

1-38-5003

# REPORT

on the impact on trees

of proposals for development

at

2A Strathray Gardens, London, NW3 4NY

(10<sup>th</sup> January 2020)



Registered Consultant of the Arboricultural Association  
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## 01

### Introduction and Instructions

I am instructed by Green Studios on behalf of clients to make an assessment of tree amenity value and condition of trees at 2A Strathray Gardens, London, NW3 4NY and of the impact of a proposal for development (a modular back garden studio) on such trees. Accordingly, I visited the property on 8<sup>th</sup> January, 2020 in order to carry out an inspection.

## 02

### Copyright

#### 02.01

Copyright is retained by the writer. This is a report for the sole use of the client(s) named above. It may be copied and used by the client in connection with the above instruction only. Its reproduction or use in whole or in part by anyone else without the written consent of the writer is expressly forbidden. The appended schedule of tree work, and the plan, may, without the written consent of the writer, be reproduced to contractors for the sole purpose of tendering.

## 03

### Notes

#### 03.01

##### PLANS

1-38-5003/P1 gives an approximate representation (in plan) of actual crown form, and is intended to indicate the relationship of neighbouring trees to each other, and should be read with the comments on crown shape and tree value in TREE DETAILS appended. The plan gives a quick reference assessment of value as per section 4, table 1, of BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'. Assessment of value in the TREE DETAILS table appended is, in accordance with this British Standard related mainly but not exclusively to the criterion of *visual value to the general public*. The Standard recommends a way of classifying trees when assessing their potential value in relation to proposed development. Some surveys may not include any trees of one or more categories. Table 1 suggests categories 'U', 'C', 'B' and 'A', in ascending merit. 'U' (**RED crown outline on plan**) category trees are dangerous \ low value trees that could require removal for safety or arboricultural reasons. 'C' (**GREY or black/uncoloured crown outline on plan**) category trees are of no particular merit, but in adequate condition for retention. 'A' category trees (**GREEN crown outline on plan**) are trees of high vitality or good form, or of particular visual importance: 'B' (**BLUE crown outline on plan**) category are good trees but may be of slightly poorer form or be not sited as importantly as 'A' category trees. See TREE DETAILS appended. Category Assessment appears in column 10. This standard also provides a way of determining an area (see TREE DETAILS column 7) – the RPA – root protection area - around the trunk of the tree in which protective measures should be used in order to prevent significant damage to trees. There are various ways of achieving this. A simple way is to use exclusion fencing, but other methods have been shown by established use to be very effective.

### 03.02

1-38-5003/P2 shows proposed retained trees and is colour-coded to indicate where arboricentric methods are proposed during the construction process.

## 04

### Sources and Documents

Ground level inspection.

Supplied plans :

Green Studios drg. no. INV0351 rev. A

## 05

### Appraisal

#### 05.01

##### AMENITY / SCREENING BY TREES AND SHRUBS

The trees surveyed are of little significant general public amenity value, as they are not visible from any truly public viewpoint, lying as they do in the back garden of the property. Trees 1 and 2 are within this context fairly prominent but have been pollarded repeatedly which has of course removed their natural form. Certain other items are of strictly local amenity value to owners / users of the site, and to those of adjoining properties, as they provide a useful low-level screening function.

#### 05.02

##### TREES AND LAYOUT - POTENTIAL FOR CONFLICT WITH ROOTS

(Details appear in the tree detail table appended.) The figures in columns 5 and 6 in the Tree data table appended indicate the root protection area ('RPA' below), and typically the basic exclusion fence position. New materials and methods have been developed and continue to be developed that assist in promoting the successful retention of trees in association with constructed features. It should be noted that BS 5837:2012 (section 7.4.2) supports 'up and over' methods of construction where appropriate. The design principle of this method is outlined within Arboricultural Practice Note 12 (Through the Trees to Development, - a revision of APN 1, 1996, published originally by AAIS / Tree Advice Trust). This method has been used for many years on the recommendation of John Cromar's Arboricultural Co. Ltd. and has successfully allowed the retention of mature trees very close to construction activities.

#### 05.03

RPA is an abbreviation used in BS5837:2012, signifying the *root protection area*. An assessment as per BS5837:2012 section 4.6.2 has been carried out in connection with the plotting of all RPAs of all trees. (This section requires that site conditions such as location of structures, tree mechanics, etc., are taken into account in determining the likely position of roots.)

#### 05.04

##### ROOTS and DESIGN

SRP is an abbreviation for *static root plate*, (after *Mattheck*, 1991, etc.) a radial dimension derived from trunk diameter based on studies of wind-thrown trees and thus a guide to where *structurally* significant roots are likely to be located. The RPA is a guide to where *systemically* significant roots are likely to be located.

#### 05.05

No significant encroachment on the RPA of any retained tree is entailed. Micro-



piles (see image left) are used by the supplier and installer. These are installed by hand-held tools. Arboricentric methods commensurate to the methods of construction are proposed below. It is perhaps useful to note that in the writer's now extensive experience gained over more than a third of a century in arboriculture, tree-damaging construction operations are mainly those that degrade or compact the ground surface within the RPA, for example by uncontrolled access by mechanical excavators, dumpers, etc. As none of these are required for this fully manual installation, the writer having supervised several by this supplier/installer, all trees to be retained can be

adequately protected by marker exclusion fencing and other measures as indicated below.

#### 05.06

##### PERCEPTION OF TREES

The proposed building is a garden studio and therefore not continuously habited. In view of the above I conclude that shading by and perception of trees has been considered (as sections 5.3.4 and 5.6.2.6 of BS 5837:2012 recommend) and appear not to be negative factors.

#### 05.07

Processing by the LPA of any due application from future owners for permission to carry out tree work will no doubt be carried out with due regard for good arboricultural practice and according to British Standard 3998:2010 'Tree Work – Recommendations'. In any appeal that might arise against refusal of LPA consent to reduce inappropriately, or fell trees, common arboricultural criteria to those of the LPA would be used by any specialist tree inspectors of the Planning Inspectorate, and thus the trees would in my view be thus protected against inappropriate work. I consider that any such notional issues are very likely to be dealt with appropriately as no doubt in the past they have been within the Borough, as such tree/building juxtapositions are far from rare.

#### 05.08

##### SUPERSTRUCTURE AND TREE APPRAISAL - TREE PRUNING

I note from the elevation drawings supplied that some minor encroachment on the crowns of retained trees will occur. The proposed structure will entail the pruning of some lower branches only. The minor pruning required is of no importance to the health or appearance of the retained items, and can easily be addressed by tree surgery in accordance with BS5837:2012 5.3.4 ( c ) NOTE 2,

7.7.3, etc., and is within the bounds of good arboricultural practice / British Standard 3998:2010 'Tree work – Recommendations'. A schedule for the use of a contractor appears below.

#### **05.09**

##### **TREE REMOVAL APPRAISAL and REPLACEMENT PLANTING**

Please see section 08 for comments on the individual item proposed for removal. The British Geological Survey information for the area indicates that the underlying sub-soil is London Clay Formation – clay, silt and sand. This places no significant constraint on species selection for tree and other planting. See plan for location:

A= Mediterranean crab apple (*Malus trilobata*) 10-12cm girth 35L pot

It is typical for landscaping to be a reserved matter consequent to any grant of consent and for a full landscaping scheme to detail tree, shrub and herbaceous planting etc.

#### **05.10**

##### **PUBLISHED GUIDANCE IN RELATION TO TREES AND DEVELOPMENT**

In conserving trees on development sites, expected best practice is as in B.S. 5837 : 2012. Section 5.1.1 notes :

**"Certain trees are of such importance and sensitivity as to be major constraints on development or to justify its substantial modification : attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal."**

#### **05.11**

The above advice appears to have been considered in formulating proposals for development.

#### **05.12**

##### **CONCLUSION**

**I conclude that the construction proposed, subject to precautionary measures as outlined above and as per the recommendations outlined below, will not be injurious to trees to be retained, nor will require any trees of significant public amenity value to be removed. Any losses will be satisfactorily addressed by proposed planting.**

#### **05.13**

##### **SUPERVISION**

Supervision by and regular communication with an arboriculturist is typically an essential element of site management where trees are present and to be retained. I propose that this takes place at key points in the construction process, and additionally whenever required by the architect or LPA. These key stages are as per **OVERVIEW** below.

**05.14**

Note to LPA : if the Authority is minded to grant consent, it is invited to consider:

- a) the incorporation of the specific *order of implementation* of the arboricentric methods below into any Conditions applied.
- b) to specify in a Condition that any Construction Management Plan incorporates all the arboricentric methods herein.

Such measures are likely to maximise tree protection.

## OVERVIEW

It is highly important to tree health and vitality that construction activities are carried out strictly in accordance with the tree protection methods specified below. It is widely not understood that a **single** traverse of a root protection area by a mechanical excavator can cause **SIGNIFICANT** and **PERMANENT** (albeit temporarily invisible) damage to trees.

Any such machinery, including, for example, tracked piling rigs, shall be kept at ALL times outside the root protection areas (RPAs) as indicated in the Tree data table appended, and/or shall be subject to ARBORICENTRIC METHODS below.

Fences to protect trees shall be respected as TOTAL EXCLUSION fences. Hence, before any site activity, **including demolition**, the fence lines shall be complete.

Protective fencing and any temporary protection of ground surfaces will have to be removed in due course to allow finishing of landscaping, paving, etc., but this shall not take place until all need for vehicular access to the site has passed, and shall be agreed with arboriculturist / planners on site during progress of works.

Supervision by an arboriculturist appointed directly by the client (**not the main contractor**) should take place at key points in the construction process, and additionally whenever required by the architect, client, main contractor or LPA. These key stages are :

- 1) At site possession by contractor, outline all tree protection measures with site agent and resolve any issues arising.
- 2) Ensure tree work is carried out to specification and sign off.  
Ensure protective fencing is erected and completed as proposed.
- 3) Supervise laying of temporary ground protection and sign off.
- 4) Attend as required to supervise digging for and the laying of lighting cable ducts or services.
- 5) Approve any removal or adjustment of tree protection and sign off.



# PREPARATION

PLEASE READ WITH PLAN REFERENCE 1-38-4567/P2, APPENDED.

The Methods shall be implemented **in the order given** unless it is stated to the contrary.

## Method 1 : TREE WORK

Tree work shall be in accordance with the provided specification and good arboricultural practice, and to BS 3998:2010 'Tree Work - Recommendations'.

## Method 2 : ACCESS DEFINITION & TREE PROTECTION FENCING

This method applies as per the layout as shown on the plan (**pink** lines) and shall define the working space for the foot operatives, prevent straying into other root protection areas and minimise landscape disturbance. 100mm diameter tops fencing stakes placed at 4m intervals shall be driven at least 0.6m into ground. Plastic barrier material (see left) 1m in height shall be stapled to the stakes so as to form a continuous barrier.



## Method 3 : GROUND SURFACE HANDLING and PROTECTION

This method shall apply in the zone hatched **blue** on plan. NO levels reduction shall take place. This includes no 'scraping up' with a mechanical excavator or otherwise. Continuously abutted scaffold boards or manufactured boards shall be laid so as to completely cover this area. This area shall be used for pedestrian access only.

# CONSTRUCTION

## Method 4 : SERVICE TRENCHES

N.B. -This applies to ALL services : Electricity, gas, water, etc. Existing services shall be utilised wherever possible.

These methods shall apply generally within any RPA (**orange circles**).

1) The trench shall be opened with an air-spade to required depth.

OR

2) The trench shall be dug with hand tools only. Probes such as screwdrivers or steel rod <10mm diameter to determine root presence ahead of digging shall be used. The work shall proceed cautiously. No roots over 20mm diameter shall be cut. Roots 20mm or more in diameter unearthed shall be temporarily protected with bubble-wrap and insulating or gaffer tape while rest of trench is dug.

OR



3) Services shall be thrust-bored using trenchless techniques (compressed air-driven 'mole') at a depth of 700mm or more below ground level, entailing no surface excavation. Starter pits for rams shall be outside any RPA, or reception/starter pits shall be opened according to 1) or 2) above.

#### Method 5 : FOOTINGS and SUSPENDED SUPERSTRUCTURE

This method shall apply in the zone of **green honeycomb** on plan : micro-piles inserted with hand tools shall be used to form the footings . Steel supporting beams (as required), timber supports and timber superstructure shall, entailing no reduction of existing ground surface, be placed on the pile footings by hand, and all works shall be carried out by foot operatives.

#### Method 6 : STEP

This method shall apply in zone of **cyan fill** on plan. No reduction of levels shall take place. No wheeled or tracked machinery shall be used : construction shall be by means of hand tools. NO reduction in existing ground levels shall take place – no 'scraping up' with or without a mechanical excavator. A 2D geotextile such as 'Ekotex' shall be laid directly on the ground surface. Levels can be corrected by use of granite chippings NO FINES. Paving shall be laid open jointed and the joints rammed with granite chippings.

(All design subject to engineering approval, but used on other sites and known to be practicable and reliable).

07

#### General

If conflicts between any part of a tree and the building(s) arise in the course of development these can often be resolved quickly and at little cost if a qualified arboriculturist is consulted promptly. Lack of such care is often apparent quickly and decline and death of such trees can spoil design aims and can of course affect saleability, and reflect poorly on the construction and design personnel involved. Trees that have been the recipients of careful handling during construction add considerably to the appeal and value of the finished development.

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Date: 10<sup>th</sup> January 2020

Signed:



John C. M. Cromar, Dip.Arb.(RFS) F.Arbor A.

01582 808020 / 07860 453072

## APPENDICES

08

### Tree Data

Tree number	Tree type	Height	Height to lowest branch	Stem diameters	Radius of RPA if circle (mm)	RPA (m <sup>2</sup> )	Comments	Life expectancy (years)	Assessed BS5837 value category
1	hybrid black Poplar	12		850	10200	326.9	Pollarded to a height of about 9m last in 2017.	20+	C1
2	hybrid black Poplar	12		650	7800	191.1	Pollarded to a height of about 9m last in 2017	20+	C1
3	common holly	7.5		140, 120, 100	2517	19.9	Useful screen	40+	B1
4	crab apple	8	1.8	95, 80	1490	7.0	Young tree of high vitality useful in summer as a screening tree	40+	B1
5	pillar apple	6		70, 50, 50	1193	4.5	Heavily suppressed by adjoining black poplar poor form	10+	C1
6	ornamental willow	2.5		60, 40	865	2.4	Shrub form.	10+	C1
7	laburnum	4.5		50, 50, 40, 25	1020	3.3	Locally ornamental	20+	C1

In all cases, in the absence of negative comment on health/vitality and structure, normal physiological and structural condition should be considered to apply.

***Trees at 2A Strathray Gardens, London, NW3 4NY***

Please read in conjunction with plan 1-38-5003/P2. Trees outside the curtilage of the property may be included. Boundaries where marked should always be treated as notional, and no statement either implied or explicit as to the ownership of trees should be taken as definitive or precise.

Tree number	Tree type	Height	Stem diameters	Comments
3	common holly	7.5	140, 120, 100	Prune lower (<3m+GL) branches only on north side only to a radial spread of 1m to facilitate access. Work should be carried out with secateurs.
4	crab apple	8	95, 80	Prune lower (<3m+GL) branches only on south side only to facilitate access. Work should be carried out with secateurs.
5	pillar apple	6	70, 50, 50	Prune lower (<3m+GL) branches only on south east side only to facilitate access. Work should be carried out with secateurs.
6	ornamental willow	2.5	60, 40	Remove : grub out.

**NOTES:**

**This schedule notifies the LPA, where such notification is required, of intention to prune or remove trees in accordance with TCP Act 1990 Section 211. 42 days after notification should be allowed before proceeding with the work, during which time (and after) the LPA may place a Tree Preservation Order on the tree(s), thus requiring a formal application for any works to living wood.**

All tree work should be carried out to BS 3998 : 2010 'Tree Work - Recommendations'. The Wildlife and Countryside Act 1981 protects with certain exceptions all birds and their nests. It is an offence to destroy such nests or take or injure such birds in the course of tree works operations. If a tree is a bat-roost, a licence to work on the tree must first be obtained from the relevant Statutory Nature Conservation Organization (in England : Natural England 0845 601 4523.) Acting without a licence is likely to be justifiable only in acute emergencies threatening human life and where all other legally available option such as footpath diversion, fencing and warning signs cannot be applied.

**10**

**Plans**

1-38-5003/P1 v2

1-38-5003/P2 v2



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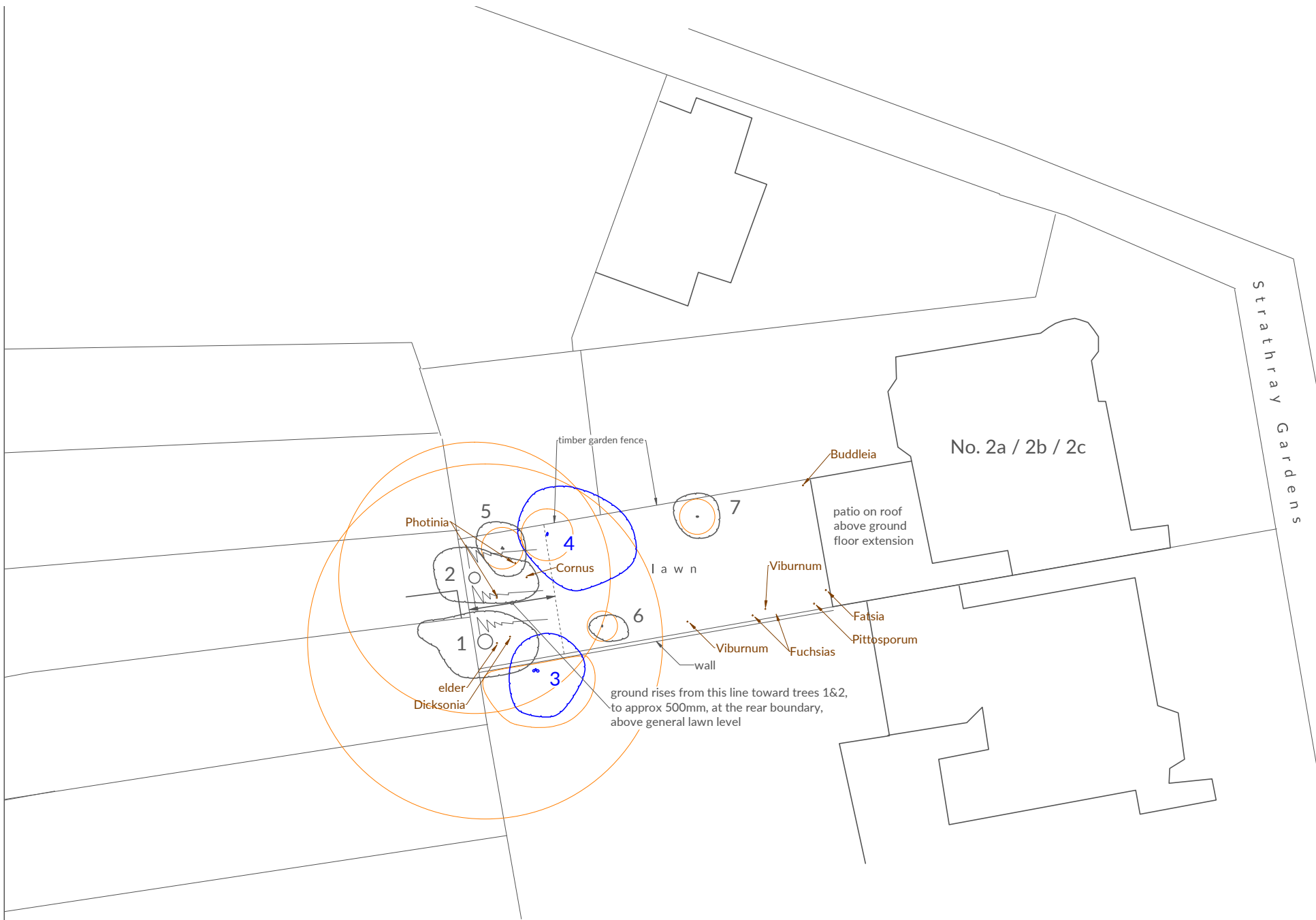
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**KEY TO COLOURS/LINETYPES  
USED IN RELATION TO TREES**

GREEN - High Value  
BLUE - Moderate Value  
BLACK - Low Value  
RED - Remove/Very short life expectancy  
ORANGE - SHARP'S Root Protection Areas

TOOTHED LINE: Tree spread line



**NOTES**

Do not use for setting out purposes.  
All dimensions to be checked on site.

DRG. NAME  
TREE VALUE ASSESSMENT AS PER  
BS 5837:2012 & ROOT PROTECTION  
AREAS

TEXT  
FOR FULL DETAILS OF TREE VALUE  
PLEASE SEE REPORT

BASED ON  
GREEN STUDIOS DRG. NO.: INV0351  
rev. A SUPPLIED

SITE ADDRESS  
2A Strathray Gardens, London,  
NW3 4NY

DRG. REF. REV. NO.  
1:38-5003/P1 v2  
SCALE & SIZE DATE  
1:100 @ A1 10-Jan-20  
0 5

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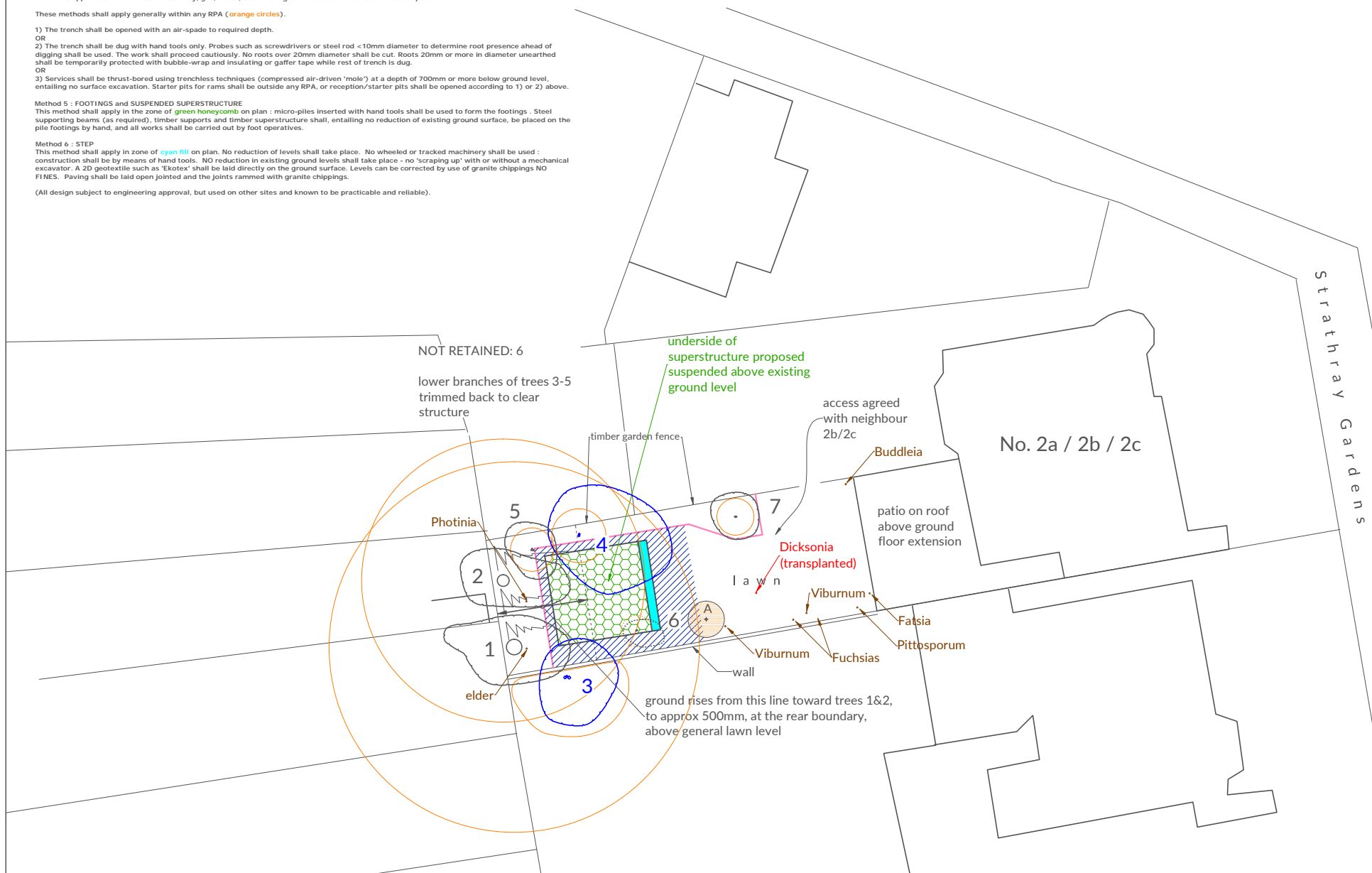
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**NOTES**  
Do not use for setting out purposes.  
All dimensions to be checked on site.

DRG. NAME  
TREE RETENTION & TREE  
PROTECTION MEASURES

TEXT  
FOR FULL METHOD DETAILS  
PLEASE SEE REPORT

BASED ON  
GREEN STUDIOS DRG. NO.: INV0351  
rev. A SUPPLIED

SITE ADDRESS  
2A Strathray Gardens, London,  
NW3 4NY

DRG. REF.	REV. NO.
1-38-5003/P2	v2
SCALE & SIZE	DATE
1:100 @ A1	10-Jan-
0	