

Trees and Construction

BS5837 Arboricultural Report

Site: 14 Hollycroft Avenue, London, NW3 7QL

Ref: 11426/ A1

Client: Mr Martin Malley



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1. INTRODUCTION

- 1.1 **Instruction:** This report has been prepared to on the instruction of Mr Martin Malley (hereafter; client) in respect of the arboricultural related planning considerations for works at 14 Hollycroft Avenue, London, NW3 7QL (hereafter; site). It is therefore produced in accordance with British Standard 5837: 2005 '*Trees in relation to construction - Recommendations*' (hereafter; BS5837).
- 1.2 **BS5837:** The scope of BS5837 is to provide guidance on how trees and other vegetation can be suitably integrated into construction and development design schemes. The overall aim is to ensure the protection of amenity by trees which are appropriate for retention.
- 1.3 **Scope of this report:** This report has been produced in accordance with BS5837 and is intended to demonstrate how trees have been properly considered throughout the design process. The objective is to systematically assess and provide suitable recommendations regarding the proposal's potential impact on trees and vice versa.
- 1.4 Following instruction the consultant visited the site on 09-June-2011. Pursuant to the agreed brief a site assessment and a BS5837 tree survey were carried out; the two trees fronting the property are within direct impacting distance of the proposed works and were therefore surveyed.
- 1.5 This report is subject to caveat at Appendix I and constitutes the findings of the preliminary site assessment, appraisal of the proposed scheme and associated arboricultural recommendations.
- 1.6 Supportive photographic representation (where applicable), tree survey data and tree constraints illustrations (in plan format) can be found as appended.

2. SITE & APPLICATION INFORMATION

- 2.1 The site currently comprises an in use residential property with on street parking. As the working area relates to the street, unrestricted access is available via the road and paved areas fronting the property which have constant pedestrian and vehicular use.
- 2.2 **Proposal:** A proposal for a new crossover at the front of the site is being explored by the client. This is to be the same as the immediately surrounding properties which have a dropped kerb and sloped access to meet the site levels (see; Fig.A - below).



- 2.3 The objective arboricultural assessment resulted in a BS5837 category of 'A' and 'C' being attributed to T1 and T2 respectively. Generally speaking T1 provides an individual and collective contribution worthy of the tree's retention and protection. However, T2 is of a small scale with noted defects and should not constrain a proposal.
- 2.4 There are existing hard surface treatments (road, parking areas and walkways) in close proximity to the site's trees, certainly within their RPAs.
- 2.5 The site observations and data have been used to illustrate the site's arboricultural restrictions in the form of a TCP; at Appendix III. The illustration of the RPAs follows the guidance of BS5837 for a circular rooting area, whilst this is not considered to be an accurate reflection of the T1's rooting area, the inclusion of the entirety of the site's front section is considered to be accurate and necessary as part of this assessment.

3. ARBORICULTURAL IMPLICATIONS ASSESSMENT (AIA)

3.1 The following information, as with the prior contents of this report, should be read in conjunction with the tree data table and 11426/TCP/01 (as appended).

3.2 Below Ground Constraints

3.2.1 As part of the site works, the entirety of the area fronting the property including the highway is to act as a RPA. As such all surface works (surface lifting, excavations and installations) are to be undertaken in a manner which is sensitive to tree roots.

3.2.2 As agreed between the consultant and Mr David Houghton (Council Arboricultural Officer), it is considered suitable to provide a functional minim of 1m clearance from the base of T1 to the new dropped kerb; this is to be illustrated on the TPP.

3.2.3 The installation of the new crossover is located within the RPA of T1, however, as discussed between the consultant and Mr David Houghton, it is considered acceptable in this instance providing that suitable tree root protection measures are implemented. Where the existing kerb and existing street paving are to be removed and the dropped kerb with a sloped crossover are being installed to meet the site levels, works are to take account of the existing ground conditions by being carried out manually with the use of hand operated non-driven machinery. The functional minim excavations are to be undertaken assisted by allowing for the most raised kerb level and new finish levels possible, as observed in Fig.A (previous page); a rough calculation of the existing kerb height compared to the new kerb level is a 90mm difference, a sloped surface will result in only a nominal amount of ground disturbance. A specification for 'sensitive surface works' is to be summarised within the AMS and illustrated on the TPP.

3.2.4 It is also considered necessary to take account of T1's RPA in respect of any lifting and relaying of hard surfacing to the front of the property. Where the existing driveway is being lifted and relayed, no significant alteration to the ground conditions occurs. However, if excavations are carried out in a traditional manner, this may impact detrimentally upon the tree's RPA. The consultant deems it viable to undertake special excavations (where RPA incursion exists), sensitive to the continued requirements of tree roots. Again, the excavations are to be carried out manually with the use of hand operated machinery and a specification for 'sensitive surface works' is to be summarised within the AMS and illustrated on the TPP.

3.3 Above Ground Constraints & Future Pressures for Tree Works

3.3.1 Due to the allowed clearance and the proposal being limited to ground works, no pruning works are required and no conflicts arise as a result of the proposal.

4. ARBORICULTURAL METHOD STATEMENT

4.1 Construction Restrictions

4.1.1 The following restrictions apply for tree protection purposes: as illustrated on the Tree Protection Plan (TPP/11426/01):

- a) No tree works are considered necessary as part of this application and hence no pruning is permitted unless agreed in writing by the council.
- b) No chemicals or materials are to be transported or stored or used or mixed within an exposed section of the site's soils nor should any diluted chemicals or run-of be allowed to leach into said areas.
- c) No fires are to be lit and no machinery, plant or vehicles are to be washed down within 10m of a tree's canopy or in a RPA.
- d) During construction processes no additional RPA works [other than the installation of the crossover or relaying of the site's hard surfaces] are permitted without the prior advice of the consultant and the consent of the council.
- e) No mechanical digging or scraping is permitted within a RPA.

4.2 Arboricultural Site Monitoring / Supervision

4.2.1 It is considered suitable to for the site to be checked by a suitably qualified arboriculturist systematically throughout the duration of the construction processes to ensure the tree protection measures are being adhered to, i.e. during kerb and surface removal, during base excavation and new kerb and surface installation in order to sign off the site as having correctly adhered to this AMS.

4.3 Sensitive Surface Works

- 4.3.1 Where existing kerb stones or hard surfaced paving stones are to be excavated, potential excavations to reduce the street level are to be undertaken and replacement surfacing is to be installed (of a similar or more preferable treatment), special measures are required to ensure the existing conditions for root growth are protected. The following measures are to be implemented for the entirety of this site's working area.
- 4.3.2 Any excavation and reinstallation of surfacing must:
- Be undertaken manually within the functional minimum working area;
 - Use sensitive excavation techniques to protect the tree roots and their existing growing conditions, therefore only manual operations are permitted;
 - Reduce the existing levels for the crossover by the functional minimum depth possible, therefore use a slightly raised dropped kerb and sloped new surface level to meet the levels of the site's parking (as per Fig.A on page 4); and
 - Undertake all works whilst complying with the construction process restrictions outlined in s.4.1.
- 4.3.3 The preparation area within the RPA is to be marked out on the ground and undertaken by hand with the use of manually operated tools (hand held).
- 4.3.4 Once all existing material has been removed and the ultimate depth of surface removal/excavations has been reached, any existing ruts, holes or dips are to be infilled with a sharp horticultural sand (not builders sand) and a high grade tree soil.
- 4.3.5 In the unlikely event that and rooting volume is encountered greater than 25mm in diameter, the advice of the consultant is to be sought and any subsequent recommendations are to be agreed to by the council.
- 4.3.6 Resurfacing can be conducted in the traditional manner due to the proposed surfacing being equivalent or preferential to that currently in situ.

4.4 Additional Recommendations

- 4.4.1 This report is released to the client for them to distribute at their discretion. The consultant is available via telecom and/or email (via the methods on the title page) for any queries relating to this report and/or any other matter relating to arboriculture.
- 4.4.2 All site personnel are to be provided with a copy of this AMS and the TPP.

This concludes our advice.

Appendix I

Caveat

Any and all information supplied to Indigo Surveys Ltd by/on behalf of the client is assumed to be accurate unless otherwise informed. | This report is limited to the observations made on the date of inspection as detailed herein and any deletion, editing or alteration will result in the report being null and void in its entirety. | This report in its entirety may be deemed null and void if remedial works are undertaken on any area of the site, on or after the date of the survey. | No liability is assumed by the author or by Indigo Surveys Ltd for any misuse, misinterpretation or misrepresentation of this report. | This report is not valid in adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events. | No responsibility is assumed either by the author of this report or by Indigo Surveys Ltd for any legal matters that may arise as a consequence. | Neither the author nor Indigo Surveys Ltd will be required to attend court or give testimony as part of this agreement. | The responsibility for any works undertaken on the basis of the recommendations of this report does not form part of this agreement.

Appendix II

Terms and Definitions

“Arboriculturist” - person who has, through relevant education, training and experience, gained recognized qualifications and expertise in the field of trees in relation to construction.

“Land survey” - an accurately measured land survey (also known as a topographical survey) should be undertaken showing all relevant existing site features.

“BS5837 Tree survey” - should be undertaken by an arboriculturist and should record the information about trees on a site independently of and prior to and specific design for development. The results of the tree survey should be included in the preparation of a tree constraints plan, which should be used to assist with the site design.

“Tree categorization method” - Trees should be categorised in accordance with the BS5837 cascade chart by an arboriculturist. This is to identify the quality and value of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained should development occur.

“Tree constraints plan (TCP)” - an accordingly scaled plan prepared by an arboriculturist. It is to be used as a design tool showing the tree stem, unique identification number, below ground constraints (root protection area) and above ground constraints (crown spread).

“Root protection area (RPA)” - layout design tool indicating the area surrounding a tree that contains sufficient rooting to ensure the survival of the tree, shown on the TCP in m². The radius is calculated using the BS5837 calculation method; x12 at 1.5m from ground level for single trees, and x10 at ground level for multiple stemmed trees. An arboriculturist may change the shape of an RPA but not reduce its area.

“Arboricultural implications assessment (AIA)” - study, undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

“Arboricultural method statement (AMS)” - methodology for the implementation of any aspect of development that has the potential to result in loss of or damage to a tree.

“Tree protection plan (TPP)” - an accordingly scaled plan prepared by an arboriculturist showing the final layout proposals and the tree protection recommendations detailed within the AMS.

Appendix III

Data Table:	As appended (BS5837 Tree Survey Key & Table)
Tree Constraints Plan:	As appended (TCP/11426/01)
Tree Protection Plan:	As appended (TPP/11426/01)

TREE SURVEY IN ACCORDANCE WITH BRITISH STANDARD 5837:2005 'TREES IN RELATION TO CONSTRUCTION - RECOMMENDATIONS'

SITE: 14 Hollycroft Avenue, London, NW3 7QL

ARBOR CONSULTANT: Andrew Turnbull MArborA

CLIENT: Mr Martin Malley

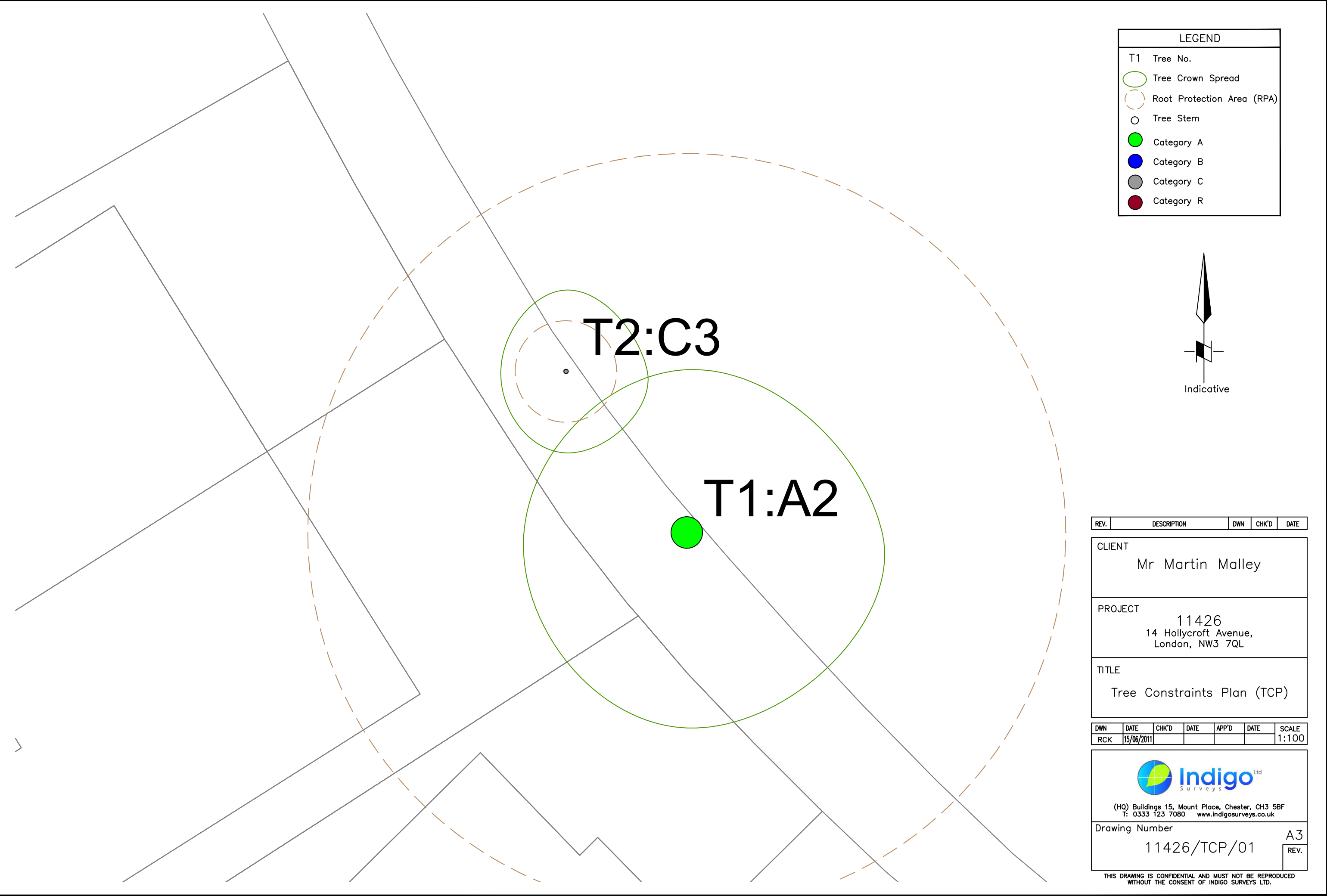
SURVEY DATE: 9 Jun 2011

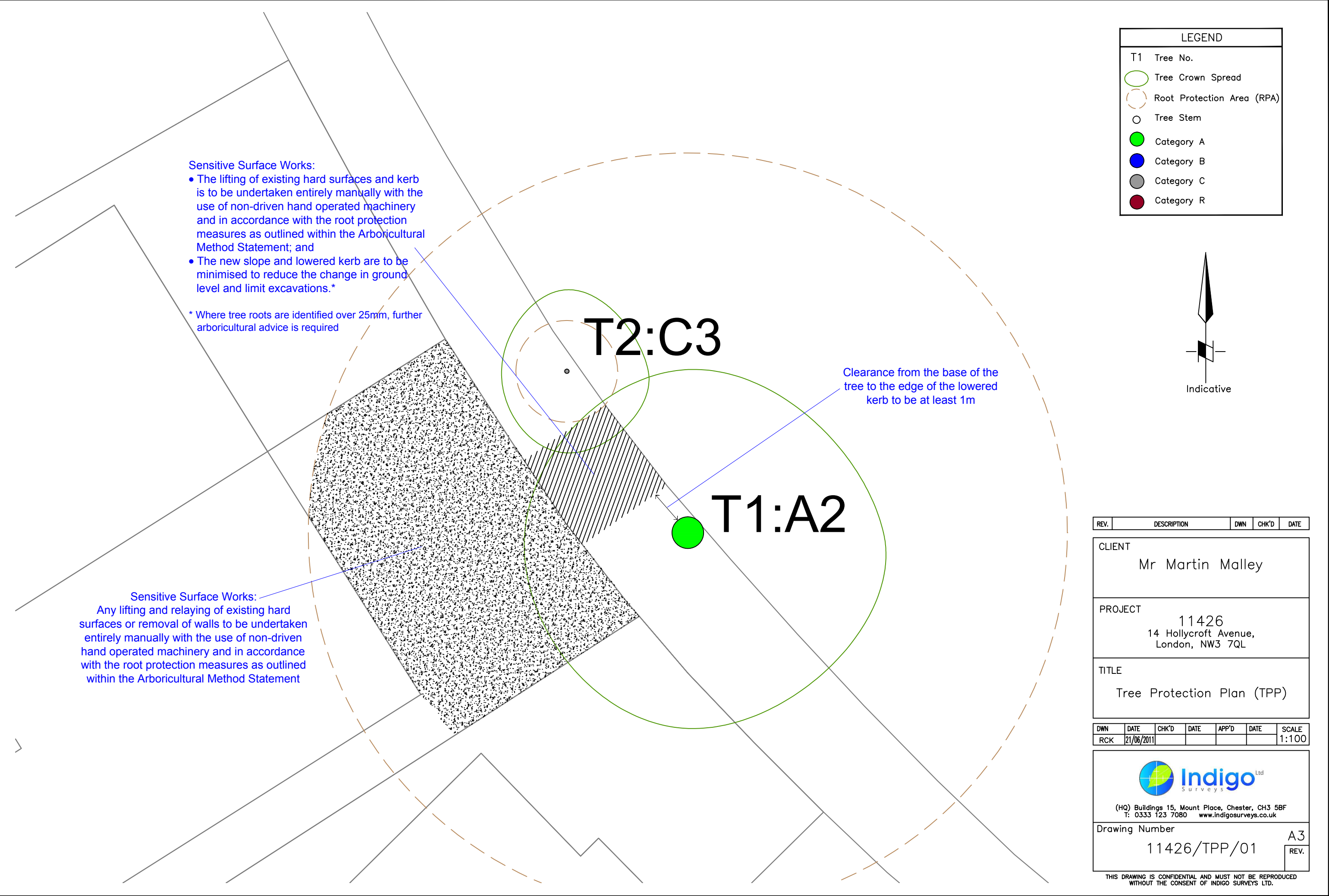
TREE REF. #	SPECIES	AGE	HEIGHT (in m)	CANOPY (in m) N - S - E - W	DBH (in mm)	RPA (in m²)	CLEARANCE (in m)	VITALITY	NOTES	BS CAT.	MANAGEMENT
T1	London Plane; <i>Platanus x Hispanica</i> , <i>Platanaceae</i>	M	18	5 6 6 5	970	425.7	10 +	Fair	Forms an integral part of the street scene by contributing to the mature avenue of pollarded trees (close proximity trees include L.Plane), growing directly from the paving, displaced curb stones, recently re-pollarded with good indication of new growth, multiple stems noted at approx. 5m-6m.	A 2	
T2	Rowan; <i>Sorbus ssp. Rosaceae</i>	Y / EM	16	2.5 2.5 2.5 2	130	7.6	3	Poor	Single stem grows directly from the paving, stem damage near base resulting in 30-40% cambial loss on street side and stem damage at 1.5m, areas of dieback in crown and minor deadwood.	C 3	Monitor tree's condition.

TREE SURVEY IN ACCORDANCE WITH BRITISH STANDARD 5837:2005 'TREES IN RELATION TO CONSTRUCTION - RECOMMENDATIONS'

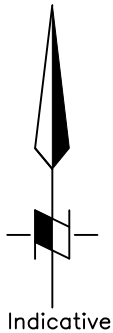
FIELD KEY:

TREE REF. #	-	Tree reference number: tag or plan number (T - individual tree, G - group of trees/shrubs, H - hedge);
SPECIES	-	Genus, species and/or common name;
TPO/CA	-	On client request: presence of Tree Preservation Orders (TPO) / site location within a Conservation Area (CA) as applicable;
AGE	-	Age classification (Y - young, EM - early mature, M - mature, LM - late mature, OM - over mature);
HEIGHT (in m)	-	Approximate height of tree in metres;
CANOPY (in m) N - S - E - W	-	Approximate branch spread in metres of the four principal compass points;
STEM (in mm)	-	Stem diameter in millimetres: measured at 1.5 metres above ground level for single stem trees and ground level for multi-stemmed trees;
RPA (in m²)	-	Root Protection Area: calculated as a function of the STEM measurement (single stem/multiple stem variant, as outlined within BS5837);
CLEARANCE (in m)	-	Height in metres of crown clearance above the adjacent ground level;
VITALITY	-	A measure of physiological condition typically gauged from annual extension growth (normal, poor, dead);
NOTES	-	Structural and physiological condition observations;
	-	BS5837 tree quality assessment category: resulting from structural/physiological condition and remaining contribution (approximate useful life expectancy);
	-	Standard retention category R : in such a condition that any existing value would be lost within 10 years;
BS CAT.	-	Standard retention category A : high quality and value, in such a condition as to be able to make substantial contribution of 40+ years;
	-	Standard retention category B : moderate quality and value, in such a condition as to make a significant contribution of 20+ years;
	-	Standard retention category C : low quality and value, currently in adequate condition to remain until new planting could be established 10+ years;
	-	Standard retention sub-category, mainly due to: 1 - Arboricultural values, 2 - Landscape values, 3 - Cultural values, including conservation;
MANAGEMENT	-	Preliminary management recommendations (as appropriate);
' * '	-	Within the survey schedule denotes an estimate





LEGEND	
T1	Tree No.
	Tree Crown Spread
	Root Protection Area (RPA)
	Tree Stem
	Category A
	Category B
	Category C
	Category R



REV.	DESCRIPTION	DWN	CHK'D	DATE
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CLIENT	Mr Martin Malley
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PROJECT	11426 14 Hollycroft Avenue, London, NW3 7QL
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TITLE	Tree Protection Plan (TPP)
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DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RCK	21/06/2011					1:100



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