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**ARBORICULTURAL
IMPLICATIONS
REPORT**

for :

361 – 367
St Margarets Road
Twickenham

Produced for: Clive Chapman
Architects

Prepared by:
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Appendices

- Appendix 1 Tree Survey Schedule & Table 1 of BS5837
- Appendix 2 Tree Protection Plan (TPP) and Examples of Tree Protection Fencing
- Appendix 3 ACS Guidance for a low-invasive construction method and Examples of Load Dissipating Materials
- Appendix 4 Examples of Ground Protection
- Appendix 5 Site Supervision/Monitoring Record
- Appendix 6 Hand Digging in the vicinity of trees

Arboricultural Implications and Tree Protection Methods

Trees at 361 – 367 St Margarets Road, Twickenham

Summary of Conclusions and Recommendations

Subject to the implementation of the proposed scheme in accordance with the recommendations set out in this report, the landscape and important trees will not be adversely affected either directly or resulting from the development of the proposed scheme.

As a consequence of the above, the scheme will have a negligible impact upon the visual character and appearance of the area.

Recommendations

1. Undertake a pre-commencement site meeting
2. Agree the sequence of events
3. Adhere to the tree protection measures stipulated in this report
4. Monitor tree protection during construction period

1.0 Introduction and Scope

- 1.1 This report has been commissioned by Clive Chapman Architects to; i) assess the trees in accordance with BS 5837:2005 'Trees in relation to construction- Recommendations' (The BS); ii) detail the arboricultural consequences of the proposed project and assess its visual impact upon trees and amenity; iii) provide recommendations for effective tree protection, which are commensurate and appropriate for the scale and type of development; iv) develop a tree protection strategy for the duration of the construction including any land preparation or demolition works.
- 1.2 Reference to 'the proposed scheme' below will mean either the approved scheme for which planning consent has been granted or the scheme under consideration by the Local Planning Authority (LPA).
- 1.3 The trees were inspected, in accordance with BS 5837:2005 'Trees in relation to construction- Recommendations' on the 10th December 2007 and a total of 4 tree records are provided.

- 1.4 This report sets out the protection measures that will be adopted to ensure effective tree preservation. The basic principles are that; the established fenced and ground protected areas are exclusion zones for the duration of the construction (or as duly agreed) and; excavations within the BS root protection areas (RPA) will be subject to professional assessment (see Note 1).
- 1.5 A full hazard assessment of the trees (including for example the assessment of decay or defects and its implications), has not been undertaken as this information is considered beyond the scope of this report. Naturally, any obvious hazards have been identified in the schedule and, I recommend that these are acted upon as soon as practicable.
- 1.6 Any operational practices recommended in this report are to be undertaken by the appropriate specialist company. Operatives are to carry out the relevant risk assessment and record such information, prior to commencement of tasks and work in accordance with current Health and Safety standards, practices and legislation. Unless formally agreed, no contractors are assessed, appointed or monitored by ACS Consulting. Responsibility and liability of all actions, non-actions, products and services associated directly with this report will be limited to the relevant client and contractor.

General Site Description

- 1.7 The site comprises a three storey residential block of flats off St Margarets Road. The surrounding land use is urban residential and the site is predominantly flat. Geological records suggest that the local soil is London Clay.

2.0 Tree Appraisal & Implications

- 2.1 The tree details are presented at **Appendix 1**. These details conform to those recommended by BS 5837:2005 'Trees in relation to construction-Recommendations'. The position and status (TPO) of the trees is shown on the Tree Protection Plan (TPP) at **Appendix 2**.
- 2.2 The implications of the proposed scheme, in terms of tree pruning and other works are detailed in the table below. An assessment of the visual impact of the works resulting from the scheme OR as a consequence of sensible arboricultural husbandry is also provided.

Tree Works	Tree Nos	Visual Landscape Impact of Works*	Available Replacement Planting(Y/N)	Comments
Cut back over hanging branches to boundary	Cherry Laurel in neighbouring property to North	Low	N	Common law right to cut back overhanging branches , tolerable works for the species
Cut back canopy growth by 1m to south west of tree to provide sufficient clearance for scaffolding	T3	low	N	Low visual impact
		Low		

*This is a preliminary visual appraisal based upon the opinion of the author having inspected the trees in the context of their current surroundings. – None (no change or beneficial impact) Negligible or indiscernible difference to treed landscape; Low – Noticeable but mitigated by retention of other landscape trees and features; Medium – Obvious but temporary alteration to the treed landscape; High – Obvious and permanent alteration to the landscape.

Visual receptors include the public or community at large, residents, visitors or other groups of viewers together with the visual amenity of potentially affected people.

- 2.3 As a consequence of my assessment above, I believe the visual impact of the scheme to be negligible in the context of trees and their sustainable contribution to the landscape and local amenity.

- 2.4 It will be necessary for all tree work to conform to BS 3998:1989 'Tree Work' (with amendments) and to current arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor, who has the appropriate experience and insurance cover. Commencement of all or some of the proposed works may be subject to written authorisation from the Local Planning Authority (LPA) should planning consent be obtained. We strongly advise that authorisation for any tree works is obtained from the LPA prior to commencement.**
- 2.5 In addition, prior to the commencement of any tree works, an ecological assessment of specific trees may be required to ascertain whether protected species (e.g. bats, badgers and invertebrates etc) may be affected.**
- 2.5.0 Specific Comments on Tree Stock**
- 2.5.1 There are a total of four trees which have been surveyed in relation to the proposed scheme, with only one of these, Tree 2, being within the site boundary. Tree 1, a mature Eucalyptus and Tree 2, a previously coppiced Field Maple are sufficiently remote from the scheme build not to be directly affected. Their uniform root protection areas (RPA's) will be accommodated as shown on the Tree Protection Plan at **Appendix 2.**
- 2.5.2 The Lime tree T3 is the principal landscape feature in the immediate area and is situated on the Public Highway. Based on the Pre – application advice, the footprint of the building has position further away from the canopy (which currently extends 7 metres into the site) to create a suitable juxtaposition. The tree has recently been pruned by the Local Authority and its canopy spread can be expected to increase in the future. However it is not unreasonable to expect that similar pruning works can and will be repeated on a cyclical basis by the Local Authority as part of their route management of highways trees. This will elevate perceived post development pressure issues such as loss of light. In addition room layout has been optimised by placing bedrooms in the area which is closest to the trees canopy. This is less likely to generate conflict with the retained tree as a result of general nuisance type issues. The new occupiers of the properties will also have the Common Law right to prune back the overhang canopy should they wish to do so. As a species, Limes trees are tolerant of such pruning and I do not believe this particular tree will suffer adversely as a result of the likely future pruning requirements.

- 2.5.3 The shade trace of the tree is shown on the Site Layout Plan at **Appendix 2** and illustrates that direct shading to the north and west will occur during some parts of the day. However I do not consider that this is excessive and a suitable relationship between the tree and property is achieved.
- 2.5.4 There is a loss of 11% of the uniform RPA of Tree 3 and as such, a hand digging only methodology will be employed for construction within this area. In addition the protected area has been increased to take account of this loss so that the calculated RPA of 265 m² is maintained and can be adequately protected. At the propose distance of excavation from the stem of Tree 3, it is likely that only small diameter fibrous / feeder roots will be found and therefore will be tolerant of sympathetic root pruning (see para 3.7)
- 2.5.5 Minor pruning works are required to increase the distance from the corner of the proposed building to the south west part of the canopy so as to allow the necessary clearance for the installation of scaffolding.
- 2.5.4 The recently pollarded Lime to the South of the site, situated within the neighbouring property is not affected by the scheme.
- 2.5.6 It will be necessary to cut back the large cherry laurel shrub, which is situated in the neighbouring property to the North of the site, to the point of the boundary. A proportion of the rooting area will also be lost as a result of excavations for the underground car park. Cherry Laurel is a hardy, fast growing species which will readily tolerate hard pruning into old wood. In my experience the root system is also characterised by the tendency to form mats of fibrous root close to the main stem with few lateral or structural roots. As long as root pruning is carried out sensitively with hand tools I do not predict that this boundary screen will suffer adversely and will regenerate following construction.

3.0 Tree Protection Measures

General

- 3.1 A tree's BS root protection area (RPA) is based upon a radius measurement taken from the trunk centre and is included with reference to Table 2 of the BS (See **Appendix 1**). Professional arboricultural judgement may identify modifications to the morphology of an RPA. Any work within a tree's RPA will be subject to professional advice and the guidance set out in this report, particularly where construction is required within this area but beyond the position of fixed tree protection fencing.
- 3.2 Effective tree protection will be afforded subject to following a logical sequence of events, which **will follow a pre-commencement site meeting** (see 4.0). Invitees will include LPA representatives and the site agents and any specialist supervisors:

('S' refers to the stage in order)

- S1 Undertake any agreed and or necessary tree works.
- S2 Erect protective fencing and install ground protection/site huts
- S3 Carry out demolition works and construct site access and parking areas
- S4 Carry out ground works including excavations for foundations and services
- S5 Erect scaffolding and complete construction works
- S6 Remove protective fencing and complete porous hard surfacing areas and landscaping works
- 3.3 The protection fencing will be erected in the position indicated on the Tree Protection Plan (TPP) at **Appendix 2**.
- 3.4 The type of fencing and its recommended specification is attached at **Appendix 2** also. In this case both, hoarding or fixed Heras fencing will be effective.

- 3.5 The protection fencing will remain in position for the duration of the construction phase, including the removal of the existing structures and land preparation. Clear signs will be attached to the fencing once erected – suggested wording will be **'Protected Trees – No Access and Do Not Move this Fence'**.

It is possible to increase tree protection during construction by positioning tree protection in stages and agreeing that particular construction processes can be brought forward or delayed in the development period. For example, the hard standing areas may be constructed toward the end of the development enabling a higher degree of protection for the maximum amount of time. Where appropriate, the TPP indicates, by colour coding, the position of fencing which will be re-located or removed to provide space for construction at most effective times. Any alteration to the position of fencing will be agreed with the LPA.

- 3.6 Where, for construction purposes, it is necessary to position tree protection fencing within the RPA of tree No 3, suitable ground protection will be installed to prevent undue soil/root compaction from pedestrian and/or vehicular traffic. At **Appendix 4** are recommended examples of effective ground protection suited for this location. Included in the Appendix also is a diagrammatic indication of how ground protection or hard surfacing offers effective root/soil protection. The type of ground protection will be suitable for the type of proposed traffic e.g. scaffold boards over compressible material will be suitable for pedestrian and light machinery such as wheel barrows but polyethylene or steel ground plates will be used for heavier machinery and temporary re-enforced concrete may be suitable by agreement.
- 3.7 Light weight constructions such as paths, bin store or cycle store bases are also subject to low-invasive construction techniques. A specific methodology is included at **Appendix 3**.
- 3.8 Hand excavations, which are required and agreed to occur within the RPA of tree No 3 and the Cherry Laurel hedge to the North of the site may encounter roots. Although soil excavation near trees and root pruning is outlined in **Appendix 6**, specifically in this case however the treatment of roots will be undertaken in the following ways:
- i) Clearly mark out the area for hand dig (using biodegradable marker paint) (see TPP)
 - ii) Use hand tools (forks and spades) to remove the spoil and deposit beyond RPA.
 - iii) Identify roots to be retained by brushing or the use of compressed air

- iv) Roots <25mm Ø will be pruned using sharp pruning tools. Roots will be pruned back to a side shoot or suitable position, ensuring the exposed face is kept to a minimum.
- v) Roots >25mm Ø will be retained (unless pruning is agreed) by specific construction design. Retention of roots 50mm Ø or more will be by the use of void-formers (see **Appendix 6**).

4.0 **Underground Services & Foundations**

- 4.1 The proposed scheme can make use of some existing services (e.g. main drainage and electricity). There is no requirement for new excavations in the vicinity of retained trees at this stage.
- 4.2 The foundations of the structures located within the BS RPA of tree No 3 will be constructed by adopting a traditional strip (trench) foundations design. No special precautions to accommodate the rooting area of Tree 3 is proposed as the loss of just over 1% of the total RPA is considered to be tolerable.

5.0 **Soil Grade Level Changes**

- 5.1 There are no significant changes proposed to soil levels (existing grade level), within the RPA of any retained tree. As such, no specific instructions are required to address grade changes and tree preservation.

6.0 **Site Supervision - Arboricultural Specialist**

- 6.1 It is important to recognize that the Local Planning Authority Officers (Enforcement Departments) have stringent powers to serve a **Temporary Stop Notice** through recent changes in the legislation governing planning and development. Circular 02/2005 (see Note 2). It is therefore important that works, which may impact upon trees and amenity, are suitably controlled by competent personnel. Identified below are details of a site monitoring process designed to minimize potential risks to retained trees on or off site.
- 6.2 A **pre-commencement** site meeting, involving invited representatives from the developer, contractors and engineers (as appropriate) and relevant LPA officers, will be undertaken to establish the principal timings and actions.
- 6.3 So as to ensure that the tree protection measures are implemented, an arboricultural specialist will be appointed to record the condition of the trees to be

retained and the position and type of tree protection erected and or installed. The specialist will make a record of visits and which will be retained by the contractor/developer and or left on site for inspection (see **Appendix 5**).

6.4 Key times for site supervision include:

1. Completion of agreed/necessary tree works
2. Erection of tree protection fencing
3. Installation of ground protection
4. Works within RPAs of retained trees
5. Landscaping

6.5 Site monitoring will be at regular intervals, (beyond that stated above) and at minimum three-week intervals (subject to development scale).

Contact List (to be completed PRIOR to commencement)

Interested Party	Name	Company/LPA	Contact Number(s)	Comment
Site Agent	TBA	TBA		
Arb. Supervisor	Edward Buckton	ACS Consulting	020 8687 1214	Arb. Consultant
LPA Tree Officer	Paul Cross	London Borough of Richmond	TBA	
Site Engineers	TBA	TBA	TBA	

TBA – to be advised

7.0 General Site Care

- 7.1 No fires will be lit on site.
- 7.2 No access will be permitted to within the fenced or otherwise protected areas (unless for site accommodation or Authorised agreement) at any stage during construction.
- 7.3 No materials, equipment or debris will be stored within the fenced areas unless agreed with the arboricultural supervisor.
- 7.4 Areas for mixing are to be located beyond RPAs of trees and contained to prevent leaching into the soil.
- 7.4 A copy of this report and the Tree Protection Plan is to remain on site at all times.

Note 1. RPA to be assessed by an arboriculturalist. BS 5837:2005 'Trees in Relation to Construction - Recommendations' paras. 5.2.4 and 11.1.1.

Re-building of existing structures located within the protection distances, such as retaining walls, may require soil excavation and root treatment.

Note 2. The Circular 02/2005 gives guidance on the temporary stop notice provisions in Part 4 of the Planning and Compulsory Purchase Act 2004 which inserted sections 171E to 171H to the Town and Country Planning Act 1990.