Arboricultural impact analysis

Trees

adjacent to

45 New Compton Street
London
WC2H 8DF

for

Medinbrand Ltd

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1. Introduction

1.1 This report contains a detailed appraisal of 5 trees standing in the churchyard of St Giles-in-the-Fields Church, in relation to the proposed extension of an adjacent building, 45 New Compton Street, London WC2H 8DF.

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 site investigation on which this report is based took place on the early afternoon of Wednesday 14 March 2018 in bright sunny conditions.

1.4 The report was commissioned by Square Feet Architects on behalf of the client in an email dated 16 March 2018.

1.5 I have been provided with the following Square Feet Architects drawings in digital format (pdf):

- 1720_L_010 – Existing Ground Floor Plan
- 1720_L_110 Rev B – Proposed Ground Floor Plan

1.6 The **Tree constraints plan** in **Appendix a** is based on Square Feet Architects Drawing No. 1720_L_110 Rev B – Proposed Ground Floor Plan with the footprint of the existing building, taken from Square Feet Architects Drawing No. 1720_L_010 - Existing Ground Floor Plan, overlaid.

2. Background information

2.1 Layout, boundaries and topography

2.1.1 45 New Compton Street is a 5-storey, mid-20th Century apartment block standing in an irregularly shaped, level, hard-surfaced plot that abuts the churchyard of St Giles-in-the-Fields Church on its eastern edge.

2.1.2 The churchyard is approximately 1500mm above the level of the site referred to in this analysis and the difference in levels is retained by a brick wall running along the eastern boundary of the churchyard. In total the wall is about 3000mm high.

2.1.3 The **Tree constraints plan** in **Appendix a** shows the existing site layout and the location of the trees.

2.2 Geology and soils

2.2.1 According to the British Geological Survey (BGS) data the site is located on Lynch Hill Gravels, Quaternary River Terrace deposits associated with the post-diversionary River Thames.

2.2.2 It is likely however that the natural ground surface has been disturbed on more than one occasion over the years, in the course of successive developments.

2.2.3 No on-site soil sampling was carried out.

2.3 Planning constraints

2.3.1 The trees are within the London Borough of Camden, Denmark Street Conservation Area but are not covered by a Tree Preservation Order.

2.4 The tree

2.4.1 The trees referred to in this analysis are described in detail in the **Tree survey schedule** in **Appendix a.** Their locations are shown on the **Tree constraints plans** in the same appendix.

3. Analysis

3.1 General

3.1.1 The **Tree constraints plan** in **Appendix a** shows the recommended Root Protection Area (RPA) for each tree, re-configured to take account of partial and complete barriers to the lateral spread of roots.

3.1.2 In this respect, I have assumed that the retaining wall running along the eastern boundary of the churchyard and the level difference that it contains are substantial barriers to the lateral spread of roots.

3.1.3 I have assumed a maximum lateral root spread of 1000mm into the site from the oldest and largest trees in the churchyard (Trees 001, 002, 004 and 005) but I suspect that, because of the 1500mm level difference, there may be none.

3.1.4 The RPAs highlight the primary potential area of conflict between proposed development and tree retention, namely conflicting demands for space at and below ground level.

3.1.5 I have considered above-ground conflicts in the analysis which follows, particularly headroom, lateral and overhead shading and perceived risk.

3.2 Likely impacts below and above ground level

Impacts below ground

3.2.1 The proposed development is a single storey extension to the footprint of the existing apartment building and there is no overlap between the proposed extension and the RPA of any of the trees considered in this analysis.

3.2.2 The hard-surfaced area between the western edge of the extended building and the boundary wall is to be sub-divided with fencing. The western edge of the fenced area is contiguous with the edges of the trees' RPAs, as drawn.

3.2.3 As long as unnecessary disruption is avoided, there is no reason why any of the trees referred to in this analysis should suffer an adverse impact below ground as a result of the proposed development.

Impacts above ground

3.2.4 The existing apartment building is already shaded by the trees on its western elevation.

3.2.5 Lateral and overhead shading, and the perception of risk in extreme weather conditions by occupants of the proposed extension will be very similar to that currently experienced by occuants of the first-floor apartments in the existing building.

3.2.6 There is already adequate headroom for construction purposes without the need for preparatory crown lifting.

4. Conclusions

4.1 As long as unnecessary disturbance is avoided, the proposed development referred to in this analysis, can be achieved without adverse impact upon the adjacent trees in St Giles-in-the-Fields churchyard.

4.2 Lateral and overhead shading and perception of risk in extreme weather conditions by future occupants of the extended building will be very similar to that experienced by the building's current users.

4.3 The draft (draft because it will be necessary to adjust its contents to coincide with the main contractor's construction management plan) **Arboricultural Method Statement (AMS)** accompanying this analysis sets out tree protection measures and appropriate working practices to ensure successful tree retention.

Appendix a

Tree survey schedule

Tree constraints 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 mm 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. 60 @ 1m = 60mm diameter at 1m height.
Other abbreviations used:

av - average	est/e - 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 accompanying Tree survey plan 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

Descriptive notes on the tree's shape, local environment and condition.

Recommendations

Management recommendations under existing conditions.

Explanatory notes

RPA radius

The radius of each tree's Root Protection Area (RPA) as defined in *BS5837:2012 – Trees in relation to design, demolition and construction - Recommendations*

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	RPA Radius (m)	Recommendations	Life Expectancy	Retention Category	Retention Sub-category
				N	E	S	W										
001	London Plane (*Platanus x hispanica*)	24	710	11	9	4	6	4/2	M	G	G	Single upright stem forks at 4m into 4 (previously pollarded - cut back to a branchless stem - at that height in the distant past): well proportioned spreading crown: stands off-site in St Giles churchyard	8.52	No action required	40+	A	1
002	London Plane (*Platanus x hispanica*)	20	790	7.5	9e	7	9	5/8	M	G	G	Single leaning stem: first lateral limb originates at 5m: quite well proportioned crown: stands off-site in St Giles churchyard	9.48	No action required	40+	A	1
003	Tree of Heaven (*Ailanthus altissima*)	12	190	4	5e	4	4	5/5	SM	G	F	Single slightly leaning stem: stands off-site in St Giles churchyard	2.28	No action required	20-40	B	1/2
004	Tree of Heaven (*Ailanthus altissima*)	27	630	7	9e	10	1	4/15	M	G	G	Single slightly leaning stem: first lateral limb originates at 4m: high ascending, quite well proportioned crown: stands off-site in St Giles churchyard	7.56	No action required	40+	B	2
005	London Plane (*Platanus x hispanica*)	26	860	8.5	7	8	11	2/3	M	G	G	Single upright stem forks at 2.5m into 3: well proportioned spreading crown: stands off-site in St Giles churchyard	10.32	No action required	40+	A	1

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Location: 45 New Compton Street, London WC2H 8DF
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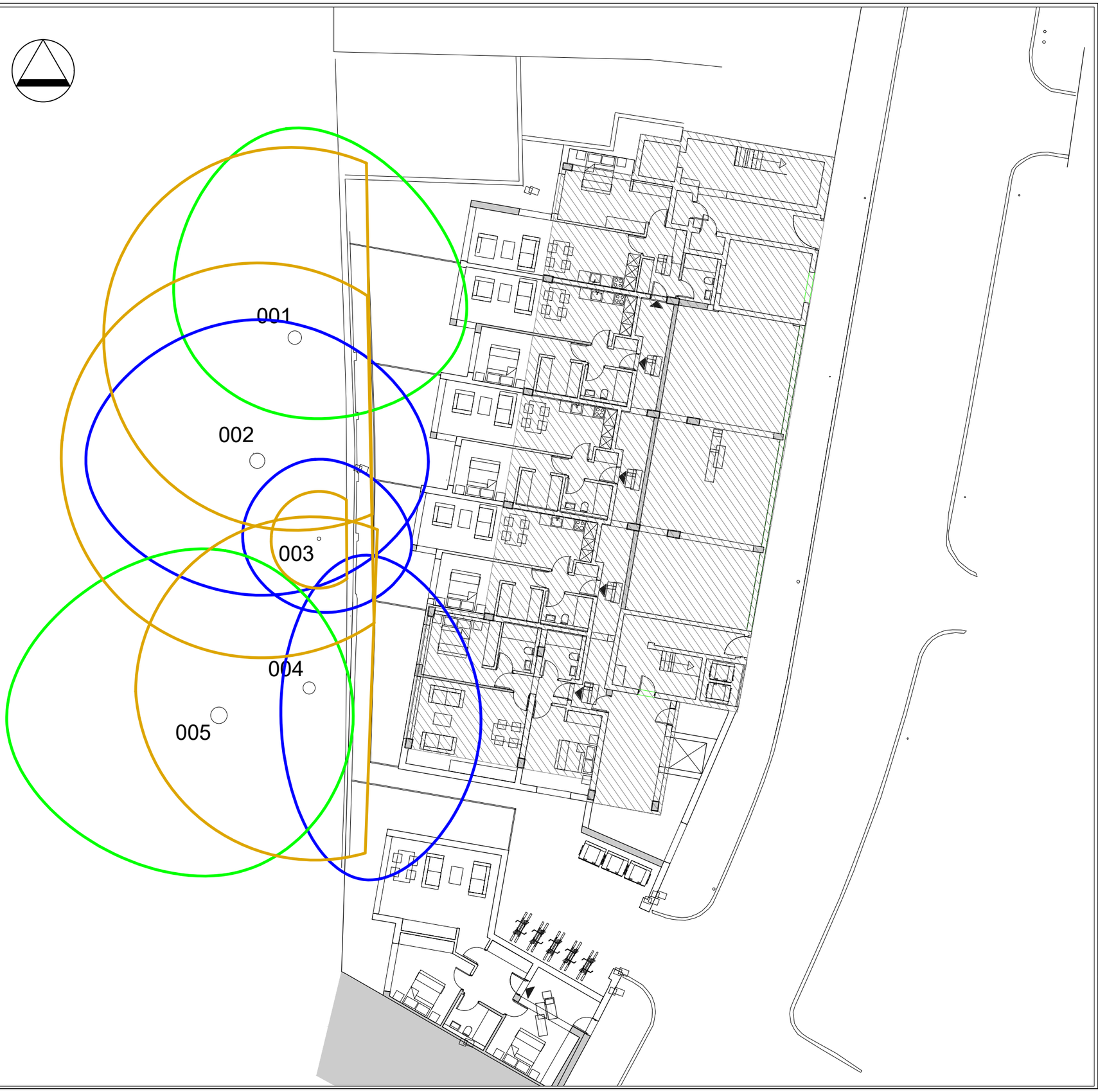
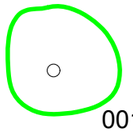


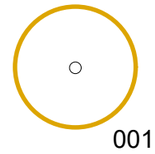
KEY



EXISTING TREE

Trees are coloured on plan to correspond with the Retention Categories specified in BS5837:2012 Trees in relation to design, demoltion and construction - Recommendations as as follows:

Category A - GREEN
Category B - BLUE
Category C - GREY
Category U - RED



ROOT PROTECTION AREA as defined in *BS5837:2012 Trees in relation to design, demolition and construction - Recommendations*

FOOTPRINT OF EXISTING BUILDING

REVISION		CHCK'D	APP'D	DATE

Client:

MEDINBRAND LTD

Job Title:

45 NEW COMPTON STREET
LONDON
WC2H 8DF

Drawing Title:

TREE CONSTRAINTS PLAN

Drawing Number:	Scale:
631.02.00	1:200 (A3)
Date: 14.03.18	Drawn by: RS

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arboricultural advice

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