profusion, they are likely to be growing alongside it, and at this distance away, could exert (or be exerting) pressure that may have contributed (or could contribute) to the damage to the buttresses that is already plainly visible. The British Standard BS5837: 2005, the "Trees in relation to construction – Recommendations" recommends that a minimum clearance of 2m should be given between trees with mature trunk diameters in excess of 600mm and masonry walls in order to avoid any future damage: at a distance of only 0.45m between the buttresses of the wall and the centre of the trunk future damage must be considered a distinct possibility.

3.4. Common Limes (nos. 213-222)

3.4.1. The northern part of the row of trees growing alongside Highgate West Hill comprises ten young Common limes (nos. 213-222). Five of these (nos. 217-221) are to be removed to permit construction of the proposed site access from Highgate West Hill. These trees are up to 15m in height, with trunk diameters of up to 370mm, and consequently are of notably smaller size that the row at the southern end. Historical aerial photographs indicate that these were planted some time between

1949 and 1971: the sizes of the trees suggest that this was later rather than earlier during this period. Photographs from 1949 and earlier show that they replaced a row of trees of apparently similar size to those still growing in the southern section of the row, which were evidently felled, although for what reason is currently unclear, and could have been because they were diseased or decayed, or because they were damaging the wall. What is clear however is that the original landscape of this boundary, up to and after 1949 included a row of trees of the same age, and therefore most likely of similar sizes.

3.4.2. In some cases these trees have been planted as close as 1m from the existing boundary wall. Whilst none of these specimens are currently large enough to be likely to be exerting any significant pressure on the wall, if they are allowed to reach maturity or even middle age, it is almost certain that they will do so. BS5837: 2005, the British Standard "Trees in relation to construction – Recommendations" recommends that a minimum clearance of 2m should be given between trees with mature trunk diameters in excess of 600mm and masonry walls in order to avoid any future damage.

3.4.3. All these trees have mutually suppressed canopies that are growing mainly to the North and South either side of their trunks. No evidence exists to suggest that other than being crown lifted, any regular maintenance has been undertaken, and ideally they should have been thinned out to allow the remaining trees to form more rounded and structurally efficient crowns. They are therefore of only low quality individually.

3.4.4. The trees are readily visible in views from Highgate West Hill, and consequently of some value; although their currently small sizes in relation to the larger limes to the south means that they have not be assessed as being of high value.

3.5. Root Protection Area Incursions.

3.5.1. All trees live in a state of balance with their environment. Any changes to this state of balance will cause a reaction in the growth of the tree that may lead to stress or strain. The more mature a tree is, the harder it is for it to adapt to such disturbance; furthermore some species of trees are genetically better able to cope with disturbance than others.

3.5.2. To assist in the prediction of the likely impact of development on trees, a model is used. This model is a central feature of the British Standard 'Trees in relation to construction – Recommendations', BS 5837: 2005. This document provides a useful and consistent starting point for the assessment of likely impact.

3.5.3. The British Standard recommends that an area around each tree to be retained should be protected from disturbance "in order to avoid (unacceptable) damage to the roots or rooting environment" (as a result of root severance or damage, or compaction or pollution of the soil.) These "root protection areas" ('RPAs') have been computed for all the trees that can be retained on this site using Table 2 of the British Standard, and these are shown as areas bordered in green, blue or grey on the Tree Protection plan.

3.5.4. As can be seen on the Tree Protection Plan (SJA TPP 04), part of the proposed retaining wall to the west of the Orangery is just within the RPA of the large sycamore tree no. 173, as calculated in accordance with BS 5837: 2005. This incursion is by only 1.2% of the total RPA, and as sycamore is generally fairly tolerant of excavation, and this tree is a healthy specimen and will not have any other incursions into its RPA, this will not cause any major root damage.

3.5.5. The South West corner of the proposed car lift is within the RPA of the Common lime tree no. 215. This is also a very minor incursion, amounting to only 1.2% of the total RPA, and as lime is the species that is perhaps the most tolerant of disturbance, there is no evidence to suggest that the excavation will cause any significant damage to the specimen.

3.5.6. Excavation for the foundations of the retaining wall and the car lift within the RPAs of these trees will be undertaken manually under the on-site supervision of the appointed arboricultural consultant in order to prevent unacceptable damage to the root systems.

3.6. Trees to be Pruned.

3.6.1. No trees will have to be pruned in order to allow the proposals to be implemented.

3.7. Protection of Retained Trees.

3.7.1. The root protection areas of the trees to be retained will be enforced by the erection of protective fencing to the specification recommended in the British Standard, Section 8.2, prior to the commencement of construction. Details of this fencing are shown on the Tree Protection Plan.

4. CONCLUSIONS.

4.1. Impact of Construction on Trees.

4.1.1. The arboricultural impact of the proposal is considered to be moderate. This is for the following reasons:

- No Category 'A' trees will have to be removed.
- Only one Category 'B' tree (the sycamore no. 198) will have to be removed.

- The remaining nine trees to be removed are Category 'C' specimens of low quality, low value, or both of these.

- Only two trees to be removed (the lime and the sycamore nos. 197 and 198) are covered by Tree Preservation Order.

- No unacceptable damage will occur to retained trees as a result of the construction of the retaining wall and car lift, as this will be undertaken manually under the onsite supervision of an arboricultural consultant.

- No trees need to be pruned to accommodate the proposals.

- The necessary precautions to prevent damage and to protect the retained trees during construction can readily be assured by the use of appropriate planning conditions.

- Comprehensive replacement tree-planting has been included in the landscape scheme drawn up by the landscape architects.

4.2. Summary.

4.2.1. On the basis of the above assessment, I conclude that subject to the implementation and enforcement of the protective measures indicated on the Tree Protection Plan, there are no valid grounds for refusing planning permission for the proposed development on the grounds of unacceptable loss of, or damage to, trees that are worthy of retention.

Simon R. M. Jones, Dip. Arb. (RFS), F. Arbor. A.

June 2009

APPENDICES

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APPENDIX 1: Schedule of Trees

at:

Witanhurst, 41 Highgate West Hill

Compiled & presented by:

Simon R. M. Jones Dip. Arb. (RFS) F. Arbor. A.

June 2009

Tree Schedule: Explanatory Notes

Witanhurst, 41 Highgate West Hill

* Entries marked with an asterisk are those taken directly from the Kirkham tree survey dated 18/01/09.

This schedule is based on a tree inspection undertaken by Matt Rew & Andrew Bigg of Simon Jones Associates Ltd., on the 1st & 2nd of April 2009. Weather conditions at the time were clear, dry and bright. Deciduous trees were in partial leaf.

The information contained in this schedule covers only those trees that were examined, and reflects the condition of these specimens at the time of inspection. We did not have access to the trees from any adjacent properties; observations are thus confined to what was visible from within the site and from surrounding public areas.

The trees were inspected from the ground only and were not climbed, and no samples of wood, roots or fungi were taken. A full hazard or risk assessment of the trees was not undertaken, and therefore no guarantee, either expressed or implied, of their safety or stability can be given. Trees are dynamic organisms and are subject to continual growth and change; therefore the dimensions and assessments presented in this schedule should not be relied upon in relation to any development of the site for more than twelve months from the survey date.

1. Tree No.
Given in sequential order, commencing at "1".

2. T.P.O. No.
Number assigned to tree in the London Borough of Camden Tree Preservation Orders made in 1969 and 1971, as shown in T.P.O. schedules and plans.

3. Species.
'Common names' are given, taken from MITCHELL, A. (1978) Field Guide to the Trees of Britain and N Europe.

4. Height.
Measured approximately with the aid of a clinometer, shown in metres.

5. Trunk diameter.
Trunk diameter measured at approx. 1.5m above ground level; or in case of trunks that divide into separate stems between adjacent ground level and 1.5m , at base, immediately above root flare ('arf'). Shown in millimetres.

6. Radial Crown Spread.
The maximum extent of branches from the base of the trunk in any direction, shown in metres. In the case of trees with asymmetrical crowns, separate distances are quoted in relation to points of the compass.

7. Crown Clearance.
Distance from adjacent ground level to lowest part of lowest branch, in metres.

8. Age Class.
Young: Age less than 1/3 life expectancy
Middle aged: 1/3 to 2/3 life expectancy
Mature: Over 2/3 life expectancy
Over-mature: Mature, and in a state of decline
Veteran: Surviving beyond the typical age range for species

9. Physiology.
Health, condition and function of the tree, in comparison to a normal specimen of its species and age.

10. Structure.
Structural condition of the tree – based on both the structure of its roots, trunk and major stems and branches, and on the presence of any structural defects or decay.
Good: No significant physiological or structural defects, and an upright and reasonably symmetrical structure.
Moderate: No significant pathological defects, but a slightly impaired physiological structure; however, not to the extent that the tree is at immediate or early risk of collapse.
Indifferent: Significant physiological or pathological defects; but these are either remediable or do not put the tree at immediate or early risk of collapse.
Poor: Significant and irremediable physiological or pathological defects, such that there may be a risk of early or premature collapse.
Hazardous: Significant and irremediable physiological or pathological defects, such that there is a risk of imminent collapse.

11. Comments.
Where appropriate comments have been made relating to:
-Health and condition
-Safety, particularly close to areas of public access
-Structure and form
-Estimated life expectancy or potential
-Visibility and impact in the local landscape

12. Category.
Based on the British Standard "Trees in relation to construction - Recommendations", BS 5837: 2005, Table 1.

Category R: Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.
- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning).
- Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.
- Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality.

Category A: Trees of high quality and value: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).
- Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features
- Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance
- Trees, groups or woodlands of significant conservation, historical, commemorative or other value

Category B: Trees of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested).
- Trees that might be included in the high category, but are downgraded because of impaired condition
- Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features, or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality
- Trees with clearly identifiable conservation or other cultural benefits

Category C: Trees of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm.
- Trees not qualifying in higher categories
- Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit
- Trees with very limited conservation or other cultural benefits

TREE SCHEDULE
Witanhurst, 41 Highgate West Hill

No.	T.P.O no.	Species	Height	Trunk diameter	Radial Crown Spread	Crown Clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
1	T48 1969	Sycamore	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Tree felled in June 2009	n/a
2	T49 1969	Sycamore	17.5m	710mm (over ivy)	5m N 9m E 5m S 6m W	2m E	Middle aged	Average	Indifferent	Rooting restricted to SE by high retaining wall; heavily ivy-covered; multi-stemmed from approx. 7m under ivy; narrow asymmetrical crown as suppressed by adjacent specimens; of moderate quality and moderate value as readily visible from Highgate West Hill; of medium-term potential.	B (12)
3		Hawthorn	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Tree dead and accordingly felled in June 2009	n/a
4	T47 1969	Horse chestnut	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Tree felled in June 2009	n/a
5	T7 1971	Sycamore	16m	885mm	7.5m N 6.5m NE 7m E 7m SE 8.25m S 8m SW 8.75m W 7.75m NW	6m N 7m NE 7m E 8m SE	Mature	Average	Moderate	Situated within 7m of main house growing on a slight mound in front of the house, access path runs to the SE and N but there is at least 3m of mowed grass surrounding base; good buttress rooting and flare; single trunk, large structural branch SW side at 2.5m, on the W side at 2.5m there is a large canker, there does not appear to be any associated decay in this area, there is also another cankerous area on the structural branch SW side at 4m, unusual for this species; multiple stems but with sound unions throughout, well occluded pruning wounds; tree appears to have been topped at some time in past at various different heights; minor deadwood throughout canopy; due to previous pruning work tree is of indifferent structure thus of low quality; of moderate value but is an unsuitable tree for so close to the house.	C (2)
6		Wild cherry	12m	280mm (over ivy)	3m N 4m E 4m S 4.5m W	4m	Middle aged	Average	Moderate	Ivy-covered; suppressed crown as overtopped by adjacent specimens; prominent buttress root; of moderate quality but low value; of medium-term potential.	C (2)
7g		Lilac	4.4m	100mm	5m NE 1m SE 2.5m SW 5m W 6m NW	1.5m	Young	Average	Poor	Row of approx. 18 lilacs planted on NW side of brick wall, many two or three stemmed in the case of the most W is approx. 8 stemmed; all have suppressed crowns and hence lean and grow out heavily to the N/NW. Fourth tree from the E end leans very heavily and is at risk of collapse. Two trees at the E end are dead and make no addition to the screening or visual amenity of this part of the garden. Of low quality and value; of short-term potential only.	C (12)
8g		Sycamore	10m to 16m	70mm to 325mm	5m N 3m E 3m S 3m W	5m	Young	Average	Indifferent	Group of seven most probably self-seeded trees; drawn-up etiolated specimens with suppressed canopies; of low quality but moderate value; of short-term potential only.	C (12)

No.	T.P.O no.	Species	Height	Trunk diameter	Radial Crown Spread	Crown Clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
9	T6 1971	Cedar of Lebanon	14m	950mm	9m N 9.5m NE 11.5m E 9.5m SE 10.25m S 9m SW 8.25m W 8.25m NW	1.75m	Mature	Average	Moderate	Growing within lawn; single stout trunk very slight lean to the S straightening up from 2.5m to 3m, structural branches are typical shape and form of the species, at 7.5m to 8m on the E side an old cable brace is located going towards a structural branch to the E originating from 4.5m on trunk. Where cable attached main trunk grows at a very acute angle to the E before slightly straightening to vertical: it appears that tree lost its top/main leader here at some time in the past; this a weakness in the structure of the trunk, and could be liable to premature failure from here in future; on N side of canopy there has been damage to branches indicating historic storm damage, minor deadwood throughout crown typical of species. Appears healthy throughout; appropriate species for this situation; but of no more than moderate quality and of reduced potential due to lost leader; of no more than moderate value as not visible from surrounding public areas.	B (12)
10		Common lime	16m	700mm (over ivy)	4m	0.5m	Mature	Average	Moderate	Single stout ivy covered trunk with much basal epicormic, trunk ascends to a historically pollarded canopy with some minor deadwood throughout. Tree is growing on raised boundary wall adjacent to stairs down onto second tier of the Italian garden, surrounding brickwork suggests roots maybe damaging walls and staircase. Tree provides screening between site and adjacent property and therefore is of moderate value and quality. Of medium-term potential.	B (12)
11		Common lime	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Tree has been removed.	n/a
12-20		Common lime	16m to 19m	440mm 460mm 440mm (over ivy) 495mm (over ivy) 530mm 640mm 340mm 270mm (over ivy) 540mm (over ivy)	7.25m N 4.5m E 3.5m S 5m W	3m N	Middle aged	Average	Indifferent	Line of trees growing along part of the southern boundary immediately S of the Italian garden. All trees are causing significant damage to either boundary walls and/or adjacent paths, this includes steps down to the lower level and associated walls to the steps. All have been topped/pollarded at some point in the past at around on average 5m-6m and now there is significant regrowth up to 250mm, regrowth in the main is drawn up due to mutual suppression from the adjacent trees and although they do provide screening the Italian garden area requires significant restoration works, for this to be feasible then removal of these specimens will be necessary. Provide screening between site/adjacent property and can be viewed from the main road to S and likely in similar views for residents in adjacent property. Of moderate quality and value, but value will only be of short term potential due to likelihood of future pollarding requirement if trees are retained.	B (12)
21-23		Copper beech	17m to 18m	300mm 280mm 290mm	7m N 3m E 4m S 5m W	3m N	Young	Average	Moderate	Three trees growing S of the chain link fence so unclear as to whether within site. All trees very drawn up in nature. Trees do not look like they are regularly pollarded. Damage to part of the boundary wall that remains and probably caused the damage to the wall that has failed at some point in the past. They also cast shade onto the Italian garden when it is replanted and also remove water and nutrients from the newly planted specimens within the garden area. Of moderate quality and value; of medium-term potential.	B (2)

No.	T.P.O no.	Species	Height	Trunk diameter	Radial Crown Spread	Crown Clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
24		Scots pine	16m	610mm (over ivy)	7.25m N 1.5m E 5m S 5m W	6m N 7m E 5m S 6m W	Mature	Below average	Moderate	Ground level access path immediately to N, significant disturbance to this area likely to be from roots. Steps to the W that lead down to the lower garden area have moved likely due to root activity within soil and possibly directly from incremental root growth; single trunk, ivy covered to 3m; structure typical for species although canopy shape compounded due to suppression from the adjacent on/offsite trees especially in lower canopy, is slightly sparsely foliated and the needles are not the lush dark green that you normally expect of this species; for this reason of low quality; of moderate value as stands on the S boundary. Of medium-term potential.	C (2)
25g		Yew	8m to 10m	50mm to 190mm	4.5m N 2m S	4m N	Young	Average	Moderate	Row of approx. 20 specimens growing along S boundary, all very drawn up in nature and heavily suppressed/overtopped by adjacent specimens to the S. Little foliage in the lower 2m. Along this boundary the remains of a covered walkway with many disturbed/broken flagstones; columns along the walkway at 3.75m to 4m centres built to hold a timber frame trellis. There is a retaining wall that gets slightly higher towards the W end and immediately S there is another retaining wall so they are growing in effect in a very small area and either are or are likely to damage these retaining walls in the future. Of low quality and value, but of long-term potential.	C (2)
26g		Yew	6m to 8m	50mm to 250mm	1m	3m NE	Young	Average	Moderate	Approx. 18 specimens growing along the S/SE boundary growing immediately adjacent to retaining wall associated with sunken pool. On the W side is a close board fence on the boundary. Roots are causing damage and will continue to cause damage to the Italian garden access path and retaining wall especially in this immediate area of the sunken pool. Canopies could be cut back and their regrowth managed but the screening they provide is only of low level and there are offsite trees providing screening between the site and the adjacent properties to the S. Of moderate quality but low value; but of long-term potential.	C (12)
27		Lombardy poplar	25m	870mm (over ivy)	3m	10m	Over-Mature	Average	Indifferent	Tree is growing on the S boundary, tree has caused significant damage to the Italian garden boundary walls and access path; single trunk, typical structure for species, heavily ivy covered into upper canopy increasing sail area of the tree in high winds; due to position of surrounding growth and ivy cover cannot carry out a more detailed inspection and at this time; of moderate quality and value; but of reduced potential.	C (12)
28		Lombardy poplar	24m	640mm (over ivy)	3m	9m	Over-Mature	Average	Indifferent	Growing on the S boundary causing damage to the Italian garden access path and boundary walls; single trunk typical fluted structure for species, heavily ivy covered into upper canopy increasing sail area of tree; due to position and ivy growth a detailed inspection cannot be completed at this time; of moderate quality and value; but of reduced potential.	C (12)

No.	T.P.O no.	Species	Height	Trunk diameter	Radial Crown Spread	Crown Clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
29g		Persian ironwood	Up to 11m	370mm @arf to 390mm @arf	6m NE 4m SE 5m SW 5m NW	0.5m	Mature	Average	Moderate	Pair of trees growing immediately adjacent to brick wall of Italian garden, lower trunks in contact with this retaining wall; no visual evidence of major damage but some cracking of brickwork adjacent could be connected with the pressure being exerted by the trees, both of which have prominent buttress surface roots. Both fork from within 500mm from ground level and have a branching habit suggesting that originally they were trained or pleached to provide screening. Branches from the two specimens are meshing together and consequently form a wide stretch of low level screening between the Italian garden and the remaining of the garden to the W, if to be retained would benefit from some retrenchment pruning.	B (2)
30		Sycamore	12m	370mm	4m N 2m E 4m S 4m W	4m NE	Middle aged	Average	Indifferent	Prominent buttress root; ivy-covered; one-sided crown as suppressed by adjacent specimens; of low quality and value; of short-term potential only.	C (12)
31		Holm oak	7m	190mm @arf	2m NE 2.5m SE 2m SW 2.75m NW	2m	Middle aged	Average	Indifferent	Self-seeded specimen; twin stemmed from base therefore of low quality but moderate value due to screening value; of short-term potential only.	C (2)
32		Holm oak	7m	200mm	2.5m	3m	Young	Average	Moderate	Self-seeded specimen; drawn up etiolated trunk therefore of low quality but moderate value due to screening value; of short-term potential only.	C (2)
33		Holm oak	7m	235mm	2.5m	3m	Middle aged	Average	Moderate	Self-seeded specimen; drawn up etiolated trunk therefore of low quality but moderate value due to screening value; of short-term potential only.	C (2)
34	T1 1971	Silver lime	24m	1075mm	10m N 11.75m E 10.5m S 11.5m W	3m	Mature	Average	Indifferent	Single stout upright trunk growing adjacent to lower tier corner of Italian garden; prominent buttress roots W and S sides, SE side 1m from base partially occluded wound has previously been filled with cement and painted with black bitumen, 1m in height, 150mm in diameter at widest point; from 2m into canopy break heavily ivy covered, has recently been severed at base, much basal epicormic recently removed up to 10mm-15mm in diameter. At 3m clear evidence of a grafting line and a change in bark appearance, at 5m trunk forks into co-dominant stems and at 1m high forks again into four co-dominant stems; ascending to a large well rounded canopy typical of the species; in some of the higher limbs evidence of cankers, SW at 6.5m old occluded pruning wound, evidence of an animal hole, bats/birds?; one of two larger more established specimens this side of the site; therefore of moderate quality; of high value. Of medium-term potential.	B (2)

No.	T.P.O no.	Species	Height	Trunk diameter	Radial Crown Spread	Crown Clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
35		Red oak	24m	1190mm @1m	9m N 9m E 1m S 6m W	3m 10m S	Over-Mature	Below average	Hazardous	Large stout upright trunk; at least three fungal brackets present, the largest of which at 0.5m on NE side is 300mm wide, probably *Ganoderma* ; surrounding area produces a change in tone when tapped with acoustic hammer; delamination of bark evident within this NE sector adjacent to bracket; on the E side from ground level to at least 2.5m to 3m there is a column of decay at least 800mm wide between these points. The trunk can be probed by at least 350mm up until 2.5m with little resistance found. Also black exudations around the trunk to at least 3m consistent with bacterial infection. At 3.5m forks into four stems, two co-dominant central leaders, two subsidiary stems to the S and N; stems ascend to a one sided canopy as suppressed SW by adjacent mature lime (T34), some large dead branches hanging within canopy, co-dominant stem to NE at 8m/9m historic storm damage, limb still hanging within canopy; of low quality; of moderate value but of little potential as at risk of failure.	R
36		Sweet Chestnut	16m	430mm	3m	3m	Middle aged	Below average	Indifferent	Growing on side of bank. Single, upright trunk; significant wound on E side from 4m to ground level, almost completely occluded except from 1.8m to 2.5m where up to 50mm wide, sound wood within; canopy suppressed, particularly on the SW side by adjacent red oak; sparsely foliated; above average deadwood. Tree of low quality and value, of reduced potential.	C (12)
37		Sycamore	14m	265mm	2m	5m	Middle aged	Average	Poor	Drawn-up specimen with Height/Diameter ratio greater than 50: at risk of failure if companion shelter removed; slightly leaning trunk; ivy-covered; of low quality and value; of short-term potential only.	C (12)
38		Sycamore	14m	365mm	2m N 4m E 2m S 2m W	3m	Young	Average	Indifferent	Slightly leaning trunk; ivy-covered; self-seeded specimen; of low quality and value; of short-term potential only.	C (12)
39		Sycamore	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Tree has been removed.	n/a
40		Sycamore	14m	455mm	5m	3m	Middle aged	Average	Moderate	Prominent buttress root; many surface roots, damaged on upper sides, probably by machinery; twin stemmed from 3m; of low quality but moderate value; of short-term potential only.	C (2)
41		Unknown	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Tree has been removed.	n/a
42	T5 1971	Hawthorn	7m	450mm (over ivy)	2m	0m	Middle aged	Below average	Hazardous	Lower 2m of trunk leans heavily to the NW; large tear-out wound on this side from 3m where co-dominant stem has split away leaving wide section of exposed and heavily decayed wood; heavily ivy covered; suppressed canopy, overtopped by adjacent trees; above average deadwood. Of very low quality and value and of no potential; at risk of collapse.	R
43		Sycamore	14m	530mm (over ivy)	5m NE 5m SE 4m SW 4m NW	2m	Middle aged	Average	Indifferent	Prominent buttress and surface roots, many damaged on upper sides, to the W of slightly leaning trunk; heavily ivy-covered; one-sided crown as suppressed by adjacent specimens; of low quality and value; of short-term potential only.	C (12)