

Arboricultural Impact Analysis

TREES

at and adjacent to

**144 Mill Lane
London
NW6 1TF**

for

Mr D Feldman

Skerratt

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1. Introduction

- 1.1 This report contains a detailed appraisal of 3 trees standing within or immediately adjacent to the boundaries of 144 Mill Lane, London NW6 1TF, in relation to proposed residential development.
- 1.2 The report considers the health and safety of the trees under their current growing conditions and assesses the likely impact of the proposed development measured against the advice and guidance set out in *BS5837 2012: Trees in relation to design, demolition and construction – Recommendations*.
- 1.3 The original site inspection for the tree survey on which this report is based took place on the afternoon of Friday 12 July 2013 in dry, sunny conditions. Tree survey data in this report have been amended where necessary.
- 1.4 This report was commissioned verbally by the client.
- 1.6 I have been provided with the following Steene Associates (Architects) Ltd drawings pdf format:
 - DB350-01 – Existing Plan
 - DB350-P01 - Site Location Plan
 - DB350-P02 – Site Block Plan
 - DB350-P03A – Proposed Plan
- 1.7 The **Tree survey plan** accompanying the detailed report of survey in **Appendix a** is based on Steene Associates (Architects) Drawing No. DB350-01 - Existing Plan together with on-site measurements. The **Tree constraints plan**, also in **Appendix a**, is based on the **Tree survey plan** with the footprint of the proposed development, taken from Steene Associates (Architects) Drawing No. DB380-P03A overlaid.

2. Background information

2.1 Site layout, boundaries and topography

- 2.1.1 The footprint of the proposed development occupies a rectangular space at the eastern end of the level rear garden of 144 Mill Lane.
- 2.1.2 The development space is level but about 500mm below that of the adjacent rear garden
- 2.1.3 Currently a brick-built, single-storey garage and store occupies most of the proposed development site. There is vehicular access to the plot from Mill Lane

2.2 Geology and soils

- 2.2.1 According to British Geological Survey (BGS) data, the site is situated on deep Palaeogene London Clay bedrock.
- 2.2.2 No soil sampling was carried out on site.

2.3 Planning constraints

- 2.3.1 The site is not within a Conservation Area
- 2.3.2 Trees 001 and 002 (Limes) are covered by a Tree Preservation Order (TPO).

2.4 The trees

- 2.4.1 The survey schedule in **Appendix a** describes in detail the 3 trees that are the subject of this report.

2.5 The proposed development

- 2.5.1 The development works to which this analysis refer include:
 - Demolition of an existing garage and store and the construction of a detached 2 storey annexe with a larger footprint
 - Associated external works

3. Discussion

3.1 General

- 3.1.1 The **Tree constraints plan** in **Appendix a** shows the Root Protection Areas of all 3 trees configured to take account of partial and complete barriers to root spread
- 3.1.2 In the case of Limes 001 and 002, the crowns of these trees have been very severely reduced in the past on a regular basis and as a result their stems are disproportionately large in relation to the crowns that they support.
- 3.1.3 If I use BS5837:2012 sizing criteria (based on stem diameter) to calculate the RPAs of these trees, the area of 001 is 73m² and 84m² for 002.
- 3.1.4 Because existing barriers to lateral root spread make it impossible to fit RPAs of this size into the available space, I have shown a smaller combined RPA for these 2 Limes which, in my view, gives a more realistic picture of the true extent of their root systems.
- 3.1.5 In the case of T003, a Silver Birch growing in the next door garden, I have assumed that, for the purposes of assessing the impact of the proposed development, the wall and floor slab of the existing garage/store is a total barrier to the spread of roots. The area of the re-configured RPA meets BS5837 size criteria.

3.2 Trees to be removed

- 3.2.1 It is not proposed to remove any trees in order to enable the development.

3.3 Trees to be retained

Limes 001 and 002: likely impacts below and above ground level

- 3.3.1 The extension of the existing garage/store footprint overlaps 4.8m² (just over 10%) of the combined RPA of 001 and 002.
- 3.3.2 Given their species and the management regime to which they have been subjected, I consider that both Limes will tolerate disruption of this magnitude without significant adverse impact upon on their future safe life and general health.
- 3.3.3 As long as the existing management regime is continued there will be sufficient space for the crowns of both trees and, because of their size, there will be no overhead and minimal lateral overshadowing.
- 3.3.4 In my opinion, a better long-term solution would be to remove T002 in the course of the proposed development and to replace it with a tree of smaller ultimate size a little further away, so that it can grow to natural full size without the accompanying risk of structural movement.

- 3.3.5 Such an approach would enhance the visual amenities of the locality in the short-to-medium term.
- 3.3.6 The successful establishment of a row of young Limes on the Holmdale Road frontage of the adjacent apartments immediately to the east of the proposed development site also renders the continued retention of Trees 001 and 002 less critical than it might at one time have been (see **Photograph 1** in **Appendix b**).
- Birch 003: *likely impacts below and above ground*
- 3.3.7 As long as *unnecessary* disruption is avoided I do not anticipate that this tree will suffer.
- 3.3.8 Above ground, it will be necessary to lift the crown on its southern side in order to create sufficient clear space for the proposed second storey but provided that the work is properly carried out in accordance with *BS3998: 2010 Tree Works*, there should be no adverse impact upon the tree's future prospects or its visual amenity value in its new context.
- 3.3.9 It will be important to control demolition works to ensure that the tree's stem and branches are not damaged at this early stage of the project.

4. Conclusions

- 4.1 Taking into account the management regime to which Limes 001 and 002 have been subject, it is my view that the development can be achieved without significant adverse impact upon these 2 small trees.
- 4.2 Birch 003 is unlikely to be significantly affected because of barriers to the lateral spread of roots (the existing boundary wall and garage floor slab) and the availability, within the plot in which it stands, of ample undeveloped open ground contiguous with its RPA.
- 4.3 However, the removal and replacement of Lime 002 would simplify construction works and help ensure the long-term continuity of the local tree resource.
- 4.4 Tree protection measures and appropriate working practices designed to minimise damage to retained trees should be set out in a simple **Arboricultural Method Statement (AMS)**.
- 4.5 A draft **Tree protection plan** showing the key protection measures is included in **Appendix a**.

Appendix a

Tree survey schedule

Tree survey plan

Tree constraints plan

Tree protection plan

Explanatory notes

For general information on any entry in the detailed survey text, refer to the notes below which are organised on a column by column basis.

Tree number

All trees have been numbered in the survey text to correspond to the location numbers shown on the accompanying Tree Survey Plan. No trees have been marked on site.

Species

Common English names have been used wherever possible and Latin names are listed (in brackets in *italics*) in all cases.

Dimensions

Height - are recorded in m.

Stem diameter – recorded in cm at breast height (1.5m) wherever possible. Where measurement at 1.5m is not possible, one of the alternative methods set out in *Annex C of BS5837:2012* has been used.

If the diameter has been measured at a different height, this has been recorded, e.g. 60cm @ 1m = 60cm diameter at 1m height.

Other abbreviations used:

av - average est - estimated
ms - multi-stemmed max – maximum gl - ground level

Crown spread - radial crown spreads in metres have been recorded at four points on the circumference of the crown (north, east, south and west). The Tree Survey Plan enclosed shows approximate crown shapes based on these measurements

Crown height - the height of the first major branch and the height of the lowest point of the crown are recorded in metres eg 3/3

Explanatory notes

Age

Y	Young	SM	Semi-mature
EM	Early mature	M	Mature
OM	Over-mature		

Where the precise age of a tree is known, it has been recorded in brackets adjacent to the general classification i.e. M(7).

Condition

Physiological condition

Gives a measure of biological vigour and of the presence or absence of disease, insect attack or other debilitating factors.

G	Good
F	Fair
P	Poor

Structural condition

Gives a measure of each tree's physical form and mechanical stability.

G	Good
F	Fair
P	Poor

Comments

See also **discussion** and **conclusions** in the accompanying report.

Explanatory notes

Recommendations

Preliminary management recommendations under existing conditions

Life expectancy

An approximate estimate for each tree's anticipated future safe life in the following ranges:

- <10 years
- 10-20 years
- 20-40 years
- 40+ years

Retention category

This grading is based on the recommendations set out in BS 5837:2012 *Trees in relation to design, demolition and construction -*

Recommendations. The categories are summarised in the standard as follows:

- A Trees of high quality with an estimated remaining safe life of at least 40 years
- B Trees of moderate quality with an estimated remaining safe life of at least 20 years
- C Trees of low quality with an estimated remaining safe life of at least 10 years, or young trees with a stem diameter below 150mm
- U Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years

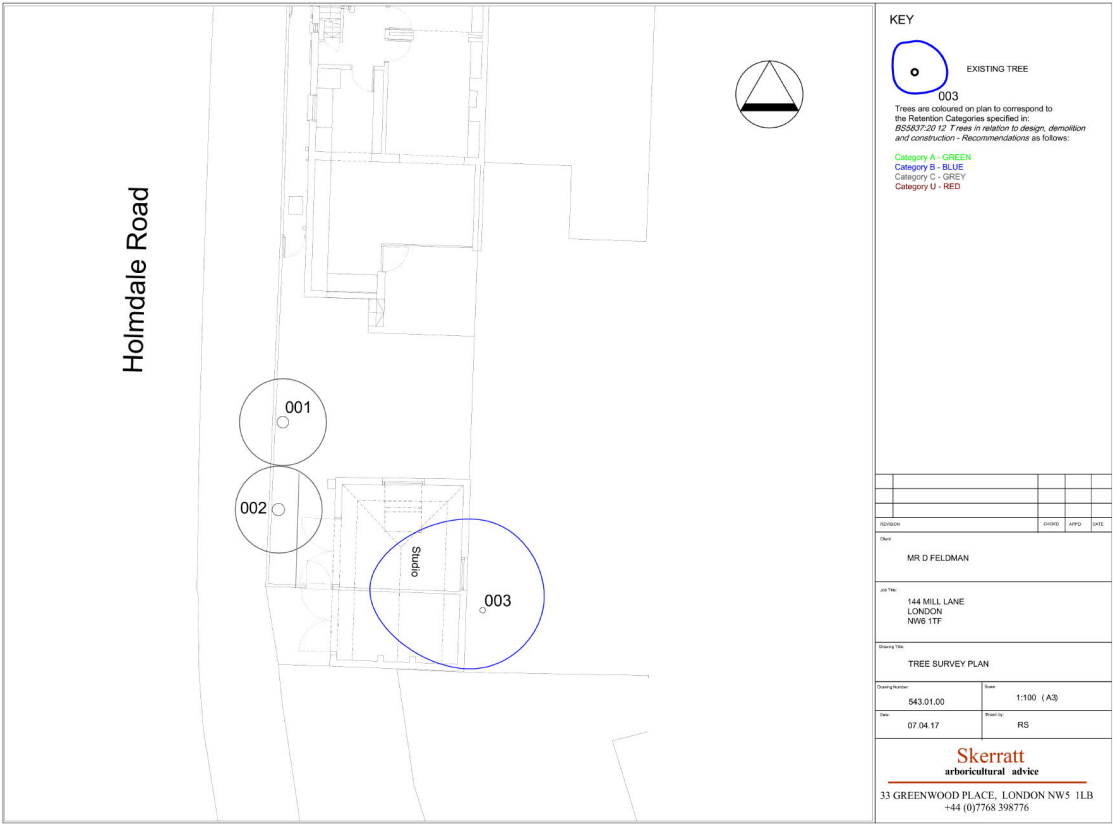
In addition the British Standard requires one or more subcategories to be applied to the main Retention Category. In summary these are as follows:

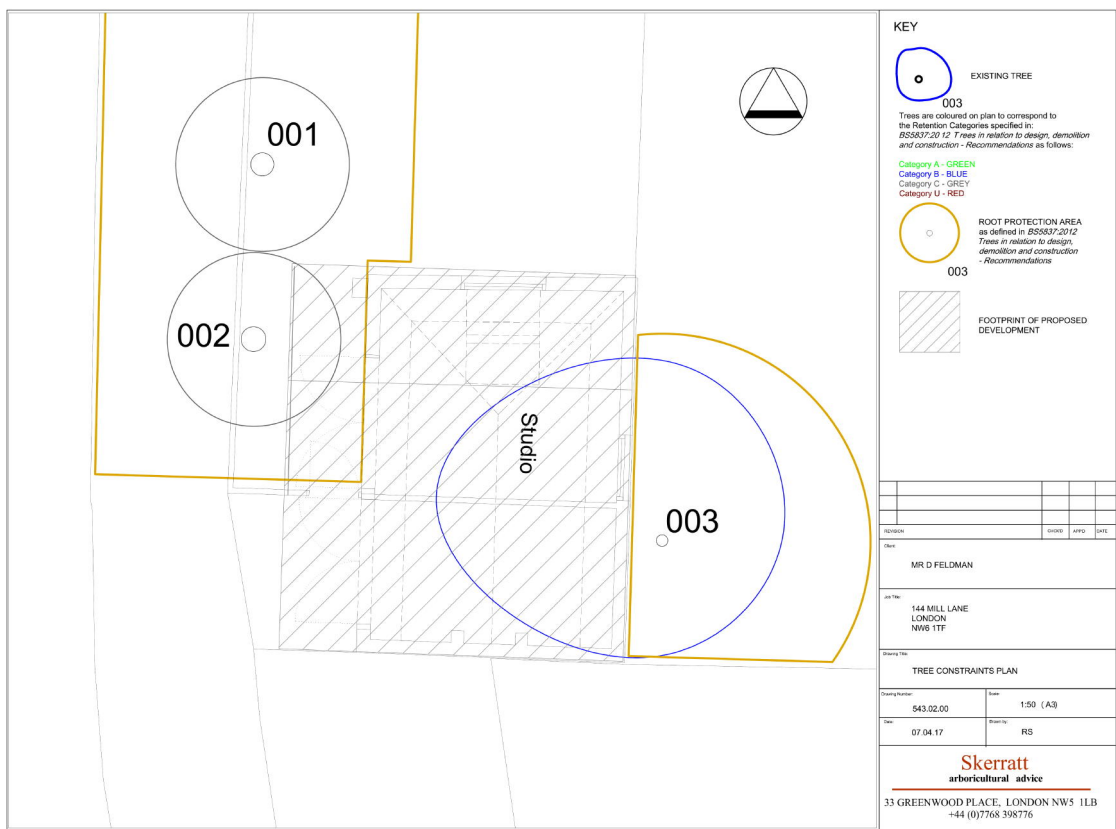
- 1. Mainly arboricultural qualities (that is individual aesthetic characteristics)
- 2. Mainly landscape qualities
- 3. Mainly cultural values, including conservation

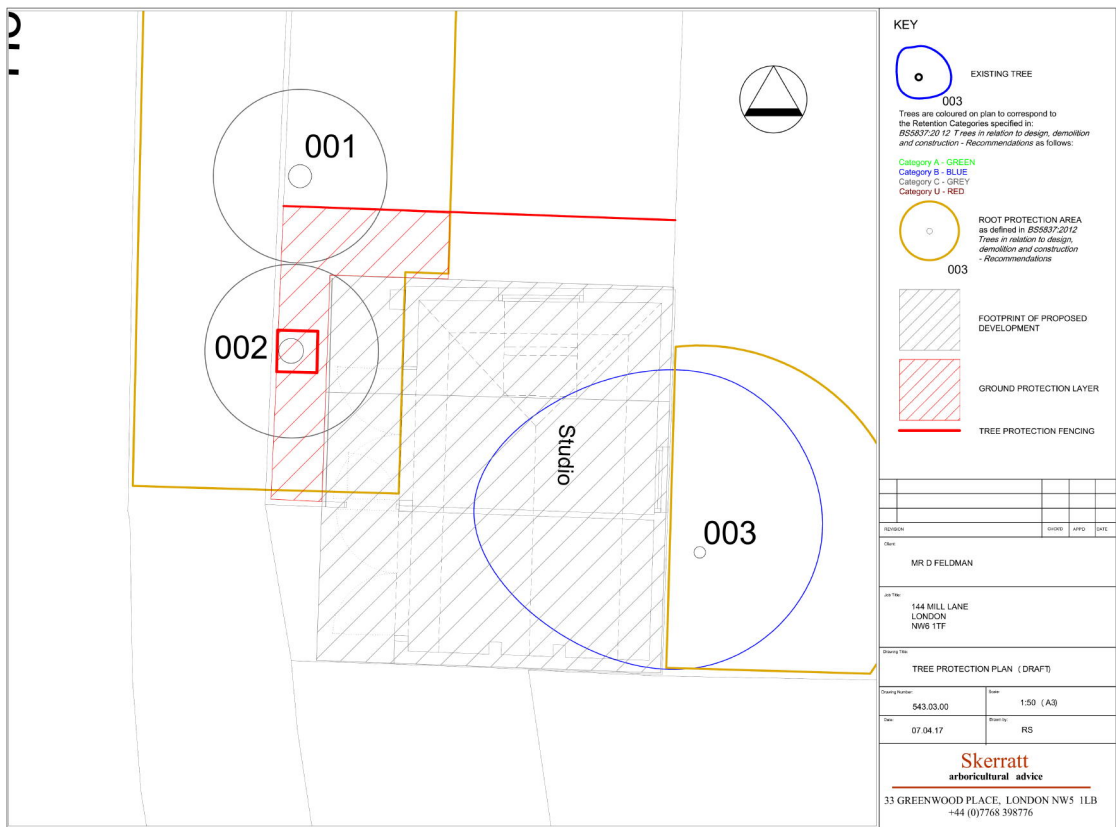
Tree survey schedule

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Tree No.	Species	Height (m)	Diam (mm)	Crown Spread (m)				Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Life Expectancy	Retention Category	Retention Sub-category
				N	E	S	W									
001	Lime (<i>Tilia x europaea</i>)	4	400	2	2	2	2	2/2	M	G	F	Single upright stem: crown pollarded but regrowing vigorously	Continue current maintenance regime	20-40	C	1
002	Lime (<i>Tilia x europaea</i>)	4	430	2	2	2	2	2/2	M	G	F	Single upright stem: crown pollarded but regrowing vigorously	Continue current maintenance regime	20-40	C	1
003	Silver Birch (<i>Betula pendula</i>)	13	200 est	2	2	4	3	4/4	SM	G	g	A single upright stem with a narrow but quite well balanced crown overall: stands in a neighbouring garden	No action required	40+	B	1/2







Appendix b

Photographs



Photograph 1: Limes 001 and 002 in foreground, Birch 003 on left edge of image, young Limes in Holmdale Road behind



Photograph 2: Trees 001 and 002 (2013)

Client: Mr D Feldman
Project: Arboricultural appraisal
Location: 144 Mill Lane London NW6 1TF

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