OMC Associates

BSI 5837 Arboricultural Report for Development

CLIENT:	Stevie Stewart
SITE:	Basement Flat, 113 Fortress Road, London, NW5 2HR
OUR REF:	01548D/CJO/0909
DATE OF REPORT:	12 September 2019

Prepared by Christopher Overbeke MSc Arb, BA (Hons), ANC (Dist.), M, Arb. A
Checked by Christian Sheldon ND (Arb), QCF L4 Dip (Arboriculture)

28 Shelford Road, Cambridge, CB2 9NA
Tel: 01223 842253 Email: info@omc-associates.co.uk

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EXECUTIVE SUMMARY

The application comprises construction of a small garden building. The scheme does not necessitate the removal of any trees though we understand that the Smoke tree T1 will be removed. Minor facilitation pruning of an overhanging holly T3 will be required but will have no adverse impact on health or overall amenity. RPA encroachment of the horse chestnut T2 is well below the threshold suggested in the British Standard and that of T3 is marginally above at 22%. This is not deemed damaging to the tree in view of its vitality but also due to the piled foundation that will allow for a small void below the floor and continued, partial root survival. A methodology is provided for construction of the piles to safeguard any roots encountered. Ground protection is detailed and illustrated in the tree protection plan to safeguard RPAs from the potential encroachment of building activity. Details of tree protection monitoring is provided.

1.0 INTRODUCTION

1.1 Brief and background

We are instructed to provide an arboricultural report to demonstrate the arboricultural feasibility of a garden room at the back of the rear garden, and prescribe protection measures necessary to minimise the potential harm that may arise during construction. Recommendations are consistent with the most recently revised version of the British Standard on this subject, "Trees in relation to design, demolition and construction - Recommendations", BS 5837 (2012).

1.2 Scope of report

This report incorporates an assessment of the trees potentially affected by the proposed structure; an Arboricultural Impact Assessment (AIA) that accounts for the various types of damage that may be inflicted by the introduction of the new structure and its construction; and, an Arboricultural Method Statement (AMS) that provides the details necessary to ensure that damage to retained trees is minimised during construction.

These details are provided to assist the planning authority in determining the application. Opinions expressed in this report in relation to the physical or aesthetic quality and value of trees are made on an impartial and non-prejudicial basis, based on observations made during the site survey.

The report is supplemented by a Tree Survey Plan showing the site as it currently exists and proposed tree removals, a Constraints Plan (TCP) that illustrates the extents of the trees' RPAs and proposed structures within them and Tree Protection plan (TPP) that illustrates the protection measures described within the AMS.

The report contains the following appendices:

Appendix A	Tree schedule
Appendix B	Key to tree schedule and cascade chart explaining tree quality assessment
Appendix C	Photos
Appendix D	Tree survey plan
Appendix E	Tree constraints plan
Appendix F	Tree Protection Plan
Appendix G	Ground protection
Appendix H	Monitoring/Inspection Record

1.3 Documents

We have been provided with existing and proposed pans by Rooms Outdoor, project number C 25754.

1.4 Site Description

The site comprises a small, rectangular rear garden that is largely paved and decked with multiple, containerised plants.

A large horse chestnut is located in the western corner of the site which we understand is subject of a TPO. Other trees are noted within the site and within the rear garden of 119 Fortress Road.

The rear boundary is formed by a retaining wall with the adjoining garden to the rear at approximately 0.6m below ground level where mature fig is noted.

Bing Aerial view of 117 Fortress Road

1.5 Planning Proposal

It is proposed that a 3.5mx5.0m garden room with a flat roof is constructed it the rear of the garden.

2.0 TREES

2.1 Recorded data

In accordance with current British Standard requirements, the following information has been recorded for all trees and other significant woody vegetation:

- Sequential (alphanumeric) reference number e.g. prefixed 'T' for tree and 'G' for group;
- Species (common and scientific names);
- Height (m)
- Stem diameter (mm);
- Branch spread measured (where access allows) at the four cardinal points (N, S, E, W);
- Existing height above ground level of (a) first significant branch and direction of growth and (b) canopy;
- Life stage (e.g. young, semi-mature, early-mature, mature and over-mature);
- General observations (structural and physiological) and/or preliminary management recommendations;
- Estimated remaining contribution in years (<10, 10-20, 20-40, >40);
- Retention category (U, A, B, C) and sub-categories thereof (1,2,3).

The survey does not include a detailed assessment of the health and or safety of the recorded trees, but clear faults influencing retention categories are factored into the structural and physiological comments. Where remedial work to avoid foreseeable harm is deemed necessary, this may form part of the preliminary management recommendations.

2.2 Trees and the law

No formal check has been carried out over the status of trees identified within this report. It should be noted that trees within Conservation Areas, unless having a girth of less than 75mm measured at 1m from ground level, are protected. Trees may also be subject of Tree Preservation Orders and we understand that this may apple to the horse chestnut identified in this report as T2.

Penalties for carrying out unauthorised works to trees in Conservation Areas or subject of TPOs can incur significant fines.

No works around trees should be carried out without the approval of the Local Planning Authority unless planning permission has been granted that indisputably necessitates the removal or pruning of any of the trees included within this report.

Section 197 of the Town & Country Planning Act 1990 states that it shall be the duty of the local planning authority to ensure whenever it is appropriate, that in granting planning permission, "adequate provision is made, by the imposition of conditions, for the preservation or planting of trees" Even when no specific legal protection exists it may be necessary to obtain a felling license from the Forestry Commission if the volume of timber removed exceeds felling license quotas.

Section 15 of the National Planning Policy Framework adopted in July 2018 states that, "Planning policies and decisions should contribute to and enhance the natural and local environment" and Section 12 states that, "Planning policies and decisions should ensure that developments are…..visually attractive" and "sympathetic to the local landscape".

The Wildlife & Countryside Act 1981, the Conservation (Natural Habitats etc.) Regulations 1994 and the Countryside & Rights of Way Act 2000 can all be of relevance.

2.3 Site specific tree comments

Please refer to the tabulated tree data at Appendix A For individual tree details.

A mature horse chestnut T1 is located in the western corner of the site. The tree is heavily infested with the horse-chestnut leaf miner (*Cameraria ohridella*) but, nonetheless, is a large specimen dominating the area and providing outstanding landscape value.

No other trees of particular merit are noted but a number of C grade trees are located within the site, a smoke bush and off site. The off-site trees are located within 119 Fortress Road and comprise an early mature holly on the shared boundary and an early mature, ivy engulfed, poor quality sycamore on the rear boundary.

3.0 TREE RELATED SITE CONSTRAINTS

Schemes requiring excessive and inappropriate crown reduction that destroy natural tree form and/or adversely affect their health and longevity should ideally be avoided, as should schemes necessitating regular long-term cutting back to alleviate conflict with the new structures, especially housing where this may generate nuisance to future residents.

3.1 Constraints to development posed by tree crowns/canopies

Trees pose no constraints to development subject to minor facilitation pruning.

3.2 Longer term implications of retained trees on quality of life

No trees will represent a major source of long-term resentment to the proposed scheme in view of the anticipated sporadic use of the garden building.

3.3 Indirect damage (subsidence/heave)

All new buildings must be cognisant of the shrinkability of the ground and ensure foundations are designed in full compliance with Chapter 4.2 of the NHBC guidelines "Building near trees", 2011, to ensure future co-existence with trees and new buildings.

4.0 ARBORICULTURAL IMPLICATIONS ASSESSMENT (AIA)

4.1 Effect of development on trees - General

The objective of the report is to identify and evaluate the extent of direct and indirect damage on existing trees that may arise as a result of the implementation of the proposed development without appropriate guidance. A tree may take a century to reach maturity, but it can be irretrievably damaged in a few minutes often because of a failure to appreciate the vulnerability of trees and particularly the root systems. *Irreparable damage is frequently done to existing trees in the first few days of a contractor's occupation of a site.*

It is important to be aware that the effects of tree damage may not be apparent for some time.

There are a multitude of activities that can kill or damage trees on construction sites and there is a need to be mindful of these activities and why they may be so harmful to trees. These are briefly summarized below.

4.1.1 Direct mechanical damage (*Referred to as D1 in this report*)

Direct damage to the crown or stem is unlikely to kill a tree unless it is significant but may disfigure it and result in long-term decay setting in. This often occurs as a result of construction activities taking place too close to trees without protection or appropriate pre-construction tree surgery.

4.1.2 Ground compaction (*Referred to as D2 in this report*)

This is likely to be the most common cause of tree death or decline on a building site. The vast majority of tree roots are located in the upper soil horizons where soil conditions are most favourable for root growth. It is these upper horizons that are most vulnerable to ground compaction. Compaction destroys soil structure, and this prevents soil moisture absorption into the ground and loss of natural aeration. This process deprives tree roots of moisture as well as giving rise to root asphyxiation and is often fatal to trees.

4.1.3 Changes in ground level (*Referred to as D3 in this report*)

The majority of a tree's root systems are generally located in the upper 0.6m of the ground and the bulk of these roots happen to be very small, delicate and essential feeder roots. Reductions in ground level such as soil stripping can be catastrophic for a tree's health. Conversely increases in ground level can result in root asphyxiation.

4.1.4 Severance of roots by ground works (*Referred to as D4 in this report*)

Excavation of ground to remove old foundations and hard standing, construction of conventional concrete footings, new hard standing or the installation of services such as water/sewerage pipes, gas/electricity cables, TV/telephone cables using open trenching within the drip-lines of trees severs any roots present, potentially leading to destabilization, decline or death of trees. It may also have implications for local soil hydrology.

4.1.5 Contamination of ground (*Referred to as D-5 in this report*)

Spillage of petrol, diesel, paint removers, wood preservatives and many other toxic liquids regularly used on building sites can kill roots. Concrete or cementitious (mortar, cement, slurry) washout wastewater is caustic and considered to be corrosive with a pH over 12. In cases where tree roots have been exposed to the high PH of cement products or other toxic products, the effects may include inhibited growth and dieback of portions of the crown

due to cellular damage, and substantial alteration of the soil and plant chemical composition even after the source of pollution is gone.

4.1.6 Change in ground surface (*Referred to as D6 in this report*)

Covering surfaces with impermeable materials – especially areas that were previously open ground can prove fatal for tree roots. Trees derive moisture from regular moisture recharge of the ground and nutrients generated by the nutrient cycle from decomposing leaf litter. Impervious surfaces can also prevent gaseous interchange between the ground and the atmosphere creating a build-up of toxic waste gases such as carbon dioxide and a deprivation of oxygen.

4.2 Effect of development on trees specific to this site

The potential impacts on the trees that arise as a consequence of the proposed scheme are summarised below.

4.2.1 Tree Removals

Though the garden building can be constructed with the young smoke bush T1 in place, we understand that this is to be removed.

Ultimately this is not a material planning consideration due to its small size and absence of contribution to public amenity.

4.2.2 Facilitation Pruning

The garden building will be constructed within 0.5m of the holly T3. Some minor crown-lifting of the overhang is likely to be required to facilitate construction and provide suitable clearance. This is insignificant in terms of overall amenity.

4.2.3 RPA incursion

The British Standard states that incursion "should not exceed 20% of any existing unsurfaced ground within the RPA". This is guidance and subject to circumstances, such as tree health and vitality, species, type of root severed, disposition of incursion and prevailing site factors such as the existence and type of hardstanding and location of buildings/structures.

The garden room encroaches upon the RPAs of the horse chestnut T2 and the holly T3 by 6.5% and 22% respectively. With respect to T3 this is well below the threshold as suggested by the British Standard. In the case of the holly this is marginally above. This tree grows with high vitality, is surrounded by open ground and the floor of the structure will be suspended 20mm above ground level, allowing for a continuation of gaseous exchange with the atmosphere. In consequence it is my belief that there will be no adverse impact on its well-being.

4.2.4 General construction activity within RPAs

Construction activity associated with the proposed works can be damaging to trees.

This includes general site clearance and levelling; movement of heavy plant; mixing of cementitious substances; storage of materials, movement of construction vehicles etc. The impacts are summarised above as D1, D2 & D5.

These potential impacts can affect the RPAs of T3 and T2 and this can be avoided relatively easily through appropriate protection by the creation of a Construction Exclusion Zone (CEZ) and the use of ground protection.

This is detailed in the arboricultural method statement in Section 5.0 below. Alternatively, the willow could be removed due to its poor quality and replaced with a new tree o completion of the proposed works. This would be subject to the discretion of the owner and the council's arboricultural planning officer.

4.2.5 Underground Services

At the time of writing, no services plan was available.

The service layout must be informed by RPAs of retained trees and agreed with the project arboriculturist so that they are avoided or only peripherally encroached upon.

Where this is applied, little impact will result on tree roots.

4.3 Issues to be addressed by the AMS:

- Installation of temporary tree protection – ground protection
- Tree works
- Root pruning during excavation
- Tree protection monitoring

5.0 ARBORICULTURAL METHOD STATEMENT

Successful avoidance of any damage can be achieved through appropriate tree protection details, correct implementation of these details and close liaison with the Council's tree officer and the appointed arboriculturist.

These details and procedures are provided in the arboricultural method statements outlined below and illustrated in the Tree Protection Plan at Appendix F. All key site personnel must fully familiarise themselves and understand this method statement and tree protection plan. A copy of the method statement must be kept on site at all times. The general sequence of events should be as follows:

- **All relevant aspects of this method statement must be incorporated into the construction method statement to avoid any conflicts.**
- **No building work or other activity associated with development can take place until the approved protection measures are in place and secure, and a site meeting between involving the contractor, architect, arboricultural officer and consultant has taken place.**
- **Details of key site personnel will be submitted to the Council's arboricultural officer prior to the commencement of site works.**
- **All key site personnel must fully familiarise themselves and understand this method statement and tree protection plans.**
- **A copy of this method statement must be kept on site at all times. A large (not less than A3 size) copy of the TPP must be placed on the site office notice-board**.

5.1 Construction of piles

The garden building is to be constructed on mini piles with a diameter of 300mm and the building supported above ground on these piles (refer to the Rooms Outdoor Ltd cross sectional drawings).

The positions of the piles are also shown on the TPP in Appendix F and those drawn with a bold outline indicate the ones sufficiently close to adjacent trees to warrant a cautious approach to construction.

This must be read in conjunction with section 5.3 below. Once the site is cleared and the positions of the piles marked out, exploratory holes must be manually dug to 600mm in full compliance with section 5.3 below to determine the presence of roots. Any roots with a diameter of less than 25mm that are encountered can be cleanly pruned but any exceeding this must be retained and reference to the arboriculturist made to determine whether the root can be cut. Where it is deemed that the root is too important to cut, the position of the pile must be slightly revised to accommodate the root.

Some flexibility must be factored into the design by the structural engineer to cover this eventuality and the possibility of cantilevering may need to be considered.

5.2 Ground Protection

Protection of the ground within RPAs is essential to ensure the potentially harmful effects of construction activity on ground conditions (compaction and the absorption of potentially toxic materials) are avoided. Creation of a Construction Exclusion Zone (CEZ) using protective fencing is the optimum means of protecting Root Protection Areas but where access within RPAs is required protection of the ground is essential.

In this instance it will be required to protect the RPA of T2 in the intervening space between the garden building and T2. Mobile ground protections should also be used within the footprint of the prosed structure whilst activity within this area takes place.

Temporary ground protection must comply with British Standard Recommendations, as below:

a) **For pedestrian movements only:** a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or 18mm ply laid on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;

b) **For pedestrian-operated plant up to a gross weight of 2t:** proprietary, inter-linked ground protection boards placed on top of a compression resistant layer (e.g. 150mm of woodchip), laid onto a geotextile membrane;

c) **For wheeled or tracked construction traffic exceeding 2t gross weight:** an alternative system (*e.g. proprietary systems of pre-cast reinforced concrete slabs*) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

In this instance ground protection specified in (a) is sufficient.

5.3 Root pruning - excavation/groundworks within RPAs

Encountering tree roots is likely when excavating within RPAs or close to the edge of RPAS. This may be anticipated during:

1) excavation for piles.

During this process, the following guidelines must then be adhered to:

- No roots of greater than 25mm must be cut without consultation.
- Where roots can be carefully moved to one side, this should be carried out rather than being severed.
- If cutting of root(s) of less than 25mm diameter is deemed necessary they must be cleanly pruned, preferably back to a side branch, using sharp bi-pass secateurs or loppers. Once pruned, the cut root(s) must immediately covered with damp, clean, hessian sacking (in summer months) which must be kept damp so long as the roots remain exposed, or dry hessian sacking in winter to prevent desiccation and protect from rapid temperature changes.
- Prior to backfilling, any hessian wrapping should be removed and retained roots should be surrounded with sharp sand (builders' sand should not be used because of its high salt content which is toxic to roots) or other granular fill, before soil is replaced.
- If new concrete is to be used, an impermeable membrane must be placed along the exposed face to prevent contact with and scorching of roots, and to ensure leachates do not contaminate the immediate rooting area in the future.

These procedures **must** be followed and be carried out under the supervision of an arboriculturist. The arboriculturist must oversee excavation deemed to be in highly sensitive areas. Where areas are deemed less sensitive the arboriculturist need not attend site, so long as he/she remains in contact with the builders and can access photos taken in the course of the excavations.

5.4 Concrete mixing/bunded area

Concrete or cementitious (mortar, cement, slurry) washout wastewater is caustic with a PH over 12 and is, therefore, highly toxic to trees and other vegetation.

Where concrete footings and other structures cast from concrete below ground level near to root systems of retained vegetation is required, the incorporation of protection (e.g. sheathing with an impermeable membrane such as heavy-grade polythene sheeting) is extremely important to prevent it coming into contact with roots.

It is also important not to mix concrete in the vicinity of trees in order to avoid the risk of it leaching into the soil.

Additionally, regardless of the presence of trees, the integrity of the ground must be protected for future planting.

No mixing or dispensing of concrete should, therefore, be undertaken within 5 metres of the RPA of any tree. The use of a bunded area for the purpose of cement/concrete mixing to contain spillages and runoff is recommended to protect the integrity of the ground for future landscaping. A proprietary mixing tray would suffice where only small quantities are required.

5.5 Tree work necessitated by the scheme

The scheme involves minor crown lifting of the overhanging part of the holly T3 to 3m to allow for the construction of the garden building and provide future clearance.

All tree work must be carried out in full compliance with B.S. 3998 (2010).

5.6 Underground services

At the time of writing, no services plan was available.

The service layout will be informed by RPAs of retained trees and agreed with the project arboriculturist so that they are avoided.

The TPP shows a line indicating what side underground services may be laid – subject to the details in section 5.3.

5.7 Additional precautions outside the tree exclusion zone

- Materials that will contaminate the ground such as diesel oil and concrete mixings will not be discharged within the 5m of the edge of the RPA of any tree.
- Notice boards, telephone cables or other services should not be attached to any part of the tree.
- No fires that have the potential for flames to extend to within 5m of any point of the tree are to be lit.

6.0 PHASING OF INSPECTION/MONITORING

6.1 Introduction

Section 5 provides all the details relating to tree protection specific to this development. Critical to its implementation is a clear understanding of when and how the protection is implemented, what action must be taken when there is a breach of the approved protection and how to implement any changes in the approved protection necessitated by unanticipated events/changes in design.

6.2 Site Arboriculturalist

An arboriculturist should be appointed at the outset whose role will be to ensure full compliance of the approved tree protection measures through regular monitoring and maintenance of a progress sheet that shall be signed off by the arboriculturist and site manager (or equivalent) on completion of the development and submitted to the LPA.

6.3 Stage 1 - Pre-commencement meeting

This will involve the arboriculturist, the site manager and other relevant site personnel and optionally the local authority arboricultural officer. He/she must be given sufficient advance warning of the meeting. This meeting could be viewed as a form of induction and will ensure:

1. A full understanding exists of what and where the tree protection comprises - if necessary, the site can be marked out to indicate the positioning of protection;
2. If and when arboricultural supervision is required;
3. Exchange of all relevant contact details and distribution of an arboricultural site monitoring record.
4. That all parties are happy with what is agreed and that it is deemed practical. Any tweaks/changes made at this stage that vary to the approved details must be agreed by the LPA Tree Officer and a means of ensuring this is appropriately recorded with the LPA determined.

There is no reason why the tree protection can't be installed prior to this meeting so long as the opportunity remains for adjusting or improving it according to advice from the site arboriculturist.

6.4 Stage 2 - Monitoring

The arboriculturist will monitor the development through periodic site visits or in accordance with an agreed schedule. Regularity will be determined by the impact of the scheme on trees, the complexity of protection and the significance of trees. The inspection record will be completed and signed off after each visit.

Any discrepancies to the approved, implemented protection shall be highlighted and the site arboriculturist recommended course of action implemented immediately, if necessary, stopping all development until resolved. A re-inspection will be organised to ensure satisfactory resolution.

The site manager will contact the arboriculturist immediately if damage to trees or root zones occurs.

6.5 Stage 3 - Supervision

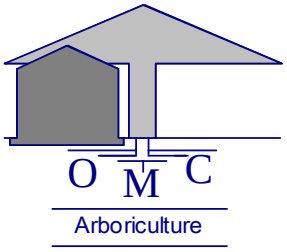
The arboricultural method statement (AMS) may specify sensitive works within Root Protection Areas that require arboricultural supervision. These will be clearly shown in the AMS. The site manager will contact the site arboriculturist when this is ready to be carried out.

This is not required on this scheme.

6.6 Stage 4 - Completion

On completion of all works on site, the site arboriculturist will be called to site to carry out a final inspection of the trees and the integrity of the RPAs. A Record of Completion will be signed by the site arboriculturist and the site manager and submitted to the LPA for discharge or complete discharge of outstanding conditions.

This will not be completed where damage to trees or RPAs is noted at this final inspection until remedial measures as agreed between the site arboriculturist and the LPA Arboricultural Officer are fully implemented.



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Appendix A Tree Schedule

ID	Species	Height (m)	Dia. at 1.5m (mm)	Crown Radius				Age Class	Sule	Condition Structural	Condition Physiological	RPA radius (m)	Quality category (BS:5837)	Space below Crown		Tree-work	Comments
				N	S	E	W							Y/N/NA	position 1st branch		Basement Flat, 113 Fortess Road, London, NW5 2HR
T1	*Cotinus cogyria* Smoke Tree	4.9	130	1.5	2.8	2.4	2.2	M	>40	G	G	1.5	C2	N/A	N/A	R	Shapely specimen; good health
T2	*Aesculus hippocastanum* Horse Chestnut	15	890	8.5	8	8.3	8.8	M	20-40	F/G	F	10.8	A2	Y	4.3-W	N	Large specimen on rear boundary subject to TPO; significant present of horse chestnut leaf miner
T3	*Ilex altaclarensis* Highclere Holly	6.6	160	3.4	2	2.9	3.1	EM	>40	G	G	1.8	C2	Y	2.9-WH	WA	Early mature; off-site on shared boundary; good health and life expectancy
T4	*Acer pseudoplatanus* Sycamore	12.9	340	6.2	5.3	6	4.1	EM	>40	F	F	420	C2/U	N/A	N/A	N	Off-site; engulfed in ivy; multi-stemmed; poor form

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Appendix B Key to tree schedule and cascade chart explaining tree quality assessment

KEY TO TREE SCHEDULE REFERENCES

Prefix: **T –** Tree **S** – Shrub/Climber **TG/SG** – Group/Hedge of **T**rees or **S**hrubs **Dia.:** **N/A -** Tree less than 100mm (for shrubs: young, semi-mature or mature)

***** Estimated

Age Class:

Young:	Generally less than 10 years old and high life expectancy
Semi-mature:	Within first 30% of life expectancy and significant growth to be expected
Early-mature:	Typically 30-60% of life expectancy, full size almost reached
Mature:	Typically 60% or more of life expectancy, full size reached with very gradual, slight further increases in size
Veteran	A stage of development where intervention/management may be required to ensure the tree remains safe
Over-mature:	Where a tree is so senescent that management is not worthwhile

Life Expectancy: How many years before tree is likely to need removing (subject to human intervention) **Crown Radius:** If crown is symmetrical, one dimension is given for the radius followed by "S"

B.S. Category: **See Appendix 2**

Physiological Condition:

Good:	Healthy tree with no symptoms of significant disease
Fair:	Some disease noted and/or vitality is below what would be expected
Poor:	Significant disease noted and/or very low vitality
Very Poor:	Tree is in severe decline

Structural Condition:

Good:	No significant structural defects
Fair:	Defects noted but not sufficient to warrant immediate work
Poor:	Significant defects. Monitoring and/or remedial works required
Very Poor:	Significant defects requiring immediate work or tree removal

Space Below Crown: A useful indicator to determine the practicality of developing below the crown. Rather than a measurement which can be misleading and open to interpretation.

Y	Potential to develop below the dripline with either no treework or removal of limbs that will not adversely affect the health and appearance of the tree
N	No scope to develop below the dripline of the tree
N/A	Tree to be removed

Treework: This is general since the report is not a tree-work specification. It indicates:

H	High priority. For trees to be retained and where work required to make safe
L	No urgent work required but would benefit from some intervention
N	No treework identified as necessary in the foreseeable future
P	Facilitation tree surgery advised
R	Remove – tree identified to be removed because "U" category tree
RA	Tree removed to accommodate development
WA	Treework to accommodate development
IV	Sever and remove ivy

B.S. Category:

A - Those of high quality and value i.e. make a substantial contribution;

B - Those of good/moderate quality and value, might be Cat. "A" but slightly impaired

C - Those of low quality i.e. adequate to remain until new planting is established or young trees with a stem diameter less than 150mm at 1.5m height

U - Those of such poor condition that any existing value would be lost within 10 years

1 - Mainly Arboricultural value **2 - Mainly Landscape value** **3 - Mainly Ecological value**

BS 5837:2012 Cascade chart for tree quality assessment (Table 1)

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U Those in such 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 to collapse, including those that will become unviable after removal of other U category 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 stability of other nearby trees (e.g. Dutch elm disease), 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
	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 of particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups, or of 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 contribution of at least 20 years	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	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	MID BLUE
Category C **Trees of low quality** with an estimated contribution 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 landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	GREY

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Appendix C - Photographs

Photo 1

- T1

Photo 2

- Base of T2
- Large horse chestnut stump to the right – felled before the current owner acquired the site

Photo 3

- T2

	**Photo 4** • T3 in the foreground • T4 in the background • Part of T2 to the left
	**Photo 5** • T3 • T4 in the background

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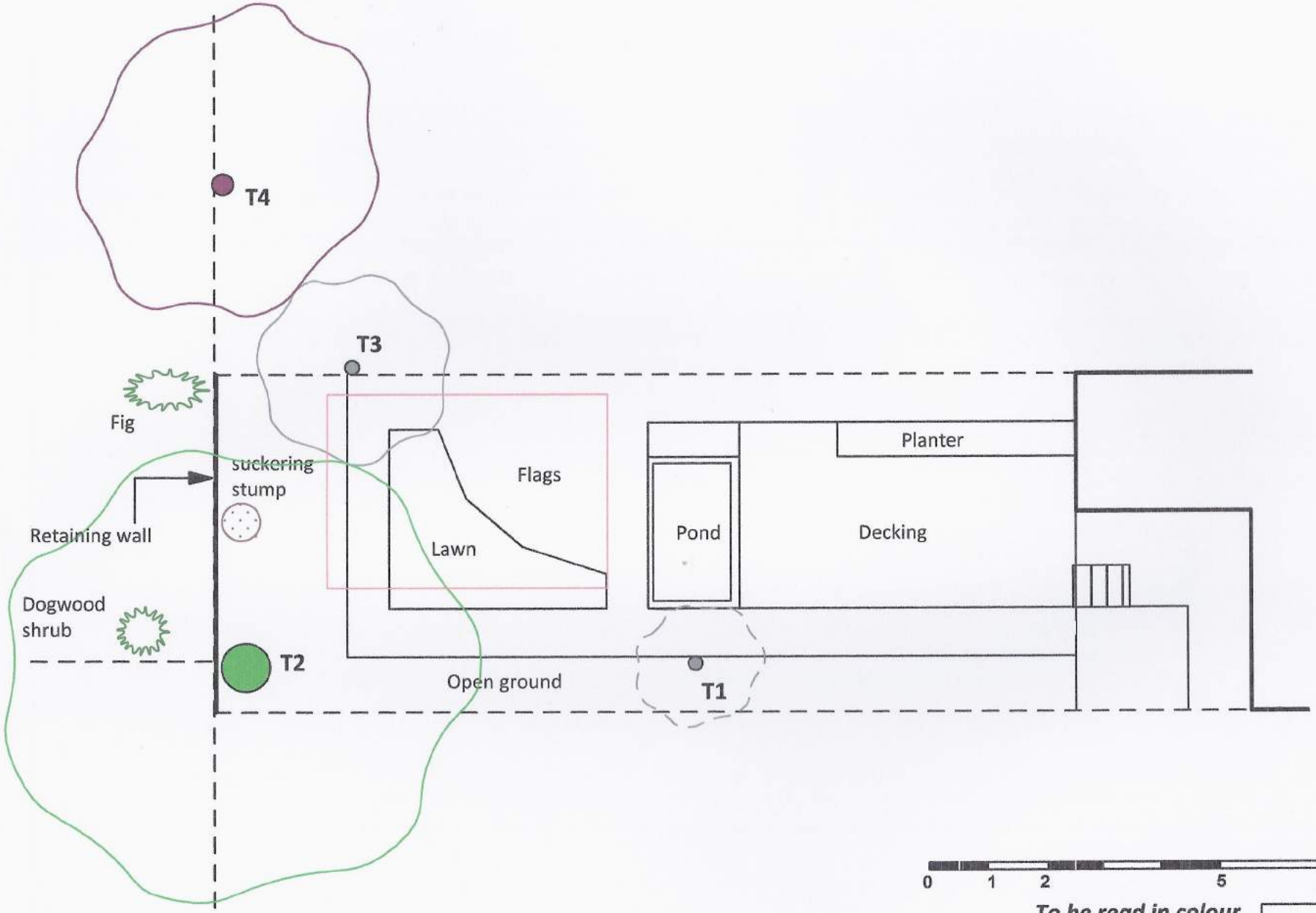
Appendix D - Tree Survey Plan



To be read in colour

Dripline and stem - colour denotes BS 5837 category

A C B U

Where crown line is broken, indicates removal

Proposed scheme

SITE: Flat 2, 113 Fortress Road, London, NW5 2HR
REF: 1548_sv
CLIENT: Rooms Outdoor Ltd
DATE: Sept 2019
SCALE: 1:200 0n A4 1:100 on A3 (see Bar Scale)
REV:

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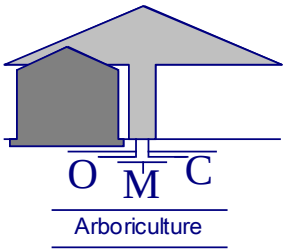
TREE SURVEY PLAN



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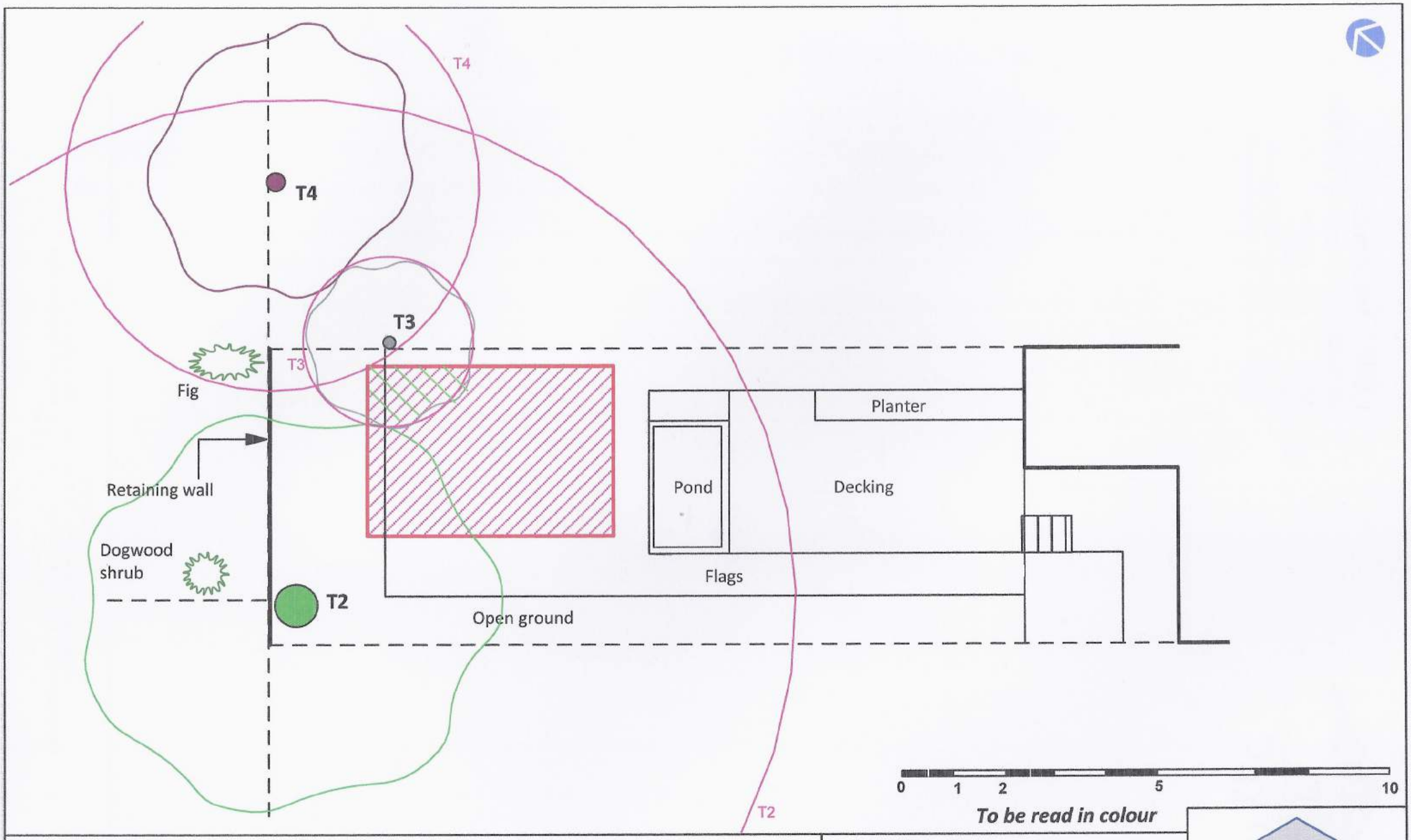
Appendix E - Tree Constraints Plan



To be read in colour

Root Protection Area (RPA)

Encroachment upon Root Protection Area

Extent of facilitation pruning

SITE: Flat 2, 113 Fortress Road, London, NW5 2HR
REF: 1548_tcp
CLIENT: Rooms Outdoor Ltd
DATE: Sept 2019
SCALE: 1:200 0n A4 1:100 on A3 (see Bar Scale)
REV:

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TREE CONSTRAINTS PLAN

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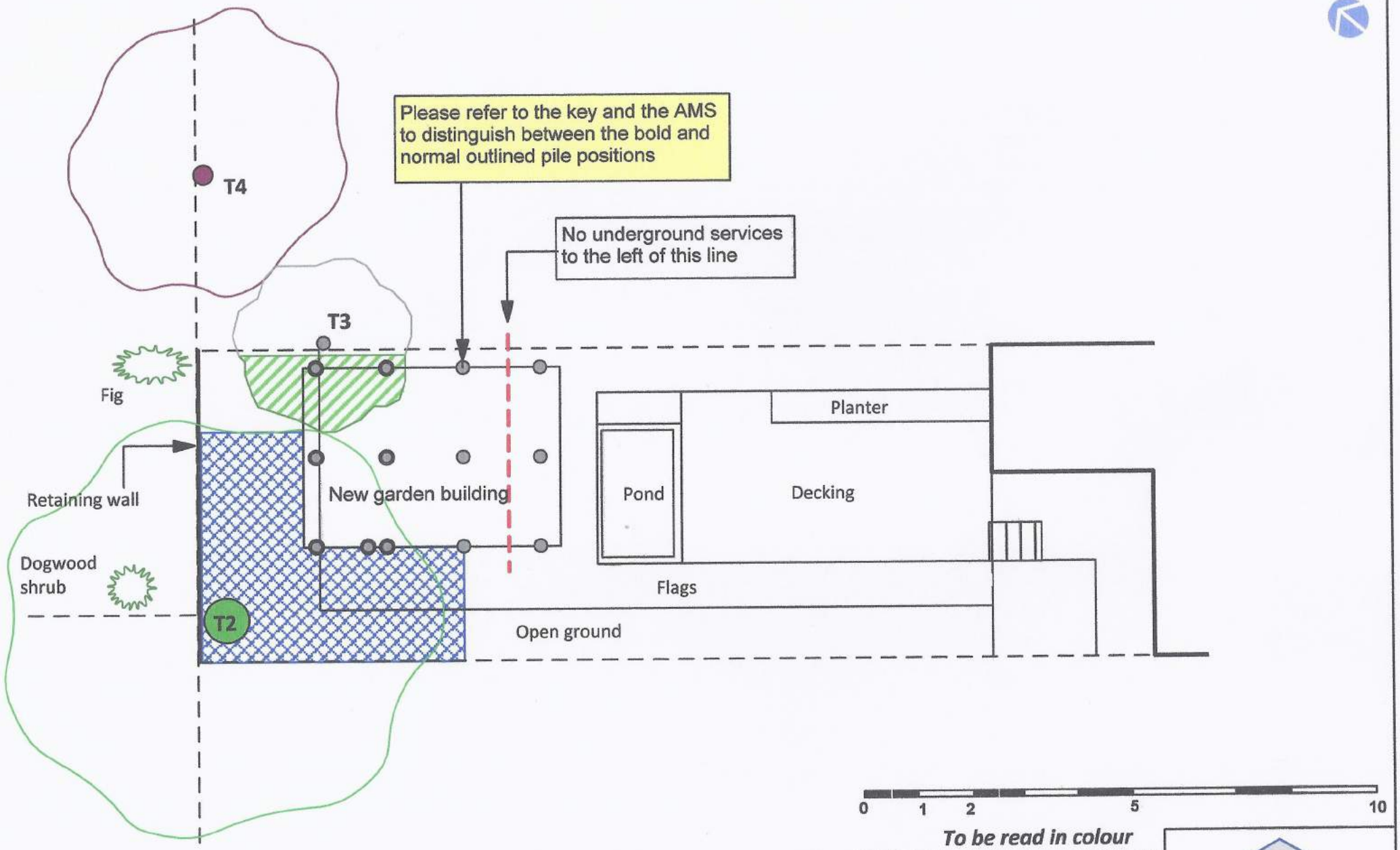
Appendix F - Tree Protection Plan



To be read in colour

Pile positions - thouse with bold outlines must be constructed in full compliance with section 5.1 of the AMS

Ground protection - implemented in compliance with section 5.2 of the AMS

Extent of facilitation pruning - see section 5.5 of the AMS

SITE: Flat 2, 113 Fortress Road, London, NW5 2HR
REF: 1548_tpp
CLIENT: Rooms Outdoor Ltd
DATE: Sept 2019
SCALE: 1:200 0n A4 1:100 on A3 (see Bar Scale)
REV:

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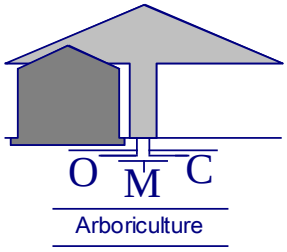
T: 01223 842253
www.omc-associates.co.uk

TREE PROTECTION PLAN



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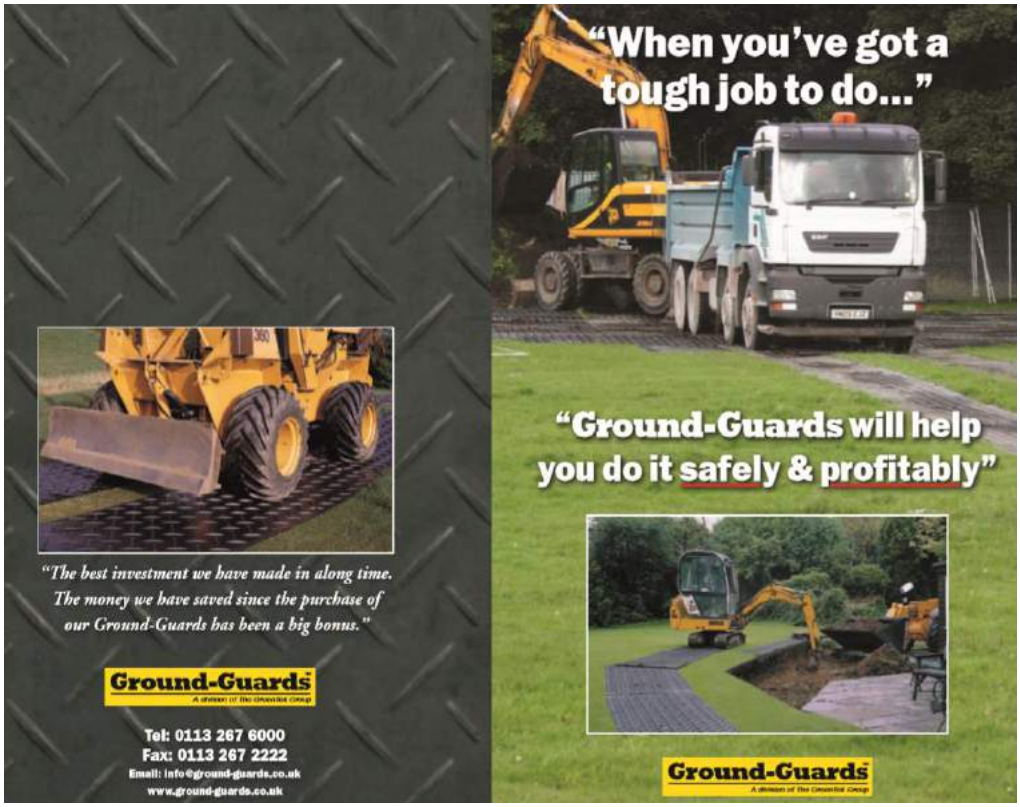
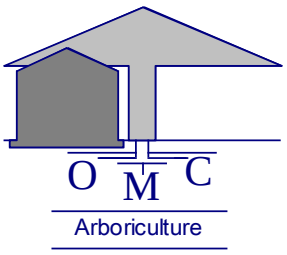
Appendix G – Ground Protection



OMC Associates, 28 Shelford Road, Cambridge, CB2 9NA
T: 01223 842253 and 0208 252 7919
E: info@omc-associates.co.uk
W: www.omc-associates.co.uk



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Appendix H - Tree Monitoring schedule

PURPOSE OF VISIT	TIMING	PERSONNEL PRESENT	REMOTE - PHOTO BASED	OBSERVATIONS AND RECOMMENDATIONS	COMPLETE Y/N
1. On-site tree protection induction with construction team, Arboriculturist, Arboricultural Officer (if attending). Check position/specification of tree protection (as per TPP) and adjust as necessary.*	Pre-commencement				
2. Check position/specification of tree protection (as per TPP) and adjust as necessary.*	Pre-commencement				
3. Final completion inspection and identification of any remedial actions.	Completion of scheme				

** Can be coincided*

Project Contacts

Council Tree Officer:			
Site Contact:	John Keenan	020 7607 0088	johnkeenan@roomsoutdoor.co.uk
Arboriculturist:	Christopher Overbeke (CO) (OMC Associates)	01223 842253	chris@omc-associates.co.uk

Notes