



Merewood
Arboricultural Consultancy Services

**Arboricultural survey to British
Standard B.S. 5837: 2012 'Trees in
relation to design, demolition and
construction - Recommendations'**

at

**The Bungalow
Willoughby Road
Twickenham
TW1 2QH
Rev. B**

**Client: Nomad Developments
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Prepared by

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1.0 Introduction

1.1 Brief

- 1.1.1. I am instructed by Jorge Dainton on behalf of Nomad Developments to carry out an arboricultural survey at The Bungalow Willoughby Road Twickenham. I am to assess the health and condition of the trees present, provide an estimate as to their longevity and to provide recommendations for tree work or other operation to ensure the trees are kept in safe a condition as can be reasonably expected.
- 1.1.2. I am to advise on the likely impact of development proposals to the trees on and adjacent to the site. I am to provide recommendations for tree retention and protection, including appropriate measures that are to be undertaken in order to minimize the impact of development.
- 1.1.3. I have carried out the survey, collecting data in accordance with the recommendations of British Standard B.S. 5837: 2012 'Trees in relation to design, demolition and construction - Recommendations' and in line with best practice procedures.

1.2 Report Limitations

- 1.2.1 This survey assesses the condition of the trees based on a visual inspection made at ground level in order to meet the requirements of British Standard B.S. 5837: 2012. As such it presents an insight about the condition of the trees, on a basic survey level only. If further inspection of any specific tree is required, including the use of more sophisticated decay detection equipment, the recommendation to do so is made.
- 1.2.2 Trees are dynamic living organisms that are subjected constantly to external stresses and to biological and non-biological influences. As such the structure of trees can change at any given time and it is therefore recommended that trees are inspected regularly and assessed for risk. It is normally recommended that such inspections are undertaken every five years, unless otherwise advised.
- 1.2.3 The assessment of the trees made in this report may be considered valid for a period of twelve months, after which a further assessment is normally recommended.
- 1.2.4 This report is restricted to those trees shown on the plans and described in the schedule.

1.3 Legal considerations

1.3.1 It has been established at the time of the survey that the trees on and adjacent to the site is protected by Tree Preservation Orders (TPOs). If any works to trees are proposed, other than the removal of dead wood or the implementation of operations agreed through planning consent, an application must be submitted and approved by the Local Planning Authority before such works can be carried out.

1.3.2 The Wildlife and Countryside Act (1981) makes provision for the protection of wild birds, bats, and other wildlife. Landowners have a duty of care to consider nesting birds and bats (and any other wildlife that may be affected) when proposing tree management, especially felling.

1.4 Survey Date

The trees at The Bungalow Willoughby Road Twickenham was surveyed on April 13th 2021.

1.5 Survey conducted by Simon Hawkins ND Arb M. Arbor. A.

1.6 Site description

1.6.1 The site at The Bungalow Willoughby Road Twickenham formerly included a detached dwelling (since demolished) towards the end of a cul-de-sac alongside the River Thames near Richmond Bridge. The site is currently being re-developed with construction now underway.

1.6.2 The site is located to the south-west side of the River Thames to the west of Richmond town centre. To the north of the plot, the ground slopes sharply down to the rivers' edge, with the slipway and road bounding the south side of the property. To the north-west there is another residential property.

1.6.3 The topography of the site is more or less level, other than the slipway to the river and the embankment bordering the north side of the plot. The river is tidal here and river levels fluctuate daily.

2.0 Summary

2.1 The proposals take account of the horse chestnut tree at the rear of the site. However the tree is beginning to reach the end of its safe useful life expectancy and aside from the development proposals consideration could be given to replacing the tree. Trees growing on adjacent land will be protected by the use of ground protection mats.

3.0 Results

3.1 Results summary

- 3.1.1 Appendix 1 presents details of the individual trees and groups found during the assessment including heights, stem diameters and rpa's, crown spread (normally measured to cardinal points unless otherwise indicated), an indication of physiological and structural condition, age class, any appropriate management recommendations, estimated life expectancy and a BS5837 category of quality.
- 3.1.2 The survey has revealed that of the 5 trees recorded there are 0 'A' category trees; there are 4 category 'B' trees; there is 1 category 'C' trees; and there are 0 category 'U' trees.

4.0 Impact Assessment

- 4.1 I am asked to provide an Impact Assessment and method statement to support planning proposals for the re-development of the site following the demolition of the bungalow.
- 4.2 Planning permission has already been granted (ref 13/2484/FUL) for the re-development of the site including the construction of a pair of three storey semi-detached houses with garages, access, forecourt, bin stores, landscaping and ancillary works.
- 4.3 The latest proposals here propose to extend the footprint of the approved layout. I refer to the proposed site plan (ref JCA-0721-01-PP-GF) upon which I have based the tree protection plan (appendix 3).
- 4.4 In assessing the potential impact of these proposals I have considered the likely spread of the root system of the horse chestnut tree (T1), taking into account the river to the north east side, the slipway to the east and the footprint of the former bungalow. I have also considered the potential restriction to root growth posed by the presence of the flood barrier wall.
- 4.5 The proposals would seek to use the existing footprint to a large extent and the presence of roots here can be discounted. There is a small area of overlap to the north east corner of the building that was not previously covered by the old bungalow and conceivably there are some roots growing in the soil there. This area amounts to 0.5% of the overall rpa of the tree.
- 4.6 The roots likely to be present here will be fine feeding roots as opposed to structural or arterial roots. In coming to this conclusion I surmise that structural (supporting) roots will not have developed here as there are no stresses placed on the roots. The reason for this is

because the roots will have had to grow below the flood barrier wall, likely re-routing upwards towards the surface beyond the wall.

- 4.7 The direction of these roots means that they will bear no loading from wind stresses and consequently will not have to thicken in response to this. Alternatively, had the roots been able to grow further in the same direction they might have thickened in response to further subdivision, creating arterial roots serving a wider part of the root system, but as there is nowhere for these roots to have grown into (the concrete of the slipway is a solid barrier) this will not be the case.
- 4.8 The proposals include the use of pile and beam foundations. Whilst some countersinking of a beam will be necessary (which could be as deep as 500mm), the difference in soil levels between the original bungalow and the ground levels around the tree is greater than this.
- 4.9 With such a small area of feeding roots affected by a pile and beam foundation (the remainder of the pile and beam is placed in the same position as the former bungalow footprint), the impact on the horse chestnut will be minimal and the tree will not suffer any adverse effect as a result.
- 4.10 The trees to the north west of the site are growing on the adjacent property alongside or close to the boundary. There are no impediments to the growth of roots nor any significant differences in soil levels so it can be assumed that the roots from these trees will extend over the boundary into the garden.
- 4.11 The roots will be unaffected by the proposals themselves, as the existing building footprint is to be used, so no excavations will be undertaken. However, although no machinery can access the rear of the site due to restrictions, pedestrian traffic and wheelbarrows can still contribute to soil compaction and erosion.



Fig.1 Ply-boards placed onto a layer of woodchips provides a good working surface for pedestrians or scaffolding

- 4.12 It is therefore proposed to protect the soil surface with the use of plyboards laid onto woodchips which will provide a suitable surface for pedestrians (see fig.1)
- 4.13 The proposals also include decking to create patio space to the north side of the new dwellings. This is entirely acceptable as the construction of raised timber decking creates a permeable surface so that roots beneath the decking will continue to receive rainwater and to be able to breathe through the exchange of soil gases.
- 4.14 The tree protection plan indicates that there is a good amount of available space to locate various necessary activities around the site, without the need to encroach onto the rpa of the tree. In particular, the placing of site huts on to the side (already in place) will augment the barrier fencing to create a firm no go area around the tree.
- 4.15 Fencing for the root protection zones shall be constructed of scaffold tube uprights (set at 3m intervals with diagonal braces driven securely into the ground). Thereafter ‘Heras’ type fencing shall be attached to the scaffold framework using either steel strapping or scaffold clamps. The fencing shall comply with the requirements of the British Standard B.S. 5837:2012 ‘Trees in relation to design, demolition and construction - Recommendations’ (fig.2).

Tree Protection Measures

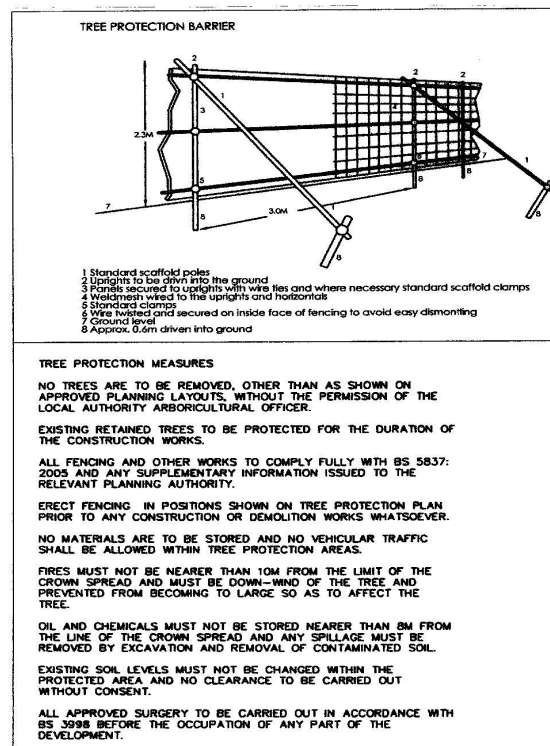


Fig.1 Protective fencing in accordance with B.S. 5837

4.16 The proposals otherwise do not otherwise affect any trees.

5.0 Conclusions

5.1 The proposals to redevelop the site can be undertaken without any significant impact on the trees on and adjacent to the site. The tree protection measures, implemented properly will ensure the continued well-being of the trees.



Simon Hawkins ND Arb MArborA

Appendix 1
Key to Tree Survey Data

Tree number:

Sequential reference number corresponding to the tree survey plan. Trees are recorded either as individuals (T1, T2, etc.) or as groups (G1, G2, etc.)

Species:

These are listed in the schedule by their common name. The botanical name of the species present is as follows:

- Horse chestnut (*Aesculus hippocastanum* L.)
- Himalayan birch (*Betula utilis* D.Don)
- Tulip tree (*Liriodendron tulipifera*)
- Honey locust (*Gleditsia triacanthos* L.)
- Yew (*Taxus bacatta* L.)

Height

The height of the tree is measured using a 'Suunto' Height Meter or estimated to the nearest metre.

Stem diameter

Stem diameter as measured at 1.5m above ground level, or otherwise in accordance with Annex 'C' of the British Standard and expressed in millimetres to the nearest 10mm. Where access to the stem for measurement purposes was not possible, an estimated size is given with (est.) shown.

Crown spread (m):

Crown radius measured in metres (shown est. if estimated) to cardinal point

Height to 1st main branch:

The height from ground level of the first significant branch growth of the tree, with an indication of direction of that branch to inform on ground clearance, crown/stem ratio and shading

Height of canopy:

The height from ground level of the lowest part of the main canopy to inform on ground clearance, crown/stem ratio and shading

General observations:

A brief description summarising the form and condition of the tree; including physiological and structural defects (e.g. the presence of any decay) and preliminary management recommendations.

Life expectancy

Estimated safe useful life expectancy based on species, condition & context. The following age class bands are used: <10; 10-20; 20-40; 40+

Category

A summary of the British Standard classification:

Trees for Removal

Category U = Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

Trees to be considered for retention where

Subcategory 1 concerns mainly arboricultural values

Subcategory 2 concerns mainly landscape values

Subcategory 3 concerns mainly cultural values including conservation

Category A = **Those trees of the highest quality and value:** in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).

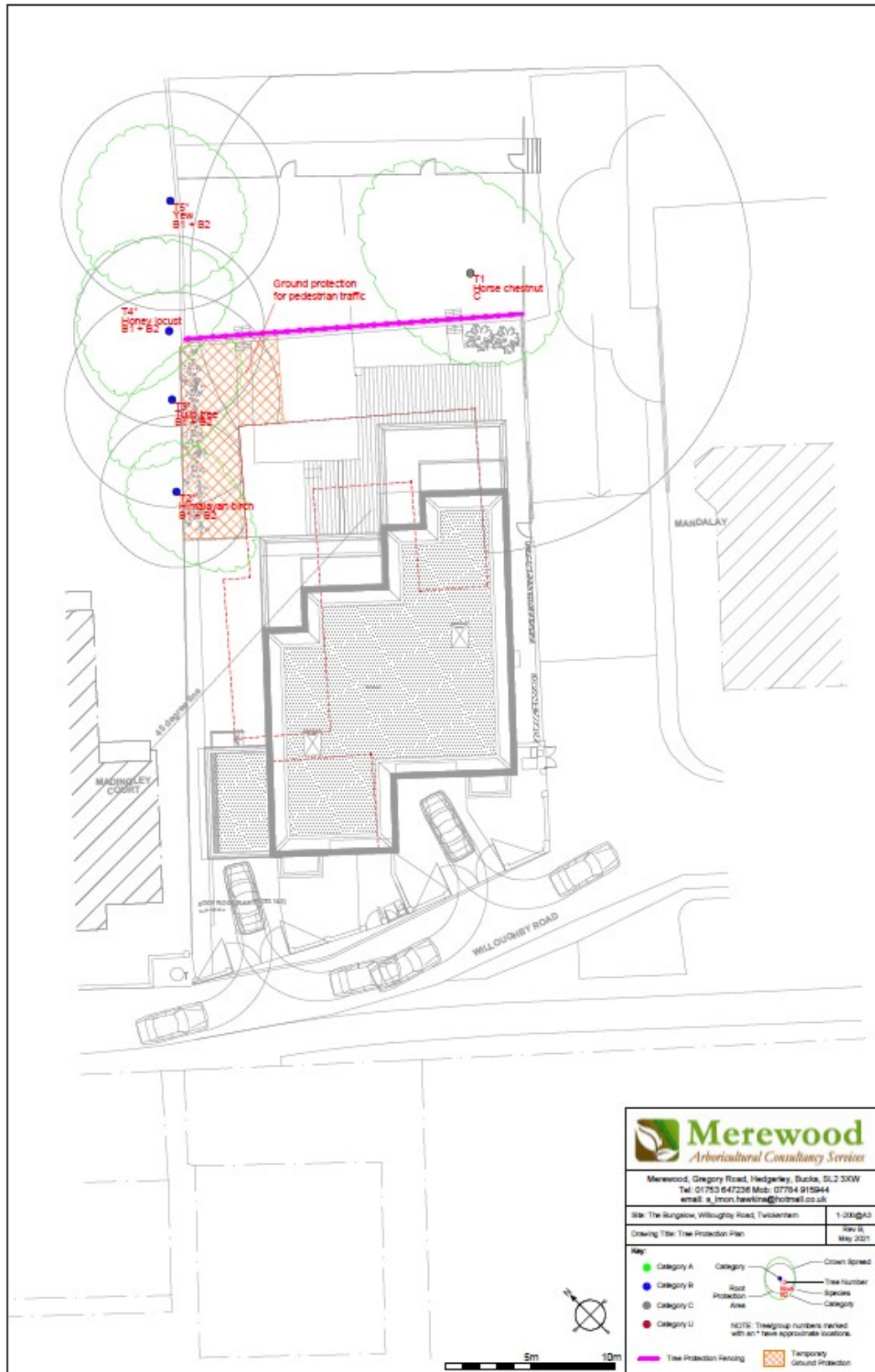
Category B = **Trees of moderate to high quality and value:** in such a condition as to be able to make a significant contribution (a minimum of 20 years is suggested).

Category C = **Trees of low quality and value:** currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter of below 150mm

Appendix 2
Tree survey data sheets

Tree no	Species	Height	Stem diameter	Crown spread				Physiological condition	Structural condition	Age	Observations/ Management recommendations	Life expectancy	Category
				North	South	East	West						
T1	Horse chestnut	21	1350	8	6	5	5	F	P	OM	Previously reduced tree with multiple cavities and decaying pruning cuts	10 - 20	C
T2	Himalayan birch	14	370	3	6	3	3	G	F	M		40+	B1 + B2
T3	Tulip tree	15	520	2	3	5	5	G	G	M		40+	B1 + B2
T4	Honey locust	15	470	6	2	5	5	G	G	M		40+	B1 + B2
T5	Yew	12	540	5	5	4	6	G	G	M		40+	B1 + B2

Appendix 3 Tree Protection Plan



Appendix 4

Qualifications and experience

- I am Simon Hawkins, proprietor of Merewood Arboricultural Consultancy Services.
- I hold the National Diploma in Arboriculture which I attained in 1987. I have studied and practised Arboriculture for over 35 years, during which time I have been involved with both the private and public sector.
- I hold professional member status of the Arboricultural Association (M. Arbor A.), recognised as a higher vocational level within the industry.
- I have undertaken an intensive course in the principles and application of VTA Visual Tree Assessment. I have been assessed and found to have attained the advanced level of technical competence of a VTA Practitioner with Elite Training.
- I hold the LANTRA award for professional tree inspections.