TREE PROJECTS

PROFESSIONAL &
TECHNICAL ARBORICULTURE

REPORT ON TREES AT

13a Pond Street
London
NW3 2PN

For

Spencer Baylin

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SUMMARY

This report addresses proposals for the partial demolition of 13a Pond Street followed by construction of replacement residential accommodation over basement. A later addition to the original building to be demolished, a Sir Norman Foster extension, is to remain.

Tree Projects have been commissioned to provide arboricultural advice and guidance. Trees on and adjacent to the site have been surveyed with reference to British Standard 5837:2012: Trees in Relation to Design, Demolition, and Construction.

Of 9 trees surveyed, 7 are off site with the remaining two located within the eastern rear garden of 33 Hampstead Hill Gardens. At the request of the London Borough of Camden's Trees Officer, an established shrub on the western boundary of the Site (*Griselinia littoralis*) has also been considered as part of this Tree Report. It is proposed that this shrub be retained and protected before, during, and after construction for its positive contribution to the character of the area. This Tree Report, in collaboration with the Structural Engineer, sets out the recommended construction methods by which this will be achieved.

The two trees on site are shielded on the far side of the Foster extension to be retained and therefore are not exposed to risk.

Two trees and one shrub off site to the west within the raised rear garden of 33 Hampstead Gardens are close to the boundary walls and part of the elevation of the existing property to be demolished.

The report proposes, due to the influencing effect of boundary walls, their foundations and the difference in soil levels (lower site side) that external plants do not root in any significant or material way onto site.

I have worked closely with the project engineers, Entuitive, in considering how demolition and construction works would be implemented, in particular, formation of the basement. Indicative tree protection measures are designed to ensure no harm arises and, gives arboricultural reference to the Construction Method Statement prepared by Entuitive as a part of the application bundle.

This report concludes that, with adequate provision of tree protective measures and construction methodology, the proposals present no adverse consequences for trees or the visual amenity they may provide.

1 INTRODUCTION

1.1 **Instruction:** I am instructed by Spencer Baylin to provide arboricultural advice and guidance in support of a planning application that proposes demolition and reconstruction of part of a residential property over a new basement.

1.2 **Qualifications and experience:** I have based this report on my site observations, the information provided and in the light of my professional knowledge. I have experience and qualifications in arboriculture, and include a summary in Appendix 1.

1.3 **Documents and information referred to:** I have referred to and been provided with the following documents:

- Proposed and existing site drawings in CAD and PDF format prepared by Gianni Botsford Architects.
- British Standard 5837:2012 Trees in Relation to Design Demolition and Construction (BS 5837).
- Basement Impact Assessment and Structural Report V7 of March 2018 by Entuitive

1.4 **Relevant background information.** 13a Pond Street and the surrounding properties are located within the Hampstead Conservation Area. By this designation trees referred to in this report are protected. I have not checked for the presence of TPO's however in any event any tree work requires as a minimum specialist arboricultural advice and guidance which would include liaison with and most likely an application to (and decision) of the local planning authority prior to pruning or removing any trees.

At officer request this report revision A makes reference to a large Griselinia shrub.

2 TREE CONSTRAINTS ASSESSMENT

2.1 **Identification and location of the trees:** Trees and one shrub within and adjacent to the property are described and shown on a Tree Schedule Plan and a Tree Schedule at Appendix 2. The plan is for illustrative purposes only and it should not be used for directly scaling measurements other than what can be determined from the scale bar.

For immediate context an extract of the plan is now shown at Fig 1:

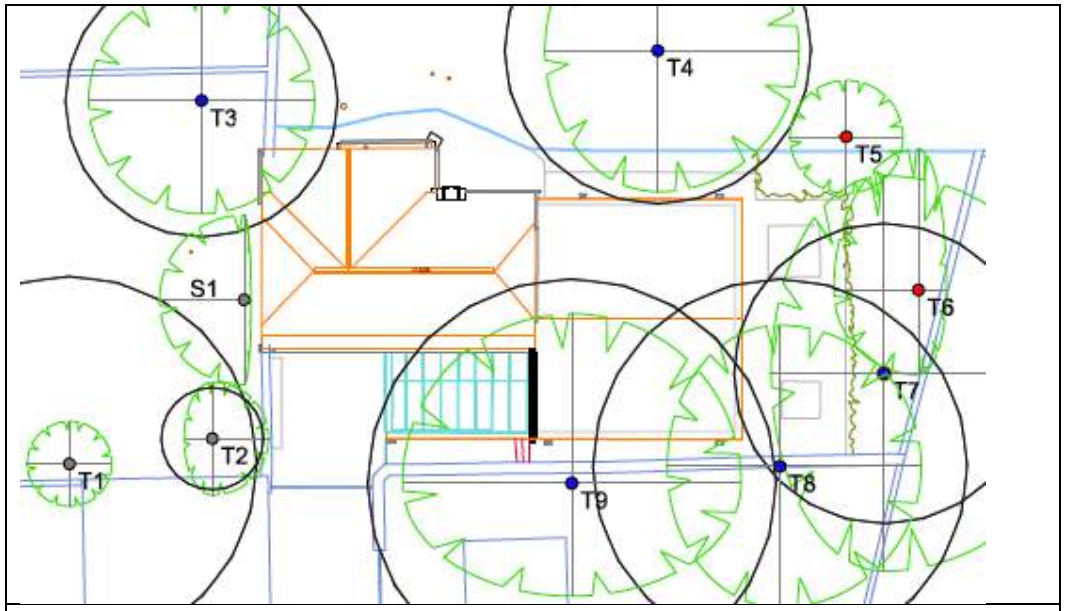


Figure 1: Tree RPA Constraints Data showing unadjusted tree Root Protection Area (RPA) as black circles centred on each tree. Trees with red centres are not considered worthy of retention and RPA is not presented. Base plan used here is that of the roof plan as existing

2.2 **Individual tree Assessment and Assignment of Root Protection Area (RPA):** British Standard 5837:2012 provides a basis for assessment of tree Root Protection Area (RPA) which for single stem trees is a calculation based on a 12x multiplication of diameter. It recommends trees are measured, and then assessed in several ways which include (but not exclusively) contribution to amenity/ overall condition and life expectancy. A tree grading system is advocated, the details of which are outlined within the explanatory notes at Appendix 2.

In respect of this project, RPA has been presented as a circle centred on each tree's trunk. It can be seen (Appendix 2 and Figure 1) that this extends into the site and overlaps parts of the existing buildings footprint. This will be discussed further in this report with more specific reference however suffice to say now that physical impediments to root distribution, such as foundations below ground level, are likely to cause roots to be directed and contained such they do not necessarily occur where the theoretical model suggests.

Each tree trees is now briefly discussed:

2.2.1 **Tree T1: Sycamore, in poor condition with 10+ years safe useful life**.

Located within the rear garden of 33 Hampstead Hill Garden and probably self-seeded in origin, this tree has relatively recently been lopped to a stout pollard framework. What amenity value it possessed has been lost, and although in time it may re-grow, what regrowth is evident appears to lack vigour. See Photo 1. The proposed scheme will not impact this tree.

Photo 1 T1 Sycamore

2.2.2 **Tree T2: Birch, in fair condition with 10+ years safe useful life.**

Photo 2: T2 Birch (foreground)

Photo 3: T2 Birch (foreground)

As with T1, this Birch appears to be within the rear garden of 33 Hampstead Hill Gardens. An easterly lean is likely to have developed naturally through light induced suppression when T1 was larger. From our site survey it is estimated that the ground level where the tree is rooted is 1.2m higher than that at 13a Pond Street. The proposal should not have an adverse impact on this tree subject to detailed consideration of boundary wall related works to ensure no harm to roots or, the upper parts where these lean close to the boundary.

2.2.3 **Tree T3: Robinia/ False Acacia. In good condition with 20+ years estimated safe useful life.** Tree in background of photo's 2 and 3 and also in photo 4. Appears to be within the rear garden of 33 Hampstead Hill Gardens.

This Robinia was out of leaf during the inspection and so it was not possible to determine if it is the yellow leaved cultivar 'Frisia'. Typically vigorous, this tree has been reduced in the past at approximately 15m and has 3m regrowth. The garden in which it is rooted is some 700mm higher than that of 13a Pond Street. Care will need to be taken during demolition and reconstruction of the boundary wall. In all likelihood the roots of this tree do not extend into site due to the boundary wall and its footings.

Photo 4, T3 Robinia in background: evergreen shrub in mid ground not considered materially significant to the application.

2.2.4 **Tree T4, Ash. In good condition with 20+ years safe useful life.**

Photo 5 & 5a, T4 Ash

Located in a private garden to the north of the site, this early mature tree has recently been crown reduced. The proposal is unlikely to have any impact on this tree.

2.2.5 **Tree T5, Lawsons Cypress. In poor condition with <10 years safe useful life expectancy**.

Located in a private garden to the west of the site this early mature tree divides into two main stems at around 1 m above ground level. The union between both stems appears to be a tight 'compression fork' an accepted weakness at risk of failure. No adverse impacts anticipated.

Photo 6, T5 Lawsons Cypress

2.2.6 **Tree T6, Evergreen Magnolia in fair condition with 10+ years safe useful life expectancy.**

Photo 7, T6 Evergreen Magnolia (dark foliage left of shot) & T7 Japanese Maple (no leaves-centre of shot)

Seen from the first floor roof of the Foster Extension the Evergreen Magnolia can be seen to the left hand side of photo 7. behind railings. This tree is heavily suppressed having developed beneath the influence of adjacent Japanese Maple T7. Although presented as for retention within the scheme, it is considered that the amenity value of this tree is very limited given its position. Furthermore, thinking about use and enjoyment of the garden post construction, and in terms of competition with the more desirable Japanese maple and, the ability to sustain growth of smaller herbs and shrubs in ground it currently over shadows, removal is recommended in the short to medium term.

2.2.7 **Tree T7, Japanese Maple in good condition with 20+ years safe useful life expectancy.**

Visible to the right of the Evergreen Magnolia and central with the frame of photo 7, this is a useful tree that is in scale and proportion to its setting albeit nominally supressed beneath T8. With a three stem break at around 500mm above ground level this tree is located to the east of the Foster Extension and away from the focus of construction activity. No adverse impacts are expected however existing paving should be retained for the duration of works up until replacement (commencement of landscaping) and a scheme of protection is warranted.

2.2.8 **Trees T8 and T9, Common Lime in fair condition with 20+ years of safe useful life.**

Photo 8, Lime T8

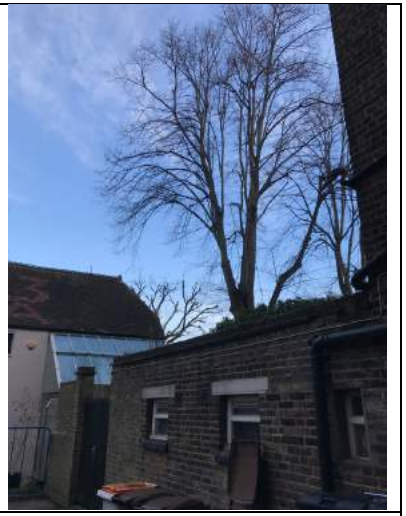


Photo 9, Lime T9

Both Limes T8 and T9 are judged to be in fair condition with 20+ years safe useful life. They are off-site trees located within the rear garden of The Roebuck public house No. 15 Pond Street: The condition of the trees is assessed as 'fair', with marking down due

primarily to the volume of dead wood within the crown which is at risk of falling and, due to the limitations of access which hindered careful inspection of the stem and lower parts of the trees.

Photo 10, Tree T9 Pollard Points

Photo 11, Tree T9 Upper crown Reduction Points

Both trees are mature and appear to have been repeatedly pruned at the following approximate heights above ground level: Pollard at 6m, crown reduced at 4m and 9m above pollard points. Currently 5m + of re-growth has arisen since the most recent reduction. Within my schedule I recommend both trees are crown cleaned and reduced to previous reduction points (whilst retaining selected growth to avoid skeletal effect) and, subject to a detailed basal and climbing inspection.

Tree T8 is of sufficient distance from the area of proposed works that no adverse impacts are expected to occur. Tree T9 is closer to the proposed basement formation: the interposing boundary wall that divides the two properties is thought likely to have curtailed root development across the boundary.

2.2.9 Shrub S1, Griselinia littoralis**,**

Photo 12, Griselinia S1

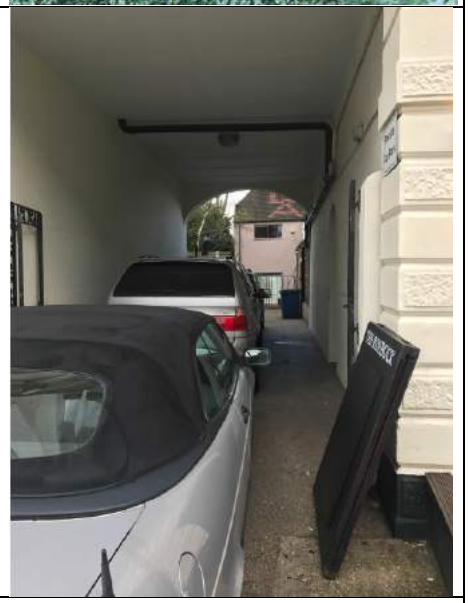


Photo 13, Griselinia stem
Photo 14, Griselinia from Pond Street

A mature Griselinia littoralis, shub, appears to be in good condition abutting the western elevation of 13a Pond Street. Previously reduced. Limited access to view plus ivy covered root collar, this plant is inclined from the western elevation and is rooted approximately 500mm from it. The garden in which it is rooted is estimated to be

900mm above the internal floor height of 13a Pond Street on basis that T2 is measured to be 1200mm and T3 700mm above adjacent ground on the site side. As with T2 and T3, it is expected that roots are contained within its own garden due to raised levels and effects of the boundary wall and its footings on root development. Care will need to be taken during demolition and reconstruction of the western elevation of the new property.

3 TREE IMPACTS AND SCHEME DESIGN.

Having presented thus far the existing context as relates to trees on and adjacent to site, and briefly indicating potential areas requiring arboricultural focus, this report now moves to consider in more detail the scheme as proposed and potential tree impacts.

It should be re-iterated that no trees are required to be felled as a consequence of implementing the proposal and whilst two trees, T5 and T6, are recommended for removal solely on arboricultural grounds, there is no immediate hazard and, the opinion provided should not be interpreted as material to the planning decision making process.

It will be drawn out below that three trees and one shrub are considered to be at potential risk of harm should development proceed *without* due consideration and controls, specifically the report will refer to trees T2, S1,T3 and T9.

To best provide analysis of existing trees as they would relate to the application, a site as proposed drawing has been prepared within which tree survey data has been overlaid. This is presented at Appendix 3 with an extract now shown for context within the narrative:

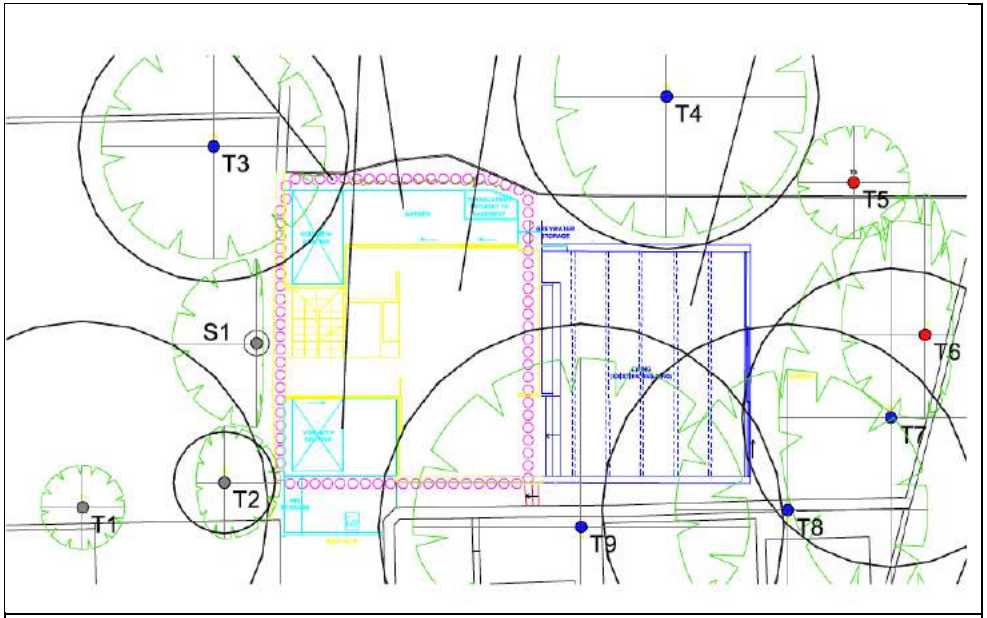


Figure 2: Tree RPA Constraints Data showing unadjusted tree Root Protection Area (RPA) as black circles centred on each tree. Trees with red centres are not considered worthy of retention and RPA is not presented. Base plan used here is an amalgamation of the site and basement as proposed plans where: Foster extension to be retained is in blue, basement as proposed (line of piles) in magenta, external garden areas in cyan (light blue) and proposed ground floor in yellow.

3.1 Generic considerations of construction impacts and basement formation relative to trees and RPA:

Construction and formation of basements can typically give rise to four principle impacts on trees and tree RPA:

- **Temporary loss of trees where these have limited value.** Loss would usually be justifiable on arboricultural grounds or because of the reasonable prospect of mitigation by new planting- *no tree removals are proposed as a consequence of the proposals under consideration*.

- **Severance of roots at the perimeter of construction.** Most trees can tolerate some loss of roots although there are limits. Failure to protect the remaining root system from the collateral impact of construction processes may compound any tolerable loss and, result in an unacceptable impact- *no significant impact on roots is foreseen based on expected curtailment of root spread by the barrier effect of walls and their foundations.*
- **Damage to roots and soils outside the perimeter of construction:** All remaining parts of tree root systems and the soils relied upon are vulnerable to the ancillary activities and material movements that support a project- *The majority of roots are protected by being external to the site, protected by hard paving, by being raised or, by distance away from construction activity.*
- **Damage to the stem and crown of trees**: This sort of damage to trees is pretty obvious and should of course be avoided by careful site set up and planning, appropriate induction of the workforce and supervision of delivery drivers, and careful positioning of conveyor belts and piling equipment – *Two trees requires specific consideration*

3.2 Discussion of Impacts to trees:

3.2.1 The proposal requires specific consideration and protection of trees T2, T3, shrub S1 and tree T9. These are now considered in detail with remaining trees addressed in summary within Table 1 below. In analysing tree risks and seeking to reduce this to an acceptable level.

3.2.2 **Birch tree T2, Griselinia S1 and Robinia T3** As can be seen in Figure 2 and the full plan at Appendix 3, These plants are close to or abut the existing line of the boundary wall or elevation of the property and are located on raised ground higher than the natural level of the site. Roots are expected to be contained by the presence of the boundary wall and footings. The RPA of the trees is shown as a circle centred on the individual tree in question. The model is a theoretical plot, derived from the literal application of BS 5837, and relates to a field or 'open grown' situation. The RPA of these trees where plotted and overlapping into the site is in reality expected to be modified by the wall and footings with roots fully contained within the garden in which the parent plant is rooted. The need to apply an RPA adjustment is a fairly commonplace occurrence in London and other developed and urban areas where the curtailment of roots is can arise.

A key element of such a consideration is that roots tend to proliferate in the upper 600mm of soil i.e. a tree root system should be considered more akin to the bottom of a wine glass than a mirror reflection at ground level of what is seen above ground. Each site and its soil conditions will of course vary, for example trees will root below 600mm on open sandy soils and may not reach that depth on heavy clay soils. Principal drivers influencing depth of root growth are availability of air (beneficial/ increases depth of rooting) and compaction/ saturation/ waterlogging of soils (not conducive).

In simple terms this report contends that where demolition of the existing brickwork and foundations is undertaken with care, and where a piling rig is positioned such that piles can be formed directly down through the path of existing footings without disturbance beyond the line of build, that no harm will arise to roots, of T2, T3 or shrub S1. The upper crown of the plants is unlikely to be impacted as a piling rig capable of accessing the site, including being able to safely traverse a basement beneath the access, is very likely to be small and light in weight. Were there to be any prospect of harm to the crown of trees, relevant branches can readily be tied back for a short period of time

Before work commences to the western elevation, a party wall award will need to be entered into. The trees and the shrub will need to be protected which will be achieved by a combination of ground protection, hoarding and attention to detail through the process of demolition and reconstruction. As roots of the trees and the shrub are on raised ground, as has been intimated, roots are

not expected to have spread across the boundary. In this case the attention given within the indicative tree protection method statement describes how work can proceed without harm with particular reference to roots.

3.2.3 **Lime tree T9,** is considered to be a minimal risk of disturbance for very much the same reasons as outlined for Robinia T2 and T3. This tree is located behind a tall brick wall and the line of the proposed basement where the RPA of the tree overlaps the site is to be formed beneath existing structure. Notwithstanding these considerations, T9 (and T8) are in pressing need of arboricultural work and should probably be reduced to previous reduction points. Even were there to be a concern about the potential impact of the scheme, the very act of pruning will cause an imbalance in root to shoot ratio such that even in the unlikely event that some root pruning was required, this is highly unlikely to result in any discernable negative impact for what is a hardy and resilient tree.

3.3 Summary of Foreseen Construction Impacts and Remedies to retained trees

Before moving to the final parts of this report: the indicative tree protection method statement and conclusion and recommendations, a summary of the foreseeable construction impact the scheme could give rise to and the proposed remedies are now provided:

	FORSEEABLE IMPACTS & PROPOSED REMEDY	
	Damage to roots, soil structure, or contamination of soil within RPA by un-controlled operations, site movements or materials storage	**Damage to the upper parts of trees, the trunk or canopy.**
T1 Sycamore	No risk foreseen	No risk foreseen
T2 Birch	See 3.2.2. Requires ground protection, controlled demolition of wall and footings to avoid disturbance of soils beyond the site. Appropriate positioning of piling rig to ensure no disturbance of soil beyond the outer edge of pile formation: achieved by thin sheet material interface between existing soil and raised piling mat	Arboriculturist to devise and implement scheme including tying back branches and anchoring off T1 to pull stem away from rig as necessary.
S1 Griselinia	Ditto as for T2	Plant leans: no risk foreen
T3 Robinia	Ditto as for T2	No risk foreseen subject to use of low mast height rig to sit beneath tree crown.
T4 Ash	No risk foreseen	No risk foreseen
T5 Cypress	No risk foreseen	No risk foreseen
T6 Magnolia	No risk foreseen / measures to protect T7 ensure	No risk foreseen
T7 Japanese Maple	Hard paving to be retained for duration of work & removed only prior to start of landscaping. Protective barrier to soft ground	No risk foreseen where barrier deployed
T8 Lime	No risk foreseen	No risk foreseen
T9 Lime	Retain existing paving and install ground protection. Carefully demolish existing part of extension and its footings within RPA prior to forming piles..	No risk foreseen subject to use of low mast height rig to sit beneath tree crown.

Table 1

4. INDICATIVE TREE PROTECTION METHOD STATEMENT.

Whilst the extent of proposed construction is external to areas of significant rooting of trees to be retained, demolitions movement of materials presents a risk of harm if protection, working method and site set-up measures are not provided that are fit for purpose and that take account of tree needs. The type of construction proposed is common-place and the protection measured required are not unduly onerous however, they should be provided and fully implemented before works commence.

Tree protection is a combination of physical installations plus management oversight, to ensure timely delivery, on-going maintenance and adjustment in event site needs alter. Through the discussion in Section 3 I have alluded to the nature of tree protection required which is now discussed in more detail.

4.1 **All Tree Protection will be installed prior to commencement of work on site.** Both the principle and contract administrator will ensure any pre-commencement tree protection details are discharged and protective measures installed before any works starts. A pre-commencement site meeting will take place at which the contract administrator, main contractor, ground worker and project arboriculturist meet to confirm installation of tree protection and site set-up requirements and resolve any potential conflicts *before work starts*. The project arboriculturist will liaise as necessary with the borough arboriculturist should the need arise.

4.2 **Tree Protection will be retained for the full duration of works and maintained as necessary to ensure function as intended.** In practical terms the day to day continuity and maintenance of tree protective measures will be assigned to the site manager. He or she will liaise with the project arboriculturist in event of a tree related emergency.

4.3 **Tree Protective barrier** will be installed at the rear of paving within the rear garden and, as a part of site hoarding under party wall arrangements in the garden of 33 Hampstead Hill Gardens.

4.4 **Ground protection will be provided** between the garden wall of the public house and edge of the of demolition of the front elevation/ existing lean-to extension beneath which piles are to be formed. Ground protection is to comprise a layer of 1000 gauge DPM laid over existing paving to be retained and tacked with a 300mm up-stand to the garden wall (to control soil from liquid contaminants) which is to be overlaid with a double layer of plywood laid to staggered joints.

4.5 **Ground Protection will be provided via party wall agreement adjacent to the Western boundary**: it is proposed that: existing ivy is mown flat and ground levelled if necessary by addition only (no level reduction) of a shallow layer of sharp sand over a permeable weed control membrane (to allow for later removal of sand). On this levelled sand bed, a double layer of plywood will be laid and screw fixed to staggered joints to form a monolithic deck. This is to step over the stem of the Griselinia by forming a timber boxed step arrangement and the whole tied into protective barrier (hoarding) as described at 4.3.

4.6 **Demolition of existing walls and foundations along the western and southern boundary and formation of piles.** Following installation of protection as at 4.3 and 4.5, Demolition will commence. The western boundary wall will be carefully removed to the ground level of 33 Hampstead Gardens and material tumbled into 13a. Once the ground floor slab has been removed, the

remaining walls and footings along the boundary will be removed in section, or 'bays' after which a piling mat will be formed that meets the adjacent higher ground level. In this way the adjacent ground will remain supported. A barrier comprising plastic DPM membrane followed by 18mm bituminous impregnated protection board will be placed against the exposed earth before construction of the piling mat to act as a separation and 'slip surface' against which piles can be formed whilst isolating soil behind. Once piles are formed, the new elevations can be raised with soil and roots within it being protected by the ground protection previously described.

5 SUMMARY AND RECOMMENDATIONS

On the basis of the above information and discussions, I summarise and make recommendations as follows:-

5.1 The scheme proposed will not require the removal of any trees (or neighbours shrubs), nor will it materially harm those to remain where adequate controls are provided.

5.2 Work close adjacent to trees to remain should be controlled to minimise risk of harm. Simple methodology and precautions are outlined in indicative terms.

5.3 Site layout is such that the focus of material movements both onto and off site is located away from significant trees.

5.4 I recommend that the provisions within this report and details of Tree Protection are incorporated into documents for pricing and in discussion with ground work contractors.

5.5 I recommend that on-going arboricultural presence is maintained within the design team for the duration of planning and execution of works.

5.6 I recommend that this report and its details are directly referenced within a positive decision notice for immediate action pre-commencement.

5.7 With adequate controls the proposal will not harm trees, or the appearance or character of the conservation area and therefore, there should be no arboricultural impediments to an otherwise acceptable scheme.

Nick Bentley
HNDH RFS Cert Arb
8th March 2018

APPENDIX 1

Brief qualifications and experience of Nick Bentley

1. **Qualifications:** HNDH Landscape Design & Horticultural Technology, Credit, Askham Bryan College, York, 1989. RFS Cert Arb 1991 Credit. Professional Tree Inspection, 2006.

2. **Practical experience:** As gardener, arborist and arboriculturist. Royal Botanic Gardens Kew (Wakehurst Place) as climbing tree surgeon. 15 years experience Local Government as an Arboricultural Officer: Leicester City Council, Wycombe District Council and latterly 8 years at the Royal Borough of Kensington and Chelsea handling all aspects of pubic sector tree management and procedures relating to the Town and Country Planning Act 1990 i.e. Development Control, public inquiries and informal hearings, tree preservation procedures and all aspects of control and enforcement thereof. Following a brief spell of 18 months as contracts manager of Arboricultural Association tree surgery contracting company I have been self employed from 2004 as a specialist tree planting contractor and, consulting arboriculturist for public and private clients and now continue to trade as Tree Projects Ltd.

3. **Continuing professional development:** Member of the Arboricultural Association and Royal Forestry Society and Associate of the London Tree Officers Association. Seminars/ Workshops: 2009: Veteran Tree Management, ISA; Trees and Climate Change, EtaLog, 2008: The Underground Movement, Barcham/ Bartlett seminar; CAVAT in practice training seminar with Chris Neilan/ Tim Moya Assoc; 2007: the Business of Arboricultural Consultancy, Arb Association; Through the Trees to Development, AAIS; 2006; Introducing BS 5837: 2005, Arb Association; Report Writing, Arb Association; Elite Bio-Mechanics, Mattheck/ Symbiosis Consulting; The Future of Tree Risk Management,

4. **Commissions undertaken:**

    - Planning consultancy to British Standard 5837 Trees in Relation to Construction; tree surveys and design advice for new builds, underground and above ground extensions, including method statements and tree protection plans.
    - Tree condition surveys and recommendations including data handling through Ezytreev and Confirm.
    - Providing advice on tree preservation matters, tree work applications and sub-contracting tree surgery operations.
    - Tree supply and planting.
    - Tree root investigations by trench formation and pile spotting by use of non percussive air spade and air vacuum excavation techniques

APPENDIX 2

Tree Schedule
Tree Schedule Plan
Explanatory notes

No Pages: This plus 3

Tree Projects BS 5837 Survey 13a Pond Street																			
Date: 09-03-2018																			
Weather: bright & cold																			
Type	Common Name	Latin Name	DBH	Stem Cnt	Height	Low Crown	Nth	East	Sth	West	Age	Life Exp	Condition	BS Cat.	Comments	Prelim. Mgt Recom.	RPA m2	RPA radius	RPA square
T1	Sycamore	Acer pseudoplatanus	550	1	5	2	1.5	1.5	1.5	1.5	V	10+	Poor	C2	Diameter estimated, canopy estimated, in neighbouring property. low vigour		136.8	6.6	11.7
T2	Silver Birch	Betula pendula	150	1	9	4	2	2	2	1	EM	10+	Fair	C2	Diameter estimated, canopy estimated, in neighbouring property. recovering from having been suppressed, natural lean to stem		10.2	1.8	3.2
T3	Locust Tree	Robinia pseudoacacia	400	1	18	5	4	4	4	4	M	20+	Good	B2	Diameter estimated, canopy estimated, in neighbouring property, requires further inspection. Inspected out of leaf: could be Ro ps Frisia. Reduced height aprox 15m with 3m regorwth		72.4	4.8	8.5
T4	Ash	Fraxinus excelsior	450	1	12	6	5	5	5	4	EM	20+	Good	B2	Diameter estimated. Recently reduced		91.6	5.4	9.6
T5	Western Red Cedar	Thuja plicata	200 250	2	10	1	2	2	2	2	EM	<10		U	Diameter estimated, canopy estimated, in neighbouring property. Compression fork likely to fail	Fell	46.3	3.8	6.8
T6	Evergreen Magnolia	Magnolia grandiflora	246	1	6	2	5	1	3	3	EM	10+	Poor	U	Heavilly suppressed and overbaring. Remove in favour of Acer T7.	Fell	27.3	3.0	5.2
T7	Japanese Maple	Acer japonicum	270 270 220	3	11	5	7	7	7	4	M	20+	Good	B2		Crown clean	87.9	5.3	9.4
T8	Common Lime	Tilia X europaea	550	1	19	5	5	5	5	4	M	20+	Fair	B2	Diameter estimated, canopy estimated, in neighbouring property. Pollarded at aprox 6m. Crown reduced aprox 4m and 9m above pollard. aprox 5m regrowth above most recent reduction points	Crown clean and reduce to previous reduction points. Climber to report on condition i.e. squirrel damage to upper surfaces of branches and their integrity, condition of cavities and pollard/reduction points and attachments etc.	136.8	6.6	11.7
T9	Common Lime	Tilia X europaea	600	1	19	5	6	6	4	6	M	20+	Fair	B2	Diameter estimated, canopy estimated, in neighbouring property, requires further inspection, requires aerial inspection. Pollarded at aprox 6m. Crown reduced aprox 4m and 9m above pollard. aprox 5m regrowth above most recent reduction points	Crown clean and reduce to previous reduction points. Climber to report on condition i.e. squirrel damage to upper surfaces of branches and their integrity, condition of cavities and pollard/reduction points and attachments etc.	162.9	7.2	12.8

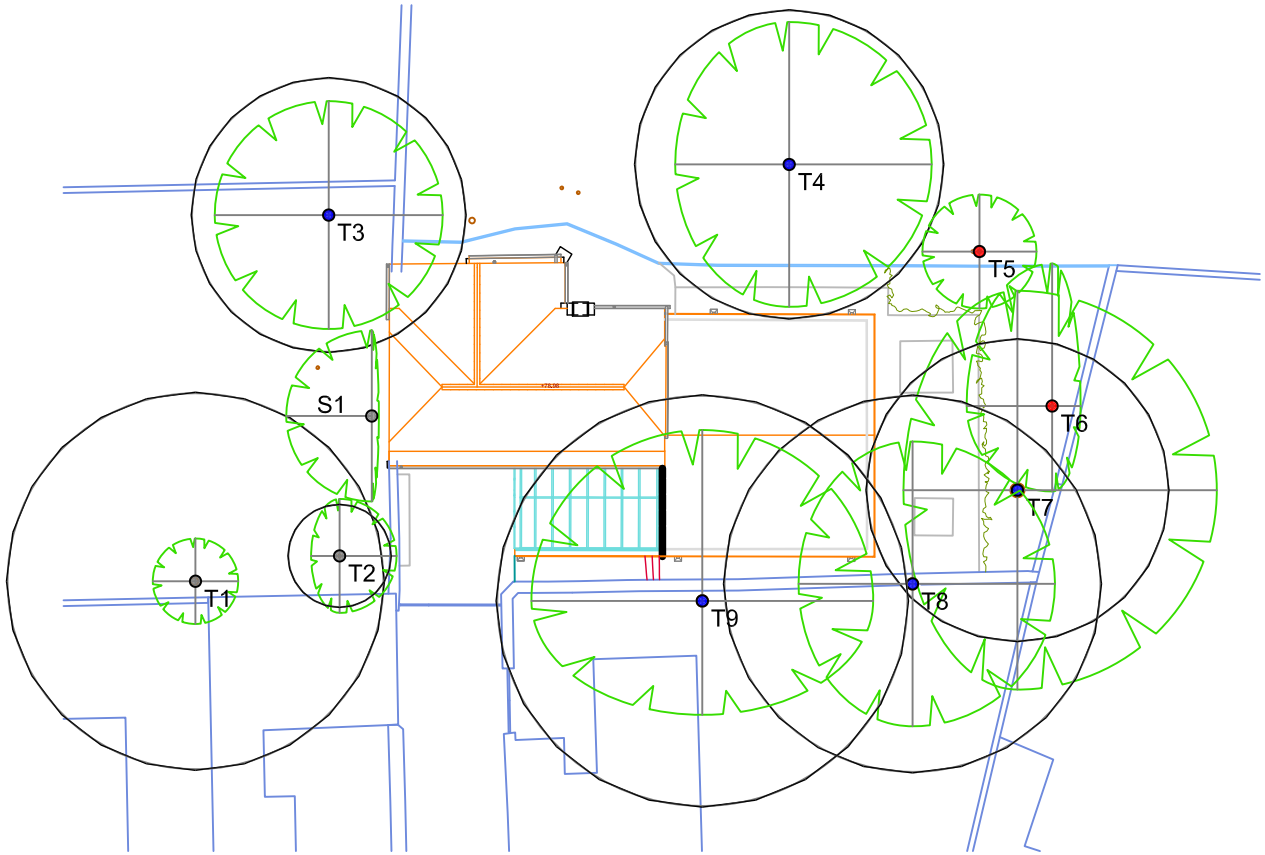
Type	Common Name	Latin Name	DBH	Stem Cnt	Height	Low Crown	Nth	East	Sth	West	Age	Life Exp	Condition	BS Cat.	Comments	Prelim. Mgt Recom.	RPA m2	RPA radius	RPA square
S1	Griselinia	Griselinia littoralis	250 120	2	5.5	1	3	0	3	3	M	10+	Good	C2	Diameter estimated, canopy estimated, in neighbouring property. Recumbent a-symetrical shrub that has been previously reduced. Access to view limitied by available vantage points This plus lower stem being covered in dense Ivy growth makes assessment of structural condition of lower stem impossible.				

Explanatory Notes to tree survey schedule

- **Tree reference (tag) number:** Individual trees are referred to by a 'T' prefix to a number, i.e. T1, T2 etc. Collections or distinct groups of trees may be assigned a G prefix to denote presence of a 'group'. Prefixes and 'SB' (shrub) ST (Stump) and 'H' (Hedge) show further arboricultural features
- **Name/ Latin:** Species identification is based on visual observations and the common English name of what the tree appeared to be is listed first, with the botanical name after. The botanical name is followed by the abbreviation spp if only the genus is known.
- **Measurements/estimates:** Stem and Height dimensions are taken by tape or laser unless indicated. (DBH in mm/ Height in m)
- **Tree Stem DBH (Diameter Breast Height) is used to calculate Root Protection Area (RPA):** Measured at 1.5m above adjacent higher ground level using a specially calibrated 'diameter tape' and recorded in millimetres. Low branching trees are measured at the waist if lower than 1.5m. If two or more stems are present breaking from ground level, each stem is measured and relative locations described where possible using cardinal points. If taken lower than 1.5m for practical purposes the reading height is given.
- **Height:** Height given approximately to the nearest 0.5m, May be derived from compensating lines of sight.
- **Stem Cnt = Stem Count:** number of stems observed (informs calculation of RPA taking account of difference between single stem [SS] and multi-stemmed trees [MS])
- **Low crown Height:** the generalised height of the crown above ground level, usually branch ends.
- **First Significant Branch & Bearing:** Height of first significant branch and direction of growth.
- **Branch Spread:** Crown spread is measured and given to the nearest metre or half metre from the face of the trunk to the tips of the live lateral branches, measured towards the cardinal points. Usually measured by pacing. For trees managed by pollard regime crown may be to pollard extent: check tree schedule.
- **Age Class:** Y=young, SM= Semi Mature, EM=Early Mature, M=Mature, OM=Over Mature, V=Veteran. Age is estimated from visual indicators and experience and it should only be taken as a provisional guide. Age estimates often need to be modified based on further information such as historical records or local knowledge.
- **Life Expectancy:** the estimated remaining contribution (to amenity)/ safe useful life expectancy in years. (< 10, 10+, 20+, 40+) a tree with less than 10 years safe useful life will ordinarily need to be felled unless retained for habitat purposes within an excluded area.
- **Physiological condition:** An assessment of the general health of a tree considering vigour, extension growth, crown density and presence of pathogens. G=Good, F=Fair, P=Poor, D=Dead
- **Category Grading:** the grade of the tree utilising the cascade chart for tree assessment within BS 5837:2012 Trees in Relation to Design, Demolition & Construction. Trees are graded on arboricultural, landscape and cultural/ conservation qualities. The assessed quality of a tree is ascribed by this letter whilst numeric sub categories define where the quality lies without conferring additional value. Simplified definitions are:

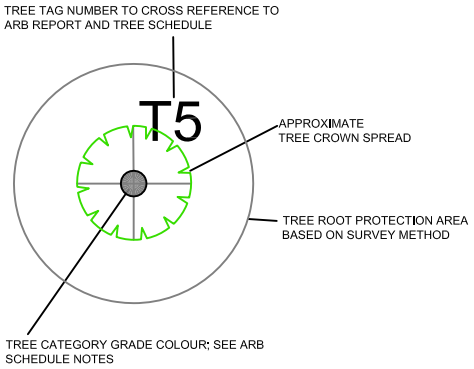
    - **Category U, Unsuitable for Retention; 'Trees in such a condition that they cannot realistically be retained in the context of the current land use [or their condition] for longer than 10 years'. (Trees would probably be removed for reasons of sound arboricultural management in any event)**
    - Category A: 'Trees of high quality with an estimated remaining life expectancy of at least 10 years.'
    - **Category B: 'Trees of moderate quality with an estimated remaining life expectancy of at least 20 years'**
    - 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'.
    - Sub categories 1, 2 or 3 assign respectively: 1; mainly arboricultural qualities, 2: mainly landscape qualities, 3; mainly cultural values including conservation. Note: for example an A1 tree has the same retention priority as an A2 tree. A Some trees may qualify under more than one criterion.

- **Comments:** observations that may supplement assessments of condition or otherwise be significant.
- **Preliminary Management Recommendation:** Advice regarding tree surgery etc. Key: NW = No work. RP= Reduce to Previous Reduction Points. CR% = Crown Reduce (by % or m). CL = Crown Lift (to specified height AGL). CT = Crown Thin (by %). **Priority** (where specified) Priority 1 = Urgent works ASAP and certainly within 1 Month. Priority 2 = Complete within 12 months. Priority 3 = Non critical works to complete within 2 to 3 years.
- **RPA m2:** The Root Protection Area in square metres required by BS 5837.
- **RPA radius:** the radius of a circle of size equivalent to the RPA m2. The radius is taken from the centre of the tree plot.
- **RPA square:** the length of sides of a square equivalent to the RPA m2. the centre of the trunk of the tree to be positioned in the centre of the square



Existing

KEY TO TREE SYMBOLS



SCALE BAR

0 1 2 3 4 5 10

TREE SCHEDULE PLAN
13a Pond Street, London NW3 2PN

TREE PROJECTS LIMITED,
THE MAISONETTE, 22 OLD PARK AVENUE
LONDON SW12 8TT

9th March 2018 - REV B

E: treeprojects@hotmail.com M: 07788 726 720

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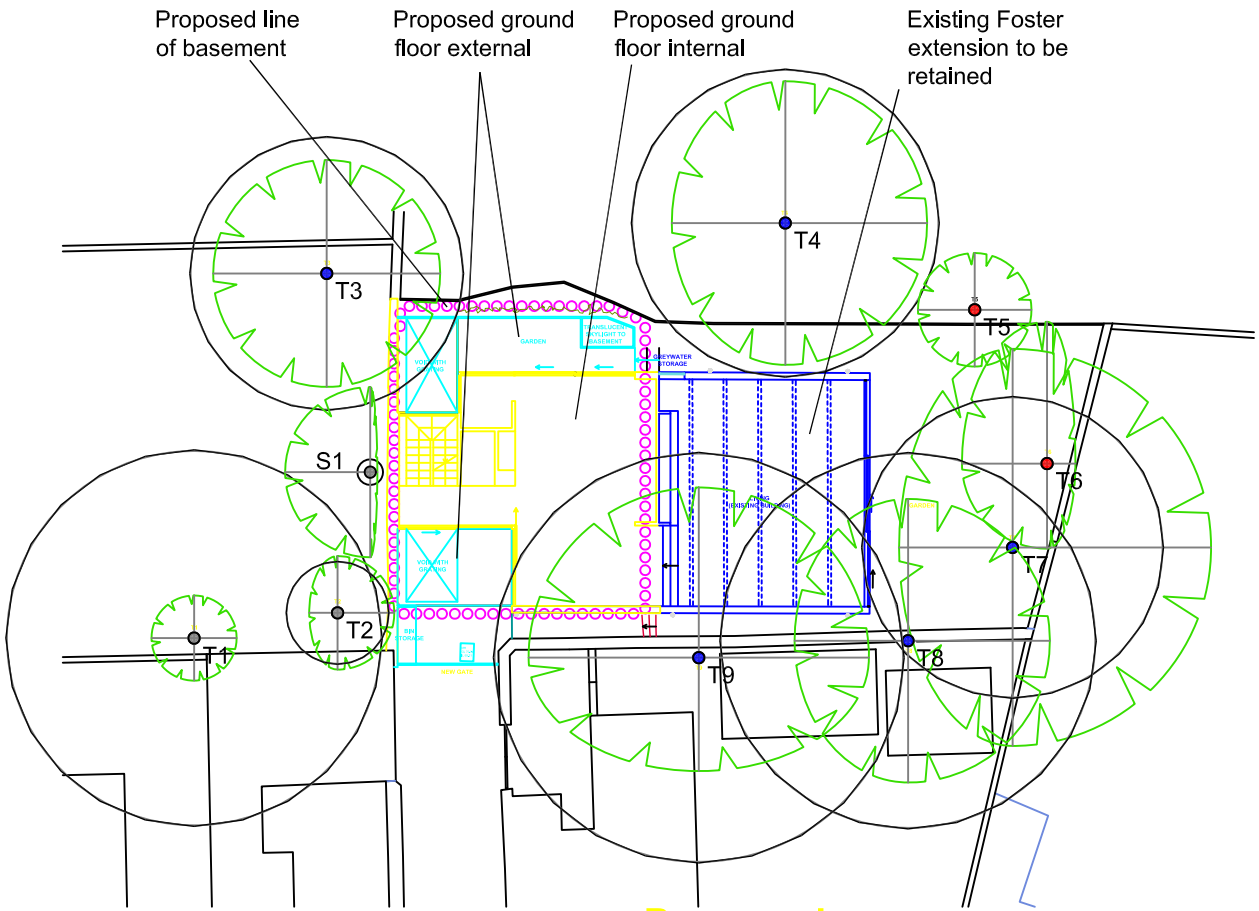
APPENDIX 3

Trees Site as Proposed Plan

No Pages: This plus 1



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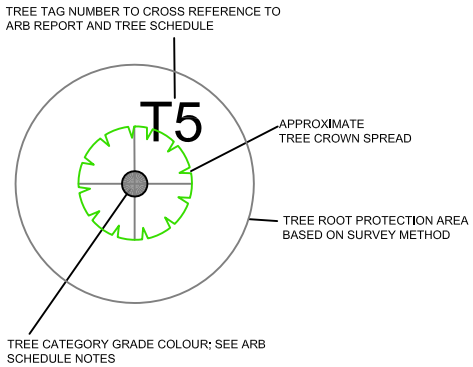

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TREES SITE AS PROPOSED PLAN
13a Pond Street, London NW3 2PN

TREE PROJECTS LIMITED,
THE MAISONETTE, 22 OLD PARK AVENUE
LONDON SW12 8TT

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