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Arboricultural Report

Client: Mrs Caroline Jacobs
(On behalf of Sceales Gunn Design Ltd.)

Site: 56 Croftdown Road, London, NW5 1EN

Survey undertaken: Trees in relation to design, demolition and construction – Recommendations.

Author: Frank Parsons
Level 4 Diploma in Arboriculture

21st June 2016

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Appendices

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1. Background:

This report is in conjunction to the tree survey attached, which has been undertaken to identify any trees within or affected by the proposed development at the site address that should be removed or retained and therefore protected during the proposed development. This report will outline tree categorization methodology with reference to BS 5837:2012.
The proposed site is within a conservation area. The local authority is the London Borough of Camden.

2. Clients Brief:

- To undertake a tree survey within the rear gardens of affected properties. Plan supplied by Sceales Gunn Design Ltd.

- To provide an Arboricultural report identifying the trees to be retained, removed or worked on within the proposed development and outline and evaluate the constraints posed by the trees retained on site via:

- Root Protection Area (RPA) – Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of a tree, shown in plan form.

- Construction Exclusion Zone – Area based on the RPA, identified by an arboriculturalist, to be protected during development, including demolition and construction work, by the use of barriers and or ground protection, fit for purpose to ensure the successful long term retention of a tree.

- Tree Protection Plan (TPP) – Scale drawing prepared by an arboriculturalist showing the finalized layout proposals, tree retention and tree landscape protection measures detailed within the arboricultural method statement (AMS), shown in plan form.

- Arboricultural Implications Assessment – Study undertaken by an arboriculturalist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

- Arboricultural method statement (AMS) – Methodology for the implementation of any aspect of development that has the potential to result in loss or damage to a tree. N.B. The AMS is likely to include details of an on site tree protection monitoring regime, construction traffic management plan in relation to trees and a tree pruning schedule.

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3. Scope:

The survey has been conducted in accordance with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

4. Site Observations:

56 Croftdown Road is a mid terraced house located in NW5 within the London borough of Camden conservation area. The residential 3-storey house has an existing lower ground floor with steps down in the front garden. A number of neighbouring properties have installed lower ground floor extensions with light wells in the front gardens. The front elevation of house is north facing, the patio paved front garden contains front boundary bedding planted with shrubs that make up a hedge to 5ft in height. There is a semi mature street tree planted in between houses 56 and 54, and a further street tree planted 4m away form the front gate of 56 outside number 58. The weather at the time of survey was sunny with no wind.

5. The Proposed Development:

The proposed development is a lower ground floor extension within the existing footprint of the property and an installation of a light well in the front garden. Excavating approximately 1m of the lower ground floor gross internal area will achieve a useable 2450mm ceiling height. Steps into the front garden from the lower ground floor may be altered to achieve a lesser degree of incline from LGF door to street level.

6. (i) Tree Survey
Attached as a separate pdf documents: Reference - ***FP/TS/210***

(ii) Survey Map *- attached as a separate pdf document identifying tree numbers and BS Tree Categories: Reference –* ***TMS/56Croftdown Rd***

Below: Table 1 – Cascade chart for tree quality assessment

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Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those 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	• 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 category U trees (e.g. 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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see* ***4.5.7****.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

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(iii) Tree Constraints Plan:
Attached as a separate pdf drawing: Reference ***TCP/56Croftdown Rd***

(iv) Tree Protection Plan:
Attached as a separate pdf drawing: Reference ***TPP/56Croftdown Rd***

7. (i) ***Construction Exclusion zones (CEZ's):***

Barriers and/or ground protection should protect trees that are being retained on site before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers should be erected to create a construction exclusion zone. Erection and retention of a 2m high sturdy secure temporary fence, typically heras style, on a scaffold framework should be positioned along the CEZ calculated along side the RPA's of retained trees. In this instance the party wall in between 56 and 54 will act as a barrier to demarcate an area of no construction activity.
The construction method statement may outline proposal to erect hoarding to encase the entire front garden during the proposed development, isolating all demolition, excavation and construction activity. This should be communicated via the project manger at commencement of each stage of the development.

(ii) ***Recommendations to mitigate or eliminate damage to tree roots within RPA's***

(Not applicable on this site)

To mitigate severance of roots for foundation construction specialist methods should be used:
Piles, with site investigation used to determine their optimal location whilst avoiding damage to roots important for the stability of the tree, by means of hand tools or compressed air soil displacement, to a minimum depth of 600 mm;

Beams, laid at or above ground level, and cantilevered as necessary to avoid tree roots identified by site investigation. Designs for foundations that would minimize adverse impact on trees should include particular attention to existing levels, proposed finished levels and cross-sectional details. In order to arrive at a suitable solution, site-specific and specialist advice regarding foundation design should be sought from the project arboriculturalist and an engineer.

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(iii) ***Appropriate measures to eliminate or mitigate severance of roots for construction of a utility service***:

Mechanical trenching for the installation of underground apparatus and drainage severs any roots present and can change the local soil hydrology in a way that adversely affects the health of the tree. For this reason, particular care should be taken in the routing and methods of installation of all underground apparatus. Wherever possible, apparatus should be routed outside RPAs. Where this is not possible, it is preferable to keep apparatus together in common ducts. Inspection chambers should be sited outside the RPA.

Where underground apparatus is to pass within the RPA, detailed plans showing the proposed routing should be drawn up in conjunction with the project arboriculturalist. Trenchless insertion methods should be used with entry and retrieval pits being sited outside the RPA. Provided that roots can be retained and protected, excavation using hand-held tools might be acceptable for shallow service runs where applicable.

8. Arboricultural Implications Assessment:

The proposed lower ground floor extension and installation of light well do not infringe on any root protection areas calculated in the tree constraints plan (*TCP 56CroftdwonRd*). Excavation within the footprint of the existing property should not affect the neighboring tree at 54 Croftdown Road as the root spread radius has been calculated at 1.83m, well within its party wall boundary.

The street tree's radial root spread has been calculated at 1.91m, outside the front boundary wall of 56 Croftdown Road. However the canopy of T1 may be at risk of mechanical damage during the proposed development during unloading and loading of materials. Methodology to mitigate this damage is to follow in the AMS.

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9. Site Observations

Photo 1:
Taken shooting west, illustrating T1 as an established street tree in fair health outside the front boundary walls of 54 and 56 Croftdown Road.

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Photo 2: Illustrates T2 growing in the front garden of 54 Croftdown Road. The Sumac provides a high landscape contribution to the road and is well away from any proposed construction activity.

Photo 3: Illustrates the young undersized street tree recently planted outside 58 Croftdown Road. The planting pit is 4m away from the site access. Care should be taken not to damage he stem or canopy during the proposed development. CTMP outlines loading and unloading bay away from any street trees.

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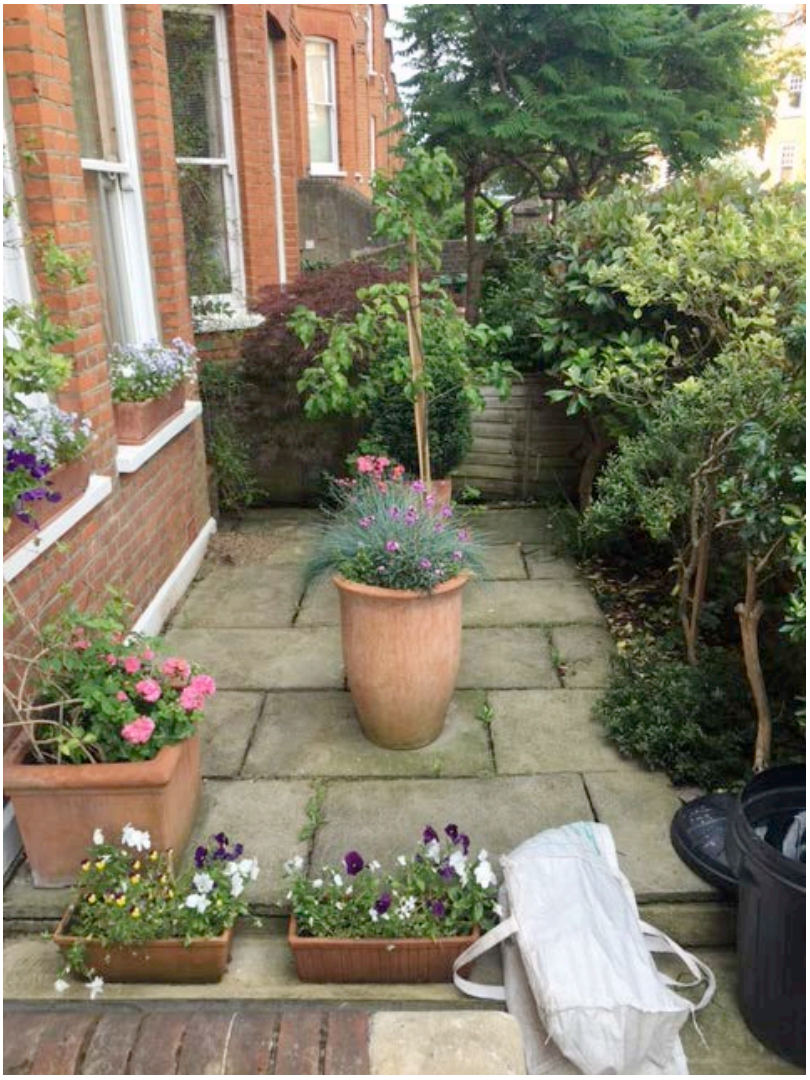
Photo 4: Illustrates the area proposed to install a light well for the LGF extension. Currently paved with a narrow planting bed along the front boundary wall, which contains various small shrubs that make up a hedge.



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10. Arboricultural Method Statement:

To ensure the health and existing vitality of trees that grow around the proposed site, the AMS should be used in conjunction with the tree protection plan attached to this report. (*TPP56Croftdown Rd*) See below trees that require protection during demolition and construction.

T1 – RPA fully incorporated within the CEZ. Erection of timber frame hoarding, 2.5m in height, around the stem to be installed prior to the proposed development would be reasonable to ensure no mechanical damage came to the stem or waste materials poured away within the planting pit during demolition and construction.

T2 – No action necessary. RPA fully incorporated within the CEZ.

11. CTMP – construction traffic management plan with regards to the newly established street tree outside 56 and 54 Croftdown Rd.

(i) ***Parking restrictions including deliveries and soil / rubble extraction:***

Under no circumstances are construction vehicles to unload, carry out crane or Hiab operations underneath the canopy of the street tree outside 54 and 56 Croftdown Road. The tree protection plan marks out and extraction route from the site access to the street directly outside the front gate to number 56. See photo below of where to suspend the parking bay during the proposed development.

Photo 5: Arrows mark out the area where parking should be suspended for construction vehicles.

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12. Conclusion:

Two trees that grow in the immediate area surrounding 56 Croftdown Road are protected by conservation area orders. None of the trees affected by the proposed development carry a tree protection order. This report alongside the Tree Protection Plan explains measures and methodology to protect retained trees during the proposed development as per BS 5837:2012.

The proposed excavation and construction will not cause desiccation of rooting areas of T1 or T2. Neither the rooting areas nor the canopies of these trees should be impacted during the proposed development as long as this report and the tree protection plan is communicated to contractors and followed throughout the duration of works.
The project arboriculturalist will oversee the tree protection plan prior to works commencing, during and after the proposed development.

*This report is to be submitted in conjunction with **Tree Survey** – FP_TS_210 **Site Plans** – TMS 56Croftdown Rd, TCP 56Croftdown Rd, and TPP 56Croftdown Rd.*

13. References:

- BS 5837:2012 – Trees in relation to design, demolition and construction – Recommendations
- Original scale site survey supplied by Sceales Gunn Design Ltd.

Tree Survey

Client: Caroline Jacobs
Site: 56 Croftdown Road London NW5 1EN
Date of Survey: 21st June 2016
Job reference: FP/TS/210

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Tree ID	Species	Height	Branch spread	DBH	Crown clearance	Age class	Physiological condition	Structural condition	Landscape Contribution	Estimated contribution	BS Cat'	Protection Radius
T1	Sorbus aucuparia (Rowan)	5.50m	N 1m E 1.5m S 1.5m W 2m	159.09mm	2.5m	Juvenille	Fair. No significant defects. Suckers present at base of tree.	Fair. Street tree. Torn branch scars on roadside, west of stem. Crossing branches in canopy.	High	20+	B	1.91m
T2	Rhus glabra (Smooth Sumac)	3.00m	N 0.5m E 1m S 1m W 1.5m	152.73mm	1.5m	Semi-mature	Fair. No significant defects. Deadwood throughout crown.	Fair. Neighbouring tree. No significant defects. Tree overhangs footpath.	High	20+	B	1.83m

Notes

1 Height describes the approximate height of the tree in meters from ground level.

2 The Branch Spread refers to the crown radius in meters from the stem centre and is shown on each of the four compass points (i.e. N, E, S, W).

3 DBH is the diameter of the stem measured in millimeters at 1.5m from ground level or just above ground level for multi stemmed trees. The diameter may be estimated (e), where access is restricted. An average is taken for tree groups.

4 Crown Clearance is the height in meters of crown clearance above adjacent ground level.

5 Physiological condition – Good (normal growth), Fair (below normal), Poor (sparse/weak), Dead (dead or dying tree). Individual observations are included in this section.

6 Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor – (major defects present or suspected), No significant defects – (defects of no concern present), Dangerous – (dead, diseased or dangerous). Individual observations are included in this section.

7 Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).

8 Estimated contribution is the tree's estimated remaining effective contribution in years.

9 BS Cat refers to British Standard 5837:2012 Table 1 category and refers to tree/group quality and value; 'A' - High, 'B' - Moderate, 'C' - Low, 'U' - Remove or very poor quality.

10 Protection Radius is a radial distance measured from the trunk centre and is used to calculate the BS RPA.

Public footpath

No. 58
tis side.

CROFTDOWN ROAD

No. 56 CROFTDOWN RD.

up

Site Access

ENTRANCE HALL

up

up

up

KITCHEN

SP

Red dashed line
denotes extent
of light well
construction.

FRONT LIVING SPACE

REAR LIVING SPACE

REAR GARDEN

rwp

Group of shrubs that
form a hedge.

No. 54
tis side.

T1- Rowan
Street Tree
NWR

EXISTING UPPER GROUND
FLOOR PLAN

Front Bay
window
of No.54

T2 - Sumac
Neighboring Tree
NWR

KEY:
Root Protection Area (RPA) - Red circle.
Trees to be retained - Inner Green circle.
NWR - No work required.

PROJECT:	56 CROFTDOWN RD.	DATE:	29TH JUNE 2016
DRG TITLE:	EXISTING UPPER GROUD FLOOR PLAN TREE CONSTRAINTS PLAN	NOTE:	ORIGINAL SCALE SITE SURVEY SUPPLIED BY SCEALES GUNN DESIGN.
DRG. NO:	TCP- 56CROFTDOWN RD		
REV:	21/06/16		
SCALE:	1:50 @ A3		

0 1m

Public footpath

No. 58
tis side.

No. 56 CROFTDOWN RD.

CROFTDOWN ROAD

up

Site Access

ENTRANCE HALL

up

up

up

KITCHEN

SP

Red dashed line
denotes extent
of light well
construction.

FRONT
GARDEN

FRONT LIVING SPACE

REAR LIVING SPACE

REAR GARDEN

rwp

Group of shrubs that
form a hedge.

No. 54
tis side.

EXISTING UPPER GROUND
FLOOR PLAN

Front Bay
window
of No.54

T1- Rowan
Street Tree

T2 - Sumac
Neighboring Tree

KEY:
BS Category
U - Red
A - Green
B - Blue
C - Grey

0 1m

PROJECT:	56 CROFTDOWN RD.	DATE:	29TH JUNE 2016
DRG TITLE:	EXISTING UPPER GROUD FLOOR PLAN TREE MANAGEMENT SYSTEM	NOTE:	ORIGINAL SCALE SITE SURVEY SUPPLIED BY SCEALES GUNN DESIGN.
DRG. NO:	TMS- 56CROFTDOWN RD		
REV:	21/06/16		
SCALE:	1:50 @ A3		

Public footpath

No. 58
tis side.

up

Site Access

Soil extraction
point to suspended
parking away from
canopy of T1.

ENTRANCE HALL

up

up

up

KITCHEN

STORAGE AND MIXING OF MATERIALS

Red dashed line
denotes extent
of light well
construction.

SP

CROFTDOWN ROAD

No. 56 CROFTDOWN RD.

FRONT
GARDEN

FRONT LIVING SPACE

REAR LIVING SPACE

REAR GARDEN

STORAGE AND
MIXING OF
MATERIALS

rwp

Group of shrubs that
form a hedge.

No. 54
tis side.

CONSTRUCTION EXCLUSION ZONE
INDICATED WITH YELLOW LINE.

T1- Rowan
Street Tree

Front Bay
window
of No.54

T2 - Sumac
Neighboring Tree

KEY:
Trees to be retained - Green
Trees to be removed - Red
CEZ (construction exclusion zone) - Yellow dotted line
Storage and mixing of materials - Purple dotted line

PROJECT:	56 CROFTDOWN RD.	DATE:	29TH JUNE 2016
DRG TITLE:	EXISTING UPPER GROUD FLOOR PLAN TREE PROTECTION PLAN	NOTE:	ORIGINAL SCALE SITE SURVEY SUPPLIED BY SCEALES GUNN DESIGN.
DRG. NO:	TPP- 56CROFTDOWN RD		
REV:	21/06/16		
SCALE:	1:50 @ A3		

0 1m