1 October 2018

Mountview Lodge

Findings of Tree Quality Survey

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Birmingham • Cotswolds • Exeter • London • Manchester

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Plan

Section 1: Introduction

Background and Scope

1.1. This report has been prepared by Tyler Grange LLP (TG) on behalf of Graham Shapiro to set out the findings of a BS5837 Tree Quality Survey at 9 Swiss Terrace, London NW6 4RR (hereafter referred to as the 'site').

1.2. The site is located to the north of Swiss Terrace, west of Finchley Road, and forms an urban context located in north London. The site occupies hardstanding and built form. Three street trees are located to the south of the existing Mountview Lodge unit on-site. This report provides details in relation to the existing tree stock within influence of the proposed works and is informed by a baseline assessment undertaken in accordance with BS5837:2012.

1.3. A planning application for a proposed development on-site, comprising the erection of a roof extension to provide new sixth, seventh and eighth floors to provide 8 new residential units, associated landscaping and external cycle parking at ground floor, is to be submitted to Camden London Borough Council.

Limitations and Un-assessable Risks

1.4. This report has been guided by the recommendations set out within the British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' (hereafter BS5837). The comments made are based on observable factors present at the time of inspection. Although the health and stability of trees in their current context is an integral part of their suitability for retention, it must be understood that this report is not a tree risk assessment and should not be construed as such. While every attempt has been made to provide a realistic and accurate assessment of the trees' condition at the time of inspection, it may have not been appropriate, or possible, to view all parts or all sides of every tree to fulfil the assessment criteria of a risk assessment.

1.5. No tree can be considered entirely safe, given the possibility that exceptionally strong winds could damage or uproot even a mechanically 'perfect' specimen. It is therefore usually accepted that hazards are only recognisable from distinct defects or from other failure-prone characteristics of the tree or the site. An assessment of the potential influence of trees upon existing buildings or other structures resulting from the effects of trees upon shrinkable load-bearing soils or the effects of incremental root or branch growth, are specifically excluded from this report.

1.6. Any alteration to the application site or development proposals could change the current circumstances and may invalidate this report and any recommendations made. A lack of recommended work does not imply that a tree does not pose an unacceptable level of risk and likewise, it should not be implied that a tree will present an acceptable level of risk following the completion of any recommended work.

1.7. The Wildlife and Countryside Act (WCA) 1981 (as amended) makes it an offence to disturb nesting birds or recklessly endanger a bat or its roost. Bats are also a European protected species and are additionally protected under the Conservation (Habitats & c) Regulations 1994 and 2010 (as amended). The survey findings, constraints, opportunities and design or mitigation recommendations included within that report must be read alongside this document.

Section 2: Arboricultural Planning Context

Arboricultural Planning Policy Context

2.1. Under the Town and Country Planning Act 1990 (as amended) the requirement to consider trees as part of development is a material planning consideration and will be taken into account in the determination of planning applications. Arboricultural planning policy that relates to the site is set out by policy at a National and Local level.

National Planning Policy

2.2. The National Planning Policy Framework (NPPF) is a material consideration in planning decisions and outlines the Government's planning policies for England, setting out how these are expected to be applied. The consideration for existing trees and woodlands in the context of planning and new development is set out within Section 15 'Conservation and Enhancing the Natural Environment'.

2.3. Paragraph 170 provides a series of prerequisites to inform how planning policies and decisions should contribute to and enhance the natural and local environment. This includes "protecting and enhancing valued landscapes" and "recognising the intrinsic character and beauty of the *countryside"*. The value of ecosystem services is also noted, including the "economic and other benefits of the best and most versatile agricultural land, and of trees and woodland".

2.4. Paragraph 170 also recognises the consideration for "minimising impacts on and providing net gains *for biodiversity"*. This includes the need to establish cohesive ecological networks that are "more resilient to current and future pressures".

2.5. Paragraph 171 addresses the need to take a "strategic approach to maintaining and enhancing networks of habitats and green infrastructure" adding that plans should be made for the "enhancement of natural capital at the catchment or landscape scale across local authority boundaries".

2.6. Paragraph 172 identifies the importance of conserving and enhancing landscape and scenic beauty in National Parks, the Broads and AONB, which are afforded the "highest level status of protection in relation to these issues". It highlights that development in such designated areas should be "*limited"* in terms of scale and extent, adding that "planning permission should be refused for major development other than in exceptional circumstances".

2.7. Paragraph 174 includes ways in which biodiversity should be protected and enhanced, such as plans that "identify, map and safeguard components of local wildlife-*rich habitats',* as well as "wildlife corridors and stepping stones that connect them".

2.8. Paragraph 175 highlights a series of principles that local planning authorities should apply when determining planning applications, stating that "if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused".

2.9. Paragraph 175 also adds that "development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensatory strategy exists".

Adopted Local Planning Policy

2.10. The site falls within the local planning authority of Camden London Borough Council. The Local Plan was adopted by Council on 3 July 2017 and has replaced the Core Strategy and Camden Development Policies documents as the basis for planning decisions and future development in the borough. A summary of local planning policies relating to arboricultural matters is provided below.

Camden Local Plan (2017)

2.11. Policy A2 states that *"The Council will protect, enhance and improve access to Camden's parks,* open spaces and other green infrastructure*"* (TG emphasis.)

2.12. Policy A3 relates to Biodiversity and states that *"The Council will protect, and seek to secure* additional, trees and vegeta*tion"* adding that the LPA will:

- resist the loss of trees and vegetation of significant amenity, historic, cultural or ecological value including proposals which may threaten the continued wellbeing of such trees and vegetation;
- require trees and vegetation which are to be retained to be satisfactorily protected during the *demolition and construction phase of development in line with BS5837:2012 'Trees in relation to Design, Demolition and Construction' and positively integrated as part of the site* layout;
- expect replacement trees or vegetation to be provided where the loss of significant trees or vegetation or harm to the wellbeing of these trees and vegetation has been justified in the context of the proposed development; and
- expect developments to incorporate additional trees and vegetation wherever possible.

2.13. In summary, the above local planning policy objectives affirm the importance of considering existing and proposed arboricultural features as part of new developments to ensure that their contribution to local biodiversity and Green Infrastructure provision is retained and / or enhanced.

Statutory Designations Relating to Arboriculture

2.14. TG contacted Camden Council's Tree and Landscape Officer on 18th September 2018 to confirm the presence of any Tree Preservation Orders (TPOs) within influence of the site. The Council confirmed that there are no TPOs or Conservation Area restrictions present in relation to the site.

2.15. As shown on the magic.gov.uk website, none of the surveyed trees are identified as Ancient Woodland (accessed 18th September 2018).

Section 3: Baseline Information

Tree Survey Methodology

3.1 A full tree survey of the site was undertaken on 13th September 2018. The survey was undertaken in accordance with BS5837:2012. For further clarification, please refer to the tree survey explanatory notes in Appendix 1.

3.2 In accordance with the above recommendations, the tree survey included all trees within / in influence of the site and the site boundaries that were over 75mm diameter at breast height (dbh). Measured topographical survey data was used to identify the surrounding context of the site but individual trees included within this survey have been plotted approximately (based on site measurements and informed by aerial photography) as these were not located on the topographic survey data.

3.3 The trees surveyed were visually inspected from ground level only. No invasive investigations or climbing inspections were necessary to confirm visual or audible signs of defect or debility and no tissue or soil samples were undertaken. Where identified, signs of substantial defects or debility appropriate to the pre-development context have been recorded. Stem measurements were taken using a diameter tape. Where this was not possible or reasonably practical, measurements have been estimated by eye. Tree heights have been measured using a digital clinometer application.

3.4 The quality and value of trees have been assessed in accordance with the BS5837 Cascade Chart for Tree Quality Assessment included at Appendix 3. Grading subcategories (1, 2 and 3) included within the Cascade Chart for Tree Quality Assessment are intended to reflect arboricultural, landscape and cultural values respectively.

Tree Survey Summary

3.5 A total of 3no. individual trees were identified during the tree survey of the site. Findings for each of the trees surveyed are detailed in the Tree Survey Schedule included at Appendix 2 and the distribution of the surveyed tree cover is illustrated on the TCP.

3.6 The BS5837:2012 Tree Quality Survey has found that T1, T2 and T3 all retain a Fair level of physiological condition (which is evident through current foliage density and a generally positive response to frequent / heavy levels of canopy pruning works). Previous tree works include the targeted removal of lower primary limbs and lifting over the underlying pavement. Structurally, there are no visible signs of significant tree defects, however the T3 does exhibit a slight eastward lean and has an occluded stem wound. Collectively the surveyed tree stock is largely unremarkable, and typical of the style, species mix and condition expected in this location, but collectively the trees do offer a good level of amenity to the surrounding urban context.

3.7 The Tree Survey Schedule provides a tabulated record of the trees surveyed, including; species composition, tree dimensions, life stage, physiological and structural condition, and the arboricultural value of each tree and group of trees.

Section 4: Tree Constraints and Design Implications

Tree Grading Categories

4.1. The purpose of categorising surveyed trees based on their arboricultural quality and value was to ensure that the emerging design considered the presence of important trees on the site so informed decisions are made concerning the removal or retention of trees as a result of the proposals.

4.2. The quality of the trees is described by reference to BS5837 categories for tree classification. In accordance with the recommended survey assessment criteria found in Appendix 3, a synopsis of the surveyed tree stock is provided below.

Category A trees

4.3. No trees were surveyed as high quality and value (Category A). In the context of BS5837:2012, Category A trees are those with particular high quality and value, and which are in such a condition as to be able to make a substantial contribution from an arboricultural, landscape or cultural perspective. Whilst a degree of roadside management is noted in relation to the surveyed tree stock, the urban context and age of the trees has limited the category grading of much of the tree stock.

Category B trees

4.4. Category B trees signify those that provide moderate arboricultural quality and value to the site. Category B trees within influence of the site are limited to T2 (Red Maple) as denoted by a 'Blue' tree canopy outline on the TCP.

Category C trees

4.5. Category C trees are trees represent trees of low arboricultural quality and value. Category C trees are denoted by a Grey tree canopy outline as illustrated on the TCP.

4.6. T1 and T3 are classified as Category C trees and represent unremarkable examples of the species and provide limited or transient benefits in the existing site context. Despite the generally low value of such trees, the integration of Category C specimens into the design has been recognised as important where practicable as they contribute to the overall tree cover within the site vicinity and wider street scene.

Root Protection Areas

4.7. The TCP shows the approximate extent of Root Protection Areas (RPAs). The RPAs have been calculated in accordance with the methodology set out in Appendices C and D of BS5837, using the stem diameter dimensions obtained during the site visits.

4.8. In accordance with BS5837, it has been Tyler Grange's default position to preclude new development within defined RPAs. RPAs are considered to contain sufficient rooting volume to ensure the survival of the tree and should be left undisturbed in order to avoid damage to the roots or rooting environment surrounding the tree. The plotted RPAs have therefore informed the design of the proposals where possible. While developing within RPAs should be avoided, special working methods can be adopted

to alleviate the RPA disturbance for cases where the development is considered necessary and unavoidable.

4.9. For this particular site, some parts of the RPAs have been identified as areas that are unlikely to support root growth due the presence of expected root barriers, i.e. building foundations, adopted roads and subterranean structures. The RPA of T2 for example has been manipulated to reflect the building footprint to the north where the existing Mountview Lodge building footprint is expected to influence the presence of roots within the RPA. Whilst the T2 RPA has been re-shaped to reflect a reduction in the extent of the RPA north of the stem, the over area of the RPA remains at 70.4m2 by exaggerating the RPA to the south, east and west.

4.10. All three trees are established within a confined area of soil, surrounded by hard landscaping (paving), utilities and built-form. RPAs are therefore established within an urban context and would unlikely be affected by ground compaction where ground levels can remain as existing.

Tree Canopies

4.11. The distribution of tree canopy cover within and in influence of the site is illustrated on the TCP located at the rear of this report. Canopies have been plotted at cardinal points for individual and groups of trees.

4.12. The Tree Survey Schedule included at Appendix 2 to the rear of this report lists the vertical clearance from site ground level to significant tree branching of individual trees. This measurement informs the impacts of accessibility and development beneath tree canopies.

4.13. The principal tree shadow constraints are shown on the TCP and have been plotted in accordance with BS5837:2012 using the current height of surveyed trees. The indicative shade cast by existing surveyed trees signifies the area within which the amenity interests of shading, available daylight and the proximity of trees for any future site uses may be impacted upon should a tree be retained as part of development.

Summary of Likely Development Implications

4.14. Following a review of the development proposals it would appear that the scheme can demonstrate the retention of all surveyed trees.

4.15. In terms of tree canopies, although not presenting a direct conflict, on-going minor pruning works to the northern parts of the tree canopies are recommended to reduce 'future pressure' from canopy encroachment towards the proposals. This is considered to be minor work and represents a no-change scenario from the current situation.

4.16. In terms of RPAs, the proposed building footprint itself will not conflict with the RPAs in any greater degree of magnitude to that of the current situation. The positioning of new Cycle Hoops will require any excavation for foundations to be carried out by hand under arboricultural supervision to ensure that tree roots in relation to T2 and T3 are avoided.

4.17. Should re-surfacing occur, the existing surface paving will be removed (and broken up and removed if required) by hand within the RPAs, and the sub-base for the pavements, as well as the tree pits themselves, will remain in-situ. This represents an arboriculturally-sensitive approach, and the use of Watching Briefs (undertaking works under direct arboricultural supervision) will ensure that any roots contiguous to the existing built form and hard surfacing are protected.

4.18. To detail the above mitigation measures for the construction phase of the development it is recommended that a full Arboricultural Method Statement (AMS) is prepared as part of a suitably worded reserved matters / pre commencement planning Condition(s).

4.19. An AMS will set out a practical and robust strategy for the protection of retained trees for the site preparation, construction of the proposed access arrangement and the wider development works. The AMS scope would typically be agreed in writing with the LPA but is recommended to include:

- A schedule and specification of any tree works;
- Specifications for barriers and ground protection;
- Procedures for any specialist construction techniques and any supervised excavations within RPAs;
- Phasing of work;
- An auditable system of site monitoring; and
- A Tree Protection Plan.

Conclusion

4.20. In accordance with the adopted policies of Camden Borough Council, a BS5837:2012 tree survey has been prepared to inform proposals for the re-development of Mountview Lodge, located at 9 Swiss Terrace, London NW6 4RR.

4.21. The new layout is contained to the current building footprint and utilises the existing foundations and external walls, and so in terms of potential development impacts, the main areas of conflict relate to the placement of proposed Cycle Hoops within the RPA of T2 / T3 within the existing hard surfacing towards the site frontage. The implementation of such structures will need to be appropriately mitigated within a supporting Arboricultural Method Statement but the principle of hand-working and a programme of arboricultural supervision will ensure that primary tree roots within the existing hard surfacing can be safeguarded.

4.22. Overall, the proposals are not considered to have a significant effect in the overall health, structural condition and amenity value of surveyed trees in the short and long-term and are therefore considered supportable from an arboricultural perspective.

Appendix 1: Tree Survey Explanatory Notes

Appendix 1: Tree Survey Explanatory Notes

Tree Numbers

'T' prefixes have been used to identify individual trees and commence with 'T1'.

'G' prefixes have been used to identify groups of trees.

Species

Species are listed by their common name, both in the schedule and in the report text.

Height and Stem Diameter

The stem diameter of single stemmed trees is measured at 1.5m above ground level and given in millimetres (mm). The diameter measurement of multi-stemmed trees is taken immediately above the root flare. Tree heights are measured in metres (m).

Crown Spread and Height of Crown Clearance

Radial crown spread is measured in metres and is listed for each of the four cardinal points. The canopy shape for individually surveyed trees depicted on the accompanying plans accurately represents the canopy spread as measured on-site.

The height crown clearance is measured above ground in metres from the attachment point of the first significant branch, or the height to which the lowest (living) branch reaches; whichever is the lower.

Age Class

The age of each tree is defined as follows:

Young - within the first third of life expectancy;

Early-Mature - within the second third of life expectancy;

Semi-Mature - within the last third of life expectancy;

Mature - specimen at full maturity; and

Veteran – tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned. For the purpose of this report the term 'ancient tree' and 'veteran tree' are interchangeable.

Physiological and Structural Condition

The physiological or structural condition of each tree is defined as either; good, fair, poor or dead. For each tree, where appropriate, notes on the structural integrity are provided on form, taper, forking habit, storm damage, decay, fungi, pests, etc.

An assessment of a tree's physiological condition is defined as:

Good – fully functioning biological system showing expectant vitality for the species i.e. normal bud growth, leaf size, crown density and wound closure.

Fair – fully functioning biological system showing below average vitality i.e. reduced bud growth, smaller leaf size, lower crown density and reduced wound closure

Poor – a biological system with limited functionality showing clear physiological decline, disease or significantly below average vitality i.e. limited bud growth, small and chlorotic leaves, low crown density and limited wound closure.

An assessment of a tree's structural condition is defined as:

Good – no significant structural defects.

Fair – structural defects which could be alleviated through remedial tree surgery or arboricultural management practices

Poor – structural defects which cannot be alleviated through tree surgery or arboricultural management practices.

Appendix 2: Tree Survey Table

BS5837: 2012 Tree Survey Schedule

Mountview Lodge

September 2018

Tree Number	Common Species Name	Height (m)	Trunk Diameter (mm)	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)	Root Protection Area (m2)
				N	S	E	W								
T1	Norway Maple	7m	165	3	2	3	1.5	3	Young	Fair	Fair	C1	Roadside planting north of Swiss Terrace. Clear stem form. Paving to RPAs with c.1m sq open ground to base. No visible decline or notable defects, besides minor root wash / stem wounds and markings typical of urban context. Active pruning evident with stubs and minor deadwood present throughout lower crown.	**1.98m**	12
T2	Red Maple	11m	250+305	3.5	3	3	3	3	Early Mature	Fair	Fair-Good	B1	Roadside planting north of Swiss Terrace. Bifucated at 1.2m. Tears and minor dieback throughout but forming the dominant specimen in the street scene. Active pruning evident with stubs and minor deadwood present throughout lower crown.	**4.7m**	70
T3	Norway Maple	7m	160	2	3	3.5	2	3	Young	Fair	Fair	C1	Aeration / watering pipe to base, otherwise hardstanding throughout. Slight eastward lean, otherwise typical clear stem form. No visible decline or notable defects, besides minor root wash / occluded stem wounds to southern face and markings typical of urban context.	**1.92m**	12

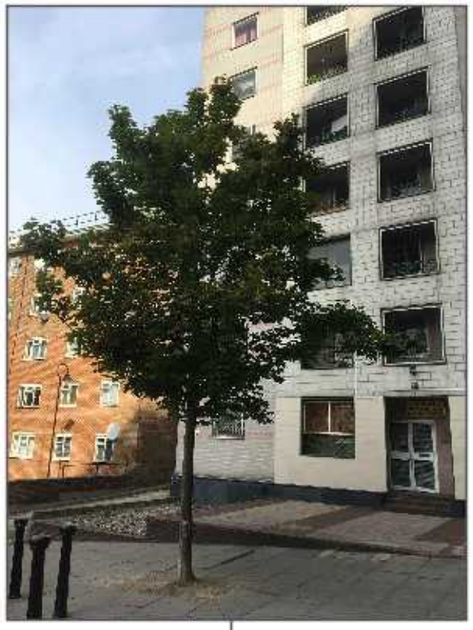
Appendix 3: BS 5837:2012 Cascade Chart for Tree Quality Assessment

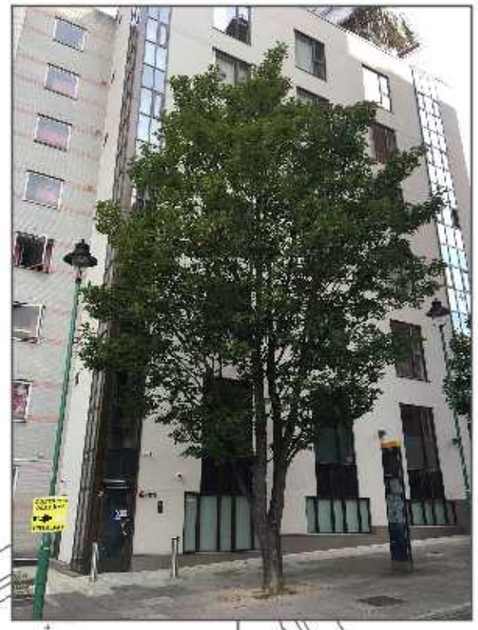
Appendix 3: BS 5837:2012 Cascade Chart for Tree Quality Assessment

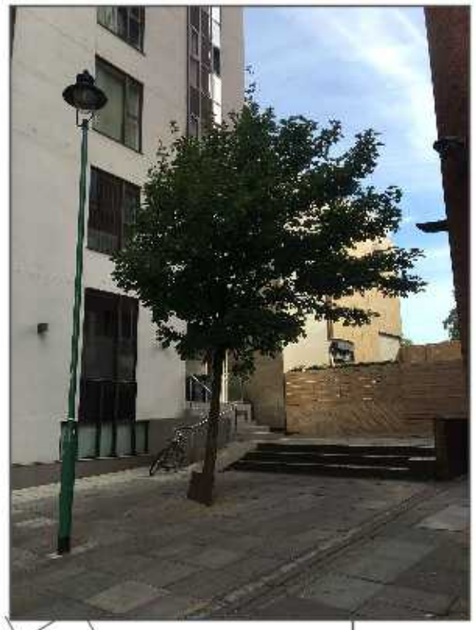
TREES FOR REMOVAL				
Category and Definition	Criteria			Identification on Plan
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (i.e. 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)			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and Definition	Criteria - Subcategories			Identification on Plan
	1. Mainly Arboricultural Values	2. Mainly Landscape Values	3. Mainly Cultural Values, including Conservation	
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)	LIGHT GREEN
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 remedial 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 benefits.	MID BLUE
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 150mm	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 temporary/transient landscape benefit.	Trees with no material conservation or other cultural value.	GREY

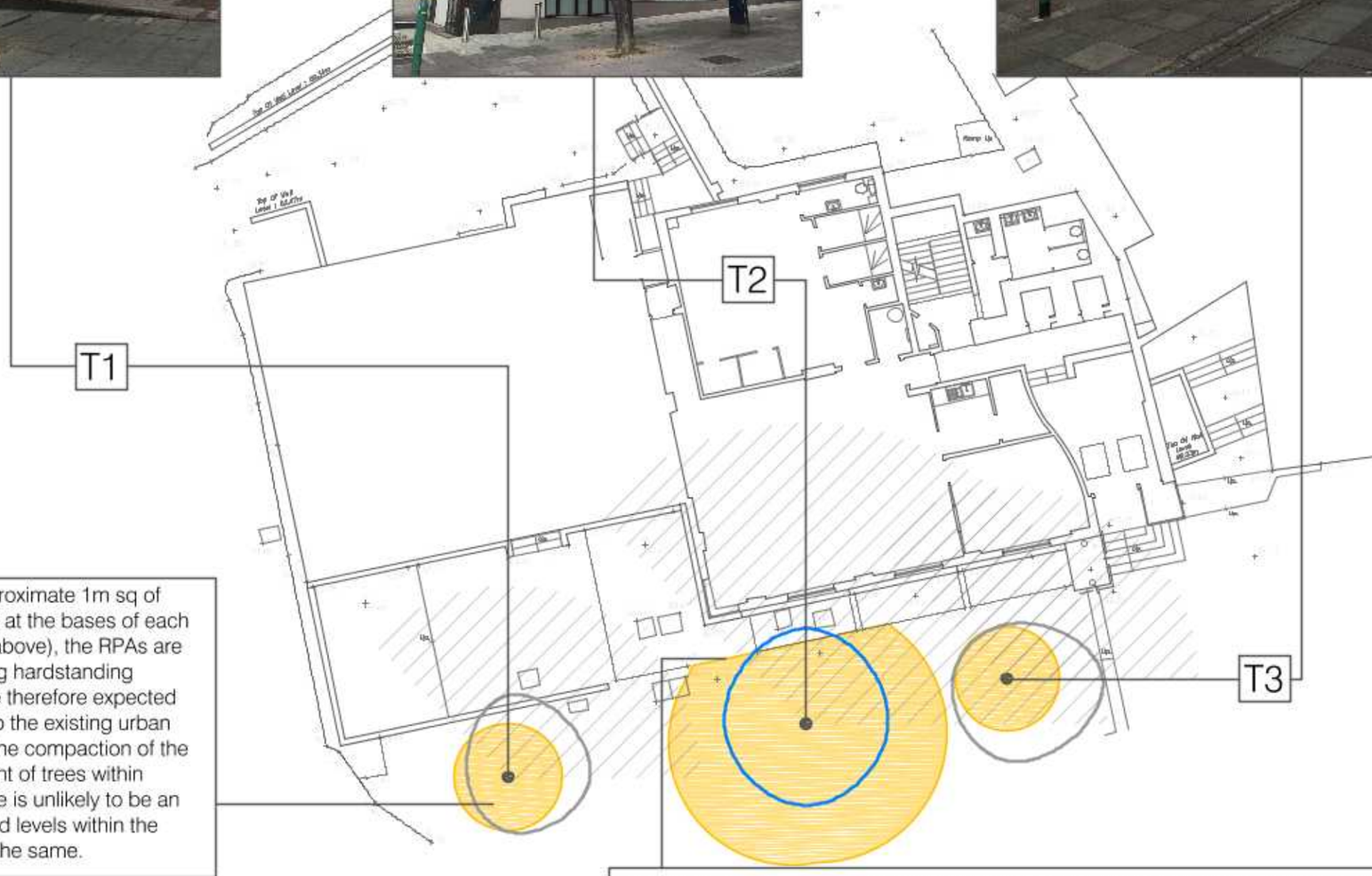
Plan

Tree Constraints Plan (TCP) (11854/P01)









Other than an approximate 1m sq of uncovered ground at the bases of each tree (see images above), the RPAs are covered by existing hardstanding (paving). RPAs are therefore expected to have adapted to the existing urban environment and the compaction of the rooting environment of trees within influence of the site is unlikely to be an issue where ground levels within the RPAs can remain the same.

The RPA for T2 has been reshaped to reflect the presence of root barriers in the form of building foundations which are expected to be present to the northern periphery of the root zone. Where the RPA has been re-shaped, the overall area for the RPA remains the same (70.4 sq m) as this has been extended to the south to compensate for the northern reduction.

Key

- Category B - Trees of moderate quality and value
- Category C - Trees of low quality and value
- Canopy Shade
- Approximate Extent of BS5837 Calculated Root Protection Areas (RPAs) - Hardstanding

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Tree Constraints Plan

N

0m 2.5m 5m 7.5m 10m

1:200 @ A3

Project	Mountview Lodge
Drawing No	11854/P01
Date	September 2018