LandscapeCollective

Findings of the Arboricultural Assessment - Tree Survey

Vernon House

5-8, St Mark's Square, London

On behalf of SAV Group

March 2018

Project Ref: LC/00256

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1.0 INTRODUCTION

1.1 Landscape Collective were instructed by SAV Group to carry out a tree survey in accordance with BS: 5837:2012 on land at Vernon House, 5 – 8 St Mark's Square, London and hereafter referred to as 'the site' (see Appendix 1).

1.2 The scope of this assessment was to visit the site and to survey relevant trees in accordance with BS5837:2012 '*Trees in relation to design, demolition and construction – recommendations.'* Landscape Collective have also been instructed to ascertain any potential arboricultural impacts to the arboricultural resource in light of the development proposals.

1.3 The following information is therefore contained within this report:

- Tree survey report
- Schedule of tree survey data
- Tree Survey Plan showing preliminary tree constraints

1.4 For the purposes of carrying out the assessment, Landscape Collective were provided the following background information:

- Cadmap Services - Topographical Survey – February 2018 – Drawing number CM/18027/T.

The Study Area

1.5 The site of the proposed development is within St Mark's Square, at the junction of Princess Road and Regents Park Road, London. To the north-east of Regents Park. The site (the building) is located at 5 – 8 St Mark's Square, and includes the back garden to the property.

1.6 The surrounding area has an urban character with mostly medium to large residential properties and gardens. The site can be viewed from houses mainly to the west of the site.

1.7 The road corridors in this part of Central London, tend to have more trees than other areas of London. The density of tree cover increases as one approaches Regent's Park. Regents Park is approximately 150m from the site. Many of the residential properties in the area have medium to large trees in the back gardens.

1.8 The trees and shrub cover within the public realm make a valuable contribution to the visual amenity of the area giving it a leafy verdant character.

1.9 The ground level of the site is fairly level. The trees surveyed within this document are located to the north of St Mark's Square.

- Nearest post code: NW1 8JJ
- Grid ref (eastings, northings): 528253, 183784

1.10 The majority of the development site comprises a roughly rectangular area of back garden, with hard paving, some shrub planters, evergreen and deciduous shrubs mainly planted along the garden boundaries. A linear group of trees runs along the western edge of the site.

1.11 Descriptions and accompanying photos will be provided under the 'Tree Survey Findings' section of the report.

Site Visit

1.12 Landscape Collective visited the site on 6th March 2018. Individuals present on site: Stuart Hocking CMLI.

1.13 All trees were surveyed (see Appendices 2 and 3) in accordance with BS: 5837:2012 (Appendix 6 – Methodology).

Planning Status

Statutory Tree Protection

1.14 The author of this document is informed by Camden Borough Council (telephone conversation (16th March 2018) that the site is located within the Primrose Hill Conservation Area.

1.15 Within Conservation Areas Protection is afforded to any trees 75mm or larger in diameter. Any tree works require prior approval from the Local Planning Authority before works are carried out. The Local Planning Authority require 6 weeks prior written notice of the works you propose to carry out. You can be fined up to £2,500 for pruning a tree without permission, or £20,000 if you destroy or remove a tree.

1.16 Two trees within the southern edge of the site are covered by Tree Preservation Order. No other trees on the adjacent roads are covered by a Tree Preservation Order.

1.17 The following information is included for advisory purposes.

Tree Preservation Order

1.18 Notwithstanding specific exemptions and in general terms, a TPO prevents the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of trees or woodlands without the prior consent of the local planning authority.

1.19 Penalties for contravention of a TPO tend to reflect the extent of damage caused but can, in the event of a tree being destroyed, result in a fine of up to £25,000 if convicted

in a Magistrates' Court, or an unlimited fine if the matter is determined by the Crown Court.

1.20 On many non-residential sites (excluding specific exemptions) there is also a statutory restriction relating to tree felling that relates to quantities of timber that can be removed within set time periods. In basic terms, it is an offence to remove more than 5 cubic metres of timber in any one calendar quarter without having first obtained a felling license from the Forestry Commission.

1.21 Any proposed tree works that are planned to be carried out on site must be carried out in accordance with the statutory controls outlined.

Statutory Wildlife Protection

1.22 Although preliminary visual checks from ground level of likely wildlife habitats are made at the time of surveying, detailed ecological assessments of wildlife habitats are not made by the arboriculturist and are not required/agreed as part of the this application.

1.23 Trees which contain holes, splits, cracks and cavities could potentially provide a habitat for bats in addition to birds and small mammals. It is recommended that in line with any accompanying specialist advice, any tree works should only be carried out following a detailed climbing inspection to the tree to ensure that protected species or their nests/roosts are not disturbed. If any are found, the project manager, site owner or consulting arboriculturist should be informed and appropriate action taken as recommended by a Statutory Nature Conservation organisation such as Natural England.

1.24 It is advised that tree/hedgerow works are carried out with the understanding that birds will generally nest in trees, hedges and shrubs between March and August. Ideally, operations should be avoided during this period. Any necessary work should only be carried out following a preliminary check of the vegetation.

1.25 For information, the Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act 2000 (as amended) and the Conservation of Habitat and Species

Regulations 2010, form the basis of the statutory legislation for flora and fauna in England.

2.0 SUMMARY OF SURVEY FINDINGS

Existing Arboricultural Resource

2.1 The tree survey comprises eight individual trees. Five of the trees are located in the back garden: Four of the back garden trees form a linear belt of trees mainly along the western edge of the site. There is also a small multi-stemmed tree on the opposite, eastern boundary. There are two other trees adjacent and within the south-west corner of the site. One further tree is outside the site, within the streetscape.

2.2 Within the back garden there are also some small ornamental shrubs mainly within planting beds around the boundary walls of the back garden.

Tree Survey Summary

2.3 A summary of the survey is shown below:

2.4 In total eight items were surveyed; eight individual items. One surveyed item (T6) was considered to be high quality (Category A) with an anticipated useful life expectancy of in the region of 40+ years. Five surveyed items were considered to be moderate quality (Category B) with an anticipated useful life expectancy of in the region of 20+ years. Two surveyed items were considered to be low quality (Category C) with an anticipated useful life expectancy in the region of 10-20+ years. No surveyed items were considered unsuitable for retention (Category U).

2.5 The species in the site include lime, sycamore, robinia and fig. Off site to the south-west the species include rowan.

2.6 All the trees are classed as mature trees, except for T8 in the southern corner classed as semi-mature. All the trees have had some pruning of lower limbs and/or limb loss over the years. The trees along the western boundary within the site have been regularly pollarded to form a screen between the site and adjacent houses. To trees within the south-west

corner of the site, the pruning would have been undertaken mainly to allow for traffic clearance on adjacent roads and pedestrian thoroughfares.

2.7 Of the eight items surveyed, the quality and useful life expectancy is varied. The useful life expectancy for the trees within the site ranged from 10+ to 20+ years. The trees along the western site boundary were fairly uniform in size, however the northernmost lime had major wounds on the south side resulting from limb breakage in the past.

2.8 Future management may include careful monitoring of the health of retained trees within the site as regular pollarding will often give rise to weak unions. The trees within and adjacent to the south-west corner of the site have a life expectancy of between 20+ and 40+ years.

2.9 The trees within the south-west corner of the site are within the London streetscape and therefore have higher public amenity and landscape value than the trees on the site that are partially visible from very limited locations within the public realm. However the trees within the site are also an important landscape feature, as they are visible from the rear of neighbouring private houses in a built up area.

2.10 The root protection areas (rpa) as shown on drawing LC 00256_01 show that part of the site is covered by the rpa of the trees. However the coverage is likely to be more, as the roots to the trees along the western boundary will have probably extended into the site , rather than under the brick boundary wall. However the reugular pollarding of the trees would most likely have restricted their growth.

2.11 The rpa for T6 and T7 are unlikely to extend into the area within the footprint of the building, because of hard landscaping and construction restrictions (voids created by stairwell to basement) around the base of the trees. Similarly T8 is within Princess Road paved area and the rpa is well outside the site building footprint.

2.12 Selected photographs of the site are shown below:

1

2

3

4

(1) T1 – T3 are limes and T4 is a sycamore, all pollarded and adjacent to the western boundary wall of the site. (2) Regrowth/suckers on T2. (3) Damage to T1 from limb breakage. (4) T5 (multistemmed) against the eastern boundary wall, attached to trellis/posts to support the limbs.

5

6

7

8

(5) T6 and T7 combine to give good landscape amenity value. (6) The canopy of T6 within 1m of the building. (7) T7 forked with possible included bark and weak union. (8) T6 and T7 viewed looking east along Regents Park Road. T8 (off-site) is semi mature located within the pavement of Princess Road.

3.0 PRELIMINARY TREE CONSTRAINTS

3.1 In accordance with BS5837:2012, below ground constraints, or root protection areas (RPAs), for the surveyed items have been plotted onto the tree survey plan for the site. These are represented as a circle centred on the base of each tree stem with a radius of 12 times stem diameter measured at 1.5m above ground level.

3.2 With reference to BS5837:2012, a root protection area (RPA) is defined as a 'layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure should be treated as a priority' (BS:5837:2012 p.4 para. 3.7). The default position, when considering design layout in relation to RPAs, should be that structures are located outside the RPAs of trees to be retained.

3.3 BS5837:2012 states (p.11 para. 4.6.2) that, 'Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced'. The BS goes on to state that 'Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution'. Any deviation from the original circular plot should consider:

- morphology and disposition of roots;
- topography and drainage;
- soil type and structure; and
- the likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management (BS: 5837:2012 p 11, para 4.6.3).

3.4 Root systems can be damaged in several ways as follows:

- Severance of a root will destroy all parts of the root beyond that point. The larger the root severed, the greater the impact on the tree. If roots are damaged close to the trunk, the anchorage and stability of the tree can be affected;

- The root bark protects the root from decay and is also essential for further root growth. If damage to the bark extends around the whole circumference, the root beyond that point will be killed;
- Soil compaction, which may occur from storage of material or passage of heavy equipment over the root area, can restrict and even prevent gaseous diffusion through the soil, and thereby asphyxiate the roots. The roots must have oxygen for survival, growth and effective functioning;
- Lowering the soil level will strip out the mass of roots near the surface;
- Raising soil levels will have the same effect as soil compaction;
- Incorrect selection and application of herbicide; and
- Spillage of oils or other harmful materials.

3.5 Above ground constraints posed by trees describe the capacity for trees to have an overbearing or dominating effect on new developments. Typical above ground constraints include a number or combination of inconveniences including shading, branch spread, movement of trees during strong winds and so on. If not adequately considered, above ground constraints can lead to repeated requests to fell or heavily prune retained and protected trees.

3.6 The colour-coded categorisation of tree quality is also shown on the tree survey plan.

4.0 SUMMARY AND CONCLUSIONS

4.1 Of the eight items surveyed, the quality and useful life expectancy is varied. The trees along the western site boundary were fairly uniform in size, however the northernmost lime is of poorer quality than the other western boundary trees. Future management may include careful monitoring of the health of retained trees within the site as regular pollarding will often give rise to weak unions. The trees off site to the south-west of the site have a life expectancy of between 20+ and 40+ years.

4.2 The trees within the site are an important landscape feature, as they are visible from the rear of neighbouring private houses in a built up area.

4.3 The root protection areas (rpa) as shown on drawing LC 00256_01 show that part of the site is covered by the rpa of the trees. However the coverage is likely to be more, as the roots to the trees along the western boundary will have probably extended into the site, rather than under the brick boundary wall. However the regular pollarding of the trees would most likely have restricted their growth.

4.4 The rpa for T6 and T7 is unlikely to extend into the area within the footprint of the building, because of hard landscaping and construction restrictions (voids created by stairwell to basement) near the base of the trees. Similarly T8 is within Princess Road paved area and the rpa is well outside the building footprint.

4.5 In total eight items were surveyed. One on-site surveyed item was considered to be high quality. Five items considered to be of moderate quality and two items were considered to be low quality.

APPENDIX 1 – SITE LOCATION PLAN

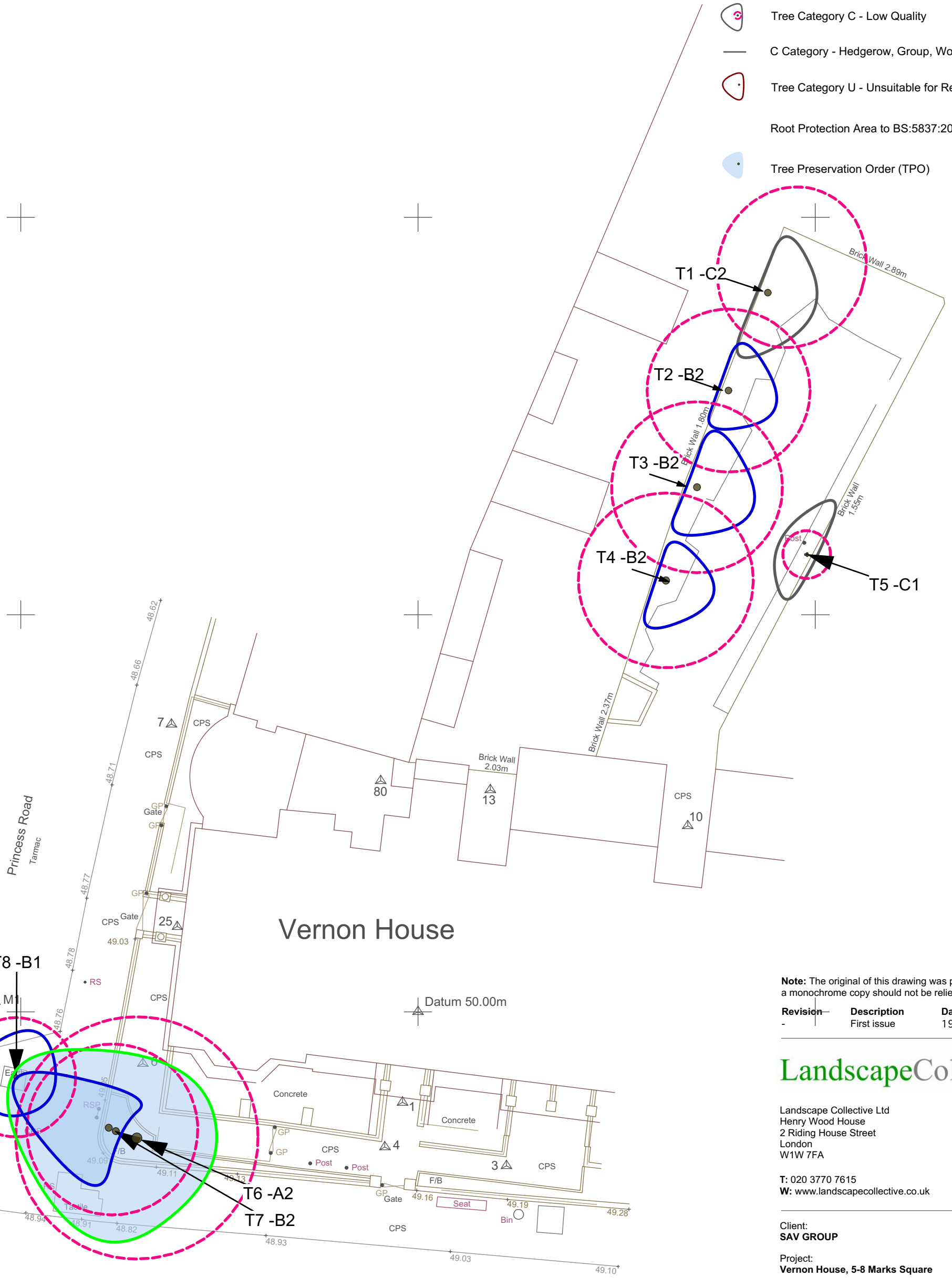
APPENDIX 2 – TREE SURVEY SCHEDULE

Ref no.	Species	Ht. (m)	Stem				Crown Spread (m)								Life stage	ULE	Physiological Condition	Structural Condition and Notes	Management Recommendations
			Stem Count	Stem dia. (mm)	RPA radius	RPA area	Category Grading	N	E	S	W	Ht. 1st Br. (m)	Est.	1st Br. Direction	Ht. Can. (m)				
T1	Lime	8.5	1	340	4.1	52	C2	3.0	2.5	3.5	1.0	2.0	-	North	2.0	M	10+	Poor	Has had regular pollarding in the past, the western side is kept especially ruined back. Adjacent to brick wall (<30cm from the brick boundary wall). Regrow the at the base. Regrow the at the base. Major wounds at approx. 3m on the south side of two main limbs, with exposed heartwood.	Retain if possible
T2	Lime	8.0	1	340	4.1	52	B2	2.5	2.5	2.0	0.5	2.5	-	North	2.5	M	20+	Fair	Has had regular pollarding in the past, the western side is kept especially ruined back. Adjacent to brick wall (<30cm from the brick boundary wall). Regrow the at the base.	Retain if possible
T3	Lime	10.5	1	360	4.3	59	B2	3.0	3.0	2.5	0.5	2.0	-	South	2.0	M	20+	Fair	Has had regular pollarding in the past, the western side is kept especially ruined back. Adjacent to brick wall (<30cm from the brick boundary wall). Regrow the at the base.	Retain if possible
T4	Sycamore	9.5	1	370	4.4	62	B2	2.0	2.5	2.5	0.5	2.5	-	South	2.5	M	20+	Good	Has had regular pollarding in the past, the western side is kept especially ruined back. Adjacent to brick wall (<30cm from the brick boundary wall). Regrow the at the base.	Retain if possible
T5	Ficus	4.0	3	100	1.2	5	C1	3.0	0.5	2.5	1.5	1.5	-	-	1.5	M	10+	Good	Ok shape to the crown. Pruned in the past. 3 x stems (all from base) tied to boundary fence for support.	Retain if possible
T6	Robinia	15.0	1	510	6.1	118	A2	3.0	4.0	5.5	6.5	6.0	-	East	6.0	M	40+	Good	Good crown shape. Has been pruned in the past, especially on the road side probably for vehicle clearance. The canopy is approx. 1m From the building (north side canopy). Leaning slightly to the south-east. Growing in a small planting bed with T7 and one stump, with low brick surround.	Retain.
T7	Robinia	13.0	2	355	4.3	57	B2	2.0	0.5	3.0	5.5	3.0	-	North	3.0	M	20+	Good	Forked at 1m. Suppressed by T6 to the east. Not a good crown shape, but with T6 makes good architectural landscape quality. In small planter with T6. Probable compression fork at 1m.	Retain
T8	Rowan	6.0	1	250	3.0	28	B1	2.5	2.0	2.0	2.0	2.5	-	East	2.5	SM	20+	Good	Small street tree within pavement area. Evidence of some pruning. Slightly suppressed by T6	Off-site. Retain

APPENDIX 3 – TREE SURVEY PLAN

KEY - BS 5837 : 2012 Categories

- Tree Category A - High Quality
- A Category - Hedgerow, Group, Woodland
- Tree Category B - Moderate Quality
- B Category - Hedgerow, Group, Woodland
- Tree Category C - Low Quality
- C Category - Hedgerow, Group, Woodland
- Tree Category U - Unsuitable for Retention
- Root Protection Area to BS:5837:2012
- Tree Preservation Order (TPO)



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Note: The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

Revision	Description	Date
-	First issue	19/3/18

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Client:
SAV GROUP

Project:
Vernon House, 5-8 Marks Square

Description:
Tree Survey

Status:
For Planning

Scale:	Drawn I Checked	Date:
1:200 @A3	**SH SW**	**19/03/2018**

Job Number:	Drawing Number:	Revision:
LC 00256	**01**	**-**

APPENDIX 4 – METHODOLOGY

Tree Survey Methodology

Tree Survey

1.1 The tree survey was carried out with reference to the methodology set out in BS5837:2012 *'Trees in relation to design, demolition and construction – Recommendations'.* Trees were not tagged.

1.2 Trees were surveyed individually or as groups where it was considered that they had grown together to form cohesive arboricultural features either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally (including for biodiversity). However, where it was considered that there was an arboricultural need to differentiate between attributes trees within groups/woodlands were also surveyed as individuals

1.3 Tree survey findings are recorded in the tree survey schedule.

1.4 Within the tree survey schedule, each surveyed tree (T) on or adjacent to the site is given a reference number which refers to its position on the tree survey plan.

1.5 Also shown on the tree survey plan are quality grading and preliminary tree constraints: root protection areas.

1.6 *Tree species*: listed by common name.

1.7 *TPO Ref:* This column is only completed in cases where Landscape Collective have been instructed to undertake a TPO search and correlation with survey item reference numbers.

1.8 *Heights:* measured in metres. They are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.

1.9 *Trunk diameters:* measured in millimetres and are rounded to the nearest 10mm. Single stemmed tree diameters are measured at 1.5m above ground level or, where a fork or swelling makes this impractical, at

the narrowest point beneath. Diameters of multi-stemmed trees are calculated as *'combined stem diameters'* according to specific guidance set out within BS5837:2012 (p.10, para 4.6.1 a and b).

1.10 *Crown spreads:* taken at the four cardinal points to derive an accurate representation of the tree crown. They are recorded up to the nearest half metre for dimensions up to 10m and to up the nearest whole metre for dimensions over 10m. For trees assessed as groups or woodland, an estimated mean radial crown spread in metres is taken for trees at the 80 percentile size.

1.11 *Crown clearance:* expressed both as existing height above ground level of first significant branch along with its direction of growth (e.g. 2.5m-N), and also in terms of the overall canopy. Measurements are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.

1.12 *Estimates:* where any other measurement has had to be estimated, due to inaccessibility for example, this is indicated by a "#" suffix to the measurement as shown in the tree survey schedule.

1.13 Life stage:

- Y – young (stake dependent);
- SM - Semi-Mature (still capable of being transplanted without preparation, up to 30cm girth and not yet sexually mature);
- EM – Early Mature (not yet having reached 75% of expected mature size);
- M – Mature (anything else up to normal life expectancy for the species);
- OM – Over Mature (anything beyond mature and in natural decline); and

- V – Veteran (any tree displaying characteristics described by Natural England).

1.14 *Management Recommendations:* recorded in relation to a tree's structural and/or physiological condition (e.g. the presence of any decay and physical defect) and /or any preliminary management recommendations that may be appropriate. This is NOT intended to comprise a specification for tree work; further advice should be sought prior to implementation. Trees assessed as being in apparently immediately hazardous condition will be notified to the client separately as soon as practical.

1.15 *Physiological condition:*

- Good (Generally in healthy condition. No indications of impaired physiological function and in optimum condition for age and species);
- Fair (Condition satisfactory though below mean species performance, with indicators of reduced vitality. Some intervention may be required);
- Poor (Tree in decline/retrenching, with significantly impaired physiological function for age and species); and
- Dead (self-explanatory).

1.16 The above are informed by the following;

- Leaf size and colouration – unless otherwise state, leaf size and colouration is typical of the age and species; and
- Canopy density – unless otherwise stated, the canopy density of trees is typical of the age and species.

1.17 *Structural Condition & Notes:*

- Good (without any observable significant biomechanical structural weaknesses);
- Fair (with minor biomechanical structural flaws. Some remedial action may be required); and

- Poor (with significant biomechanical weaknesses requiring intervention particularly where risk management is required).

1.18 Notes on the apparent structural integrity of the tree are based upon visual tree assessment, including notes on form, taper, forking habit, storm damage, wood decaying fungi, pests and disease etc. plus other pertinent observations.

1.19 *Anticipated useful life expectancy (ULE)*: the length of time a tree is estimated to be able to make a safe useful contribution to local amenity is expressed in years as: <10, 10+, 20+, 40+.

1.20 *Category Grading:* individual trees, hedgerows, groups of trees, and woodlands are assessed in terms of quality and benefit within the context of proposed development and graded into one of four categories (U, A, B, and C) which are differentiated on the tree survey plan by the colours indicated below:

Category U (Red)

1.21 Unsuitable for retention. Trees in such a poor condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

Retention Implications to a site

1.22 Not a material consideration in the planning process but may have other benefits i.e. ecological benefits/importance.

Category A (Green)

1.23 Trees of high quality with an estimated remaining life expectancy of 40 years.

Retention Implications to a site

1.24 Tree should be retained and amendments to a proposed scheme should be identified in preference to tree removal.

Category B (Blue)

1.25 Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Retention Implications to a site

1.26 Where possible amendments to a proposed scheme should be considered in preference to tree removal.

Category C (Grey)

1.27 Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

Retention Implications to a site

1.28 The retention of trees may be advantageous in the short term, but they should not be seen as a constraint to development.

1.29 A, B and C trees have also been given a sub-category of 1, 2 or 3 which reflects their arboricultural, landscape or cultural and conservation values respectively. Each subcategory has an equal weight, for example an A1 tree has the same retention priority as an A3 tree.

1.30 Trees have been assigned 'U' or category grading A-C in accordance with the cascade chart given in BS: 5837:2012.

1.31 In addition to the category, the tree survey schedule also describes each tree's root protection area (RPA) in terms of radius (metres) and overall area (sq metres).

Proposal

1.32 This column identifies;

- RET – Trees that will be retained – a defensible view of tree retention/removal balance

- PRET – refers to 'partial retention' of hedgerows (H), tree groups (G), and woodlands (W)
- REM – Trees that will be removed - trees that can defensibly be removed to facilitate development
- U – Trees identified to be unsuitable for retention due to their existing condition

Limitations

1.33 This report has been undertaken in compliance with BS: 5837:2012 and is not intended to be a tree safety survey. This report is prepared for planning application purposes only and does not evaluate the degree of risk posed by trees. Any notes offered regarding structural integrity of trees are to be considered incidental. Our recommendations given for immediate intervention should be put in the hand of the owner/site manager as soon as reasonably practicable.

1.34 Trees are dynamic living organisms as well as self-supporting dynamic structures, capable of achieving considerable size and structural complexity. Their physiological and structural condition can change rapidly in response to a wide range of biotic/abiotic factors. They are exposed to and can become damaged by the elements and by human activity, and have co-evolved with decay causing organisms that can degrade and sometimes destroy their structural integrity. The laws and forces of nature dictate a natural failure rate even among trees that appear healthy and structurally sound. They therefore have the potential to fail structurally, without prior manifestation of any reasonably observable symptoms. By their very nature, therefore, it is not possible to categorically state that any tree is 'safe' or hazard free. Tree surveys and/ or tree inspections are inherently a snap shot in time of the structural and physiological conditions of the trees concerned.

1.35 It is beyond the scope of this report to comment in relation to structural damage – direct or indirect, existing or potential – that might be associated with vegetation growth, or vegetation-related soil subsidence or heave.

1.36 Unless otherwise stated, all such surveys/inspections are undertaken from ground level and no internal inspections or tests have been undertaken.

1.37 Any management recommendations set out within this report are of an advisory and preliminary nature only and relate to trees within the context of current site use.

1.38 The findings and recommendations of this report should be considered time-limited for planning purposes to a maximum of 24 months from the date of this report (absent revisions of BS5837, which render pre - existing data obsolete).