

Trees and Construction

BS5837:2012 Tree Survey, Arboricultural Implications Assessment & Method Statement

Site: WKTE - West Kentish Town Estate, Rhyl Street,
NW5 3HB

Ref: 21745_24/A2

Client: Camden



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- Feb 2024 -



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Revision	Description	Date
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1. INTRODUCTION

- 1.1 **Instruction:** This advice has been prepared for Camden (hereafter; client) and is in respect of the tree related considerations at the WKTE - West Kentish Town Estate, Rhyl Street, NW5 3HB (hereafter; site).

As the proposal relates to demolition works at site, the advice herein is produced in accordance with the British Standard 5837 : 2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations*' (hereafter; BS5837).

- 1.2 **BS5837:** The scope of BS5837 is to provide guidance on how trees and other vegetation can be 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 advice:** This assessment is produced in accordance with BS5837 and is secondary to arboricultural constraints advice which assisted with the design process as a '*Tree Survey Report*' ref: 21745/A1. This objective is to systematically assess the proposed scheme and provide suitable recommendations regarding the potential impact on trees and vice versa with associated tree protection recommendations.

- 1.4 Following instruction the consultant surveyed the wider site on the 12th Oct 2021 and subsequently 12th Apr 2023. This included the 3 garage sites. All trees on site and around the application boundary were surveyed from ground level and plotted as either an individual or a tree group.

- 1.5 This advice is subject to caveat at Appendix I, outlines relevant terms and definitions at Appendix II and constitutes the findings of the preliminary site assessment and associated arboricultural recommendations.

- 1.6 The survey data and site observations used the supplied topographical survey to illustrate the surveyed trees in plan format as a '*Tree Constraints Plan*' (hereafter; TCP). The TCP was supplied with the initial tree survey advice, this informed this assessment and is used as a base layer for the appended '*Tree Protection Plan*' (hereafter; TPP); the TPP and tree survey data table are at Appendix III.



2. SITE INFORMATION & TREE ASSESSMENT

- 2.1 In this case the report is concerned with 3 garage sites which are internal to the wider site at WKTE and are referred to as follows.

Wedmore = Site 1 (see TPP 01)

Athlone Street = Site 2 (see TPP 02)

Coity Road = Site 3 (see TPP 03)

The TCP of the wider site and data will be included for reference.

The trees involved are as follows. T7, T10, T33, T51, T52, T109, T122, T133, T134, T137, G1, G3 and G9.

T109, T122, T137 at site 1

T7, T10, T133, T134 at G1 at Site 2

T33, T51, T52 and G3 at site 3

- 2.2 **Proposal:** It is proposed to demolish the garages and remove the hard standing at all 3 sites named above and retain all trees apart from G3
- 2.3 The site requires consideration from an arboricultural perspective due to the presence of trees on and around the site; these trees are deemed to be within impacting distance of the existing property and potential construction area.
- 2.4 The tree survey and assessment resulted in the BS5837 quality/retention categories of 'B' – moderate and 'C - low' being attributed to trees/tree groups on site and off site; It is also worth noting that the BS5837 circular RPAs are considered to halt at the extents of existing property, driveways and substantial walls.



3. FINDINGS & RECOMMENDATIONS

3.1 The following information, as with the prior contents of this report, should be read with the appended tree data table and tree constraints plan (19405_23/TCP/01); this information was provided as our initial advice and is supplemented herein with a review of the scheme as the AIA (section 4) and the AMS 'considerations' (section 5).

3.2 General Considerations for Tree Retention / Removal

3.2.1 The 'B' Class trees are considered of value both individually and in the landscape and should be retained by design. Proposed encroachment or removal would need to be justifiable and mitigated in any approved scheme. In this case G1 will require removal to facilitate the scheme.

3.2.2 The smaller scale, declining or limited contribution trees are categorised as low quality 'C' category trees. These may be suitable for retention for the most part but should not present a significant constraint to the scheme as mitigation planting can replicate and enhance their contribution.

3.2.5 The removal of the above trees or vegetation may have an impact on the green cover in the first instance, however, the scheme presents a significant enhancement opportunity. Said removals would have no impact on the long term amenity of the site and will allow for the selection of native species to enhance amenity and biodiversity. On this occasion no trees apart from G3 are to be removed.



4. SCHEME / IMPLICATIONS ASSESSMENT

- 4.2.1 For this assessment, the proposed scheme has been considered (see; s.2.2 herein). This includes consideration for arboricultural management / tree works for H&S tree risk management, tree removal and pruning options, design solutions, tree protection and sensitive measures to account for trees. As per s.1.6 and s.2.2 herein, the TCP scheme overlay illustrates the proposed scheme.
- 4.2.2 *Consideration for T33, T37, T122, T51, T52, T109 and T137*
- 4.2.3 It is deemed that the hard surfaces, walls and foundations of the structures within the RPA of these trees are sufficient to provide a barrier to root growth. The RPA of these trees has therefore been modified so that they now lie outside of the work area. This is illustrated on the attached TPP's for the relevant sites. The demolition processes now lies outside of modified tree RPA's.
- 4.2.4 *Consideration for T7, T10, T133, T134 and G1*
- 4.2.5 The operations to remove the garages and hard surfaces within the RPAs of the above trees are sufficiently close to the trees stems for there to be a risk of structural roots being present beneath the shallow foundations of the garages. In this case it is proposed to remove the hard surfaces within the tree RPA's sensitively and under supervision. (as per 5.4)



TREE WORK SUMMARY

NUMBER	TREE REMOVALS / PRUNING WORKS	
G3	Remove	Remove in conjunction with the demolition of the garages:
T7, T10, T122, T133, T134, T137 and G1	Pruning	Crown reduce to allow sufficient clearance height to complete the demolition process without contact with tree branches. (2m to 3m clearance)
Retained trees		Protection by placement of fixed Heras panels around the demolition site or as marked on the TPP. Other structures such as boundary walls are to be retained which will also act as protective barriers for tree protection.

NOTE: Further to the above scheme review, the tree works and tree protection measures are outlined at s.5 as Arboricultural Method Statement 'considerations' (hereafter; AMS) and correspond to the appended Tree Protection Plan (TPP).



5. METHOD STATEMENT 'CONSIDERATIONS'

5.1 Arboricultural Construction Restrictions

5.1.1 The following restrictions are considered relevant for tree protection purposes which are to be illustrated on a detailed Tree Protection Plan as part of planning conditions:

- a) **Tree Works** - are to be completed prior to any and all site works: no tree works not specified within this AIA (or leaning against or attaching of objects to a tree) are permitted unless agreed in writing by the council (subject to standard exemptions).
- b) **Tree Protection** - a site compound will be set up around the application boundary, excluding the surveyed trees as per the TPP, or Protective Barrier Fencing (PBF) is to be installed as per the TPP with works clearance, i.e. 1.5-2.0m around the hard landscape extents, existing boundary walls retained and supplemented to prevent RPA, stem or crown impact.
- c) **Construction Exclusion** - the fenced off areas are Construction Exclusion Zones (CEZ), and will be supplemented with pedestrian ground protection for the RPA of T1.
- d) **Site Restrictions** - no chemicals/materials are to be transported/stored/used/mixed within the CEZ, and no fires are to be lit and no machinery, plant or vehicles are to be washed down within 10m of the tree's canopy or in a CEZ.
- e) **Ground Works** - during site works RPAs/CEZ may not be breached, i.e. no surface works, without the consultant's prior advice and council consent, and no mechanical digging or scraping is permitted within RPAs/CEZ;
- f) **Hard surface RPA works** - removal and replacement to have the existing surface broken out manually, sub-base removed as described later
- g) **Completion** - only following construction and hard landscape completion can PBF be removed and remaining soft landscape works undertaken within RPAs / CEZ (ground levels to be retained and works undertaken manually with non driven machinery).



5.2 Arboricultural Site Monitoring / Supervision

- 5.2.1 The council will typically request '*a scheme of supervision for the arboricultural protection measures*' to confirm tree protection and adherence to working methods around trees.
- 5.2.2 The appointed site contractor and project manager will be provided with an approved AMS and TPP and will need to be briefed as to prohibited works and tree protection.
- 5.2.3 A record of each site visit will be kept and a summary letter drafted for the client, the site manager and the local authority (to be sent to the client for distribution), thus -
- (1) ***Pre-commencement*** to confirm approved tree works, site hoarding / tree protection fence line and construction restrictions for ground works;
 - (2) ***Hard Surfacing Excavation Work***- using sensitive techniques within the RPA of T7, T10 T133, T134 and G1 (as per 5.4)
 - (3) ***Demolition completion works*** completed to sign off the site as having adhered to the AMS.

5.3 Protective Barrier Fencing (PBF) Specification

- 5.3.1 Barrier fencing is to be installed (and signed off by way of arboricultural supervision) following the completion of the tree works. It is to be illustrated on a Tree Protection Plan to aid installation and is to remain in situ for the entire duration of demolition/construction processes unless otherwise agreed in writing by the council.
- 5.3.2 The barrier fencing is to consist of a series of braced Heras panels secured in place by driven scaffold posts to ensure that the fencing lines are well braced to resist impact, prevent access to RPAs and the designated CEZs around the trees and groups.

5.4 Ground Works within RPAs

- 5.4.1 Removal of and or replacement of hard surfacing situated either partially or completely within the RPAs of retained trees shall be undertaken with care and under the direct on-site arboricultural supervision as these areas are likely to contain roots.
- 5.4.2 Where this is necessary the wearing course will be broken up using a hand held pneumatic breaker, hand tools and a wheel barrow to break up and remove the surfacing. If it is necessary to remove the sub base this is to be undertaken using hand tools such as a fork to loosen the material and removed using shovels and wheels barrows.
- 5.4.3 In some situations and at the discretion of the arborist it may be possible to use an excavator using a hydraulic breaker and suitably sized toothless grading bucket. If an excavator is to be used it must be situated outside of the RPAs, on top of the hard surfacing working away from the RPAs or from ground boarding.
- 5.4.4 Which ever system is used the is to be NO disturbance of the soil beneath. If roots are found they are to be covered with damp hessian and a layer of either sharp sand, wood chip or top soil to prevent desiccation.

5.5 Report Handling

- 5.5.1 This report is released to the client and architect to be distributed at their discretion and the consultant is available for queries relating to this report and/or trees.
- 5.5.2 The proposed scheme is reviewed in respect of the arboricultural constraints and is considered to be achievable in line with the BS5837 guidance. The tree protection methods herein may be approved by the council based on the approved information and other detail i.e. demolition method
- 5.5.3 This AMS and the TPP may be approved by the council in support of the application, as a means of authorised tree protection measures; all site personnel will have access to a copy and the tree work and protection details are to be inspected as per s.5.2 for '*Arboricultural Monitoring / Supervision*'

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 advice is limited to the observations made on the date of inspection as detailed herein and any deletion, editing or alteration will result in the advice being null and void in its entirety. | This advice 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 advice. | This advice 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 advice 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 advice does not form part of this agreement.



Appendix II

Terms and Definitions

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

“Competent Person” - person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.

“Topographical survey” - an accurately measured land survey undertaken to show all relevant existing site features. *A method of carrying out topographical surveys is given in RICS specification* Surveys of land buildings and utility services at scales of 1:500 and larger.

“BS5837 Tree survey” - should be undertaken by an arboriculturist to record information about the trees on or adjacent to a site. The results of the tree survey, including material constraints arising from existing trees that merit retention, should be used (along with any other relevant baseline data) to inform feasibility studies and design options. For this reason, the tree survey should be completed and made available to designers prior to and/or independently of any specific proposals for development.

“Tree categorisation method” - trees should be categorised in accordance with the BS5837 cascade chart by an arboriculturist. This is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.

“Root protection area (RPA)” - layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority, shown as an arboricultural constraint in m². The radius is calculated using the BS5837 calculation method. An arboriculturist may change the shape of an RPA but not reduce its area.

“Arboricultural implications assessment” - a 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” - methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.

“Tree protection plan” - a scale drawing, informed by descriptive text where necessary, based upon the finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures.

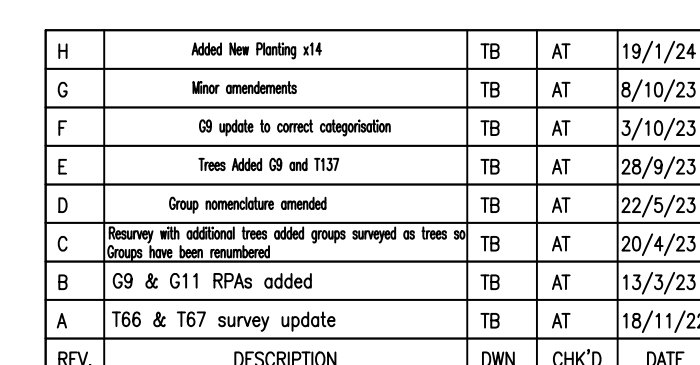
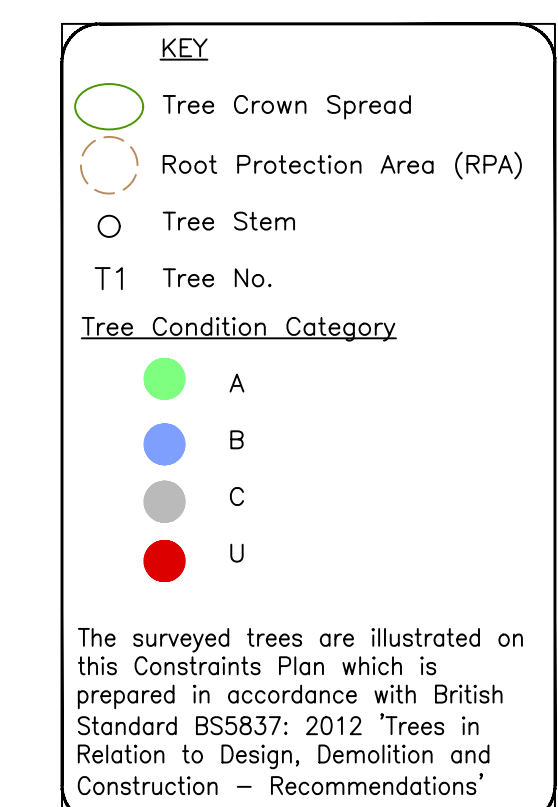


Appendix III

Data Table:	As appended (BS5837 Tree Survey Key & Table)
Tree Constraints Plan:	As appended (21745_24/TCP/01)
Tree Protection Plan:	As appended (21745_24/TPP/01, 02 and 03)

TREE SURVEY IN ACCORDANCE WITH BRITISH STANDARD 5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION & CONSTRUCTION - RECOMMENDATIONS'													
CLIENT: Camden Council				PROJECT REF: 21745.24				SITE: West Kentish Town Estate, London NW5 4LS					
CONTACT: /				SURVEY DATE: 17 January 2024				ARB CONSULTANT: Andrew Turnbull FDSc MArborA					
TREE REF. #	SPECIES	AGE	HEIGHT (in m)	CANOPY (in m) N - S - E - W	STEM (in mm)	RPA (in m)	CLEARANCE (in m)	1st BRANCH (in m)	VITALITY	LIFE EXPEC.	NOTES	BS CAT.	MANAGEMENT
EX1	Snowy Mespilus: Amelanchier Lamarckii	Y	3.5	≤ 0.75m all around	< 75	0.9	1.5	1.5m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	
EX2	Snowy Mespilus: 'Robin Hill'	Y	4.5	≤ 0.5m all around	< 75	0.9	1.5	1.5m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	
EX3	Snowy Mespilus: 'Robin Hill'	Y	4.5	≤ 0.75m all around	< 75	0.9	1.5	1.5m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	
EX4	Snowy Mespilus: Amelanchier Lamarckii	Y	3.5	≤ 0.75m all around	< 75	0.9	1.5	1.5m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	
EX5	Snowy Mespilus: Amelanchier Lamarckii	Y	4.5	≤ 0.5m all around	< 75	0.9	1.5	1.5m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	
EX6	Persian Ironwood: Parrotia Persica	Y	3	≤ 0.75m all around	< 75	0.9	0	/	Fair	40 +	Newly planted street tree, double stake and tie, mulch and water bag, dominant leader tip pruned with apically dominant lateral growth leader to roadside.	C 1	
EX7	Lagerstroemia indica 'Rosea'	Y	3.5	≤ 0.5m all around	< 75	0.9	1.5	2m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag, multiple stems at 2m.	C 1	
EX8	Persian Ironwood: Parrotia Persica	Y	2.5	≤ 0.75m all around	< 75	0.9	0	/	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag, no dominant leader.	C 1	
EX9	Sweet Gum; Liquidambar styraciflua 'Warplesdon'	Y	4.5	≤ 0.75m all around	< 75	0.9	1	1.5m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	
EX10	Zelkova serrata 'Green Vase'	Y	4.5	≤ 1m all around	< 75	0.9	1.5	1.5m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	
EX11	Sweet Gum; Liquidambar styraciflua 'Warplesdon'	Y	4.5	≤ 0.75m all around	< 75	0.9	1	1.5m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	
EX12	Zelkova serrata 'Green Vase'	Y	4.5	≤ 0.75m all around	< 75	0.9	1.5	1.5m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	
EX13	Zelkova serrata 'Green Vase'	Y	5	≤ 0.75m all around	< 75	0.9	1.5	1.5m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	
EX14	Sweet Gum; Liquidambar styraciflua 'Warplesdon'	Y	4.5	≤ 0.75m all around	< 75	0.9	1	1m - all round	Normal	40 +	Newly planted street tree, double stake and tie, mulch and water bag.	C 1	

TREE SURVEY 'KEY' - BRITISH STANDARD 5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION & CONSTRUCTION - RECOMMENDATIONS'		
TPO/CA	-	On client request: presence of Tree Preservation Orders (TPO) / site location within a Conservation Area (CA) & date checked;
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;
AGE	-	Age classification (NP - new planting, Y - young, EM - Early-Mature, SM - semi 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 in accordance with s.4.6 of BS5837;
RPA (in m)	-	Circle radius of the Root Protection Area: calculated using the stem diameter (single/multiple stem variant, as outlined within BS5837);
CLEARANCE (in m)	-	Crown clearance in metres above the adjacent ground level;
1ST BRANCH (in m)	-	Clearance in metres to first significant branch and direction of growth (where relevant);
VITALITY	-	Physiological condition typically gauged from canopy cover and annual extension growth (good, fair, poor, dead);
ESTIMATED REMAINING CONTRIBUTION	-	Approximate number of years a tree will continue to contribute without the need for oppressive arboricultural intervention, categorised in years as <10, 10-20, 20-40 and >40;
NOTES	-	Structural and physiological condition observations;
BS CAT.	-	BS5837 tree quality assessment category: resulting from structural/physiological condition and remaining contribution (approximate useful life expectancy);
	-	Standard retention category U : in such a condition that any existing value would be lost within 10 years;
	-	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



CUENT	Camden
PROJECT	TCP/A1/21745_23 West Kentish Town Estate, Rhyl Street, NWS 3HB
TITLE	Tree Constraints Plan

OWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
FR	20/4/2003	AT	20/4/2003			1500

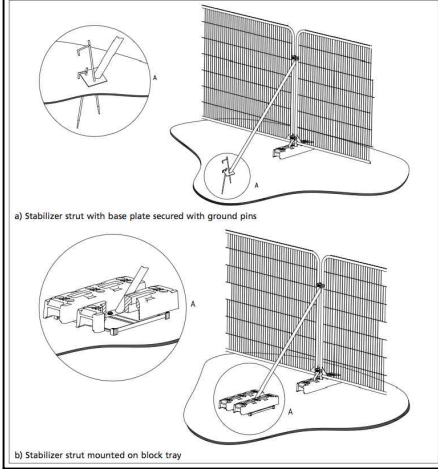


Drawing Number	AO
21745_23/TCP/01	REV

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Figure 3 Examples of above-ground stabilizing systems



Root Protection Area (RPA) Notes

BS5837:2012 standard circular RPAs are illustrated here, with consideration required for anticipated root growth influence and restrictions, such as -

Root growth from trees generally may be absent restricted or deflected from site due to the lower/higher level changes, raised concrete structures, existing foundations, hard surfaces, longstanding compacted ground and existing structures for example. Further investigation may be required to establish the presence or absence of roots.

In this case the rooting area (RPA) of T37 is likely to have been curtailed due to the boundary wall and hard surfaces/foundations of the garage.

The RPA of T109 and T122 are likely to be curtailed by the hard surfaces/foundations of the garage

T37 & T122 - Pruning over the existing garages for clearance for demolition

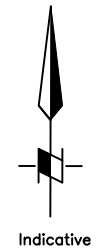
KEY

- Tree Crown Spread
- Root Protection Area (RPA)
- Tree Stem
- T1 Tree No.

Tree Condition Category

- A
- B
- C
- U

The surveyed trees are illustrated on this Constraints Plan which is prepared in accordance with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'



Tree Pruning:
T37 to be to be selectively crown raised over the site to provide adequate clearance for the demolition process.

Protective Barrier Fencing (PBF):
If existing boundary wall is not retained or not present temporary fencing is to be used. This is to comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabilizer struts, which should be attached to a base plate and secured with ground pins. All weather notices should be erected at regular intervals on the weld mesh panels with words such as "Tree Protection Area - Keep out". See example on TPP.

DO NOT SCALE FROM DRAWING

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REV.	Based on TCP 21745_24/03 & Demolition Plan	RB	TB	26/2/24
REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT
Camden

PROJECT
21745_24/A1
WKTE - West Kentish Town Estate,
Rhyl Street, NW5 3HB
Wedmore Garage

TITLE
Tree Protection Plan
Wedmore Garage

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	26/02/2024	AT	26/02/2024			1-200

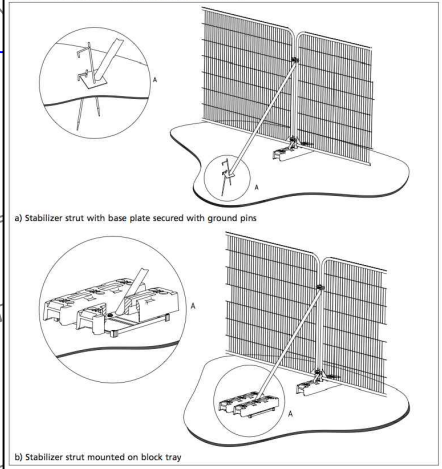


(Mail) Second Floor, 1 Hunter's Walk, Canal Street, Chester, CH1 4EB
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A3
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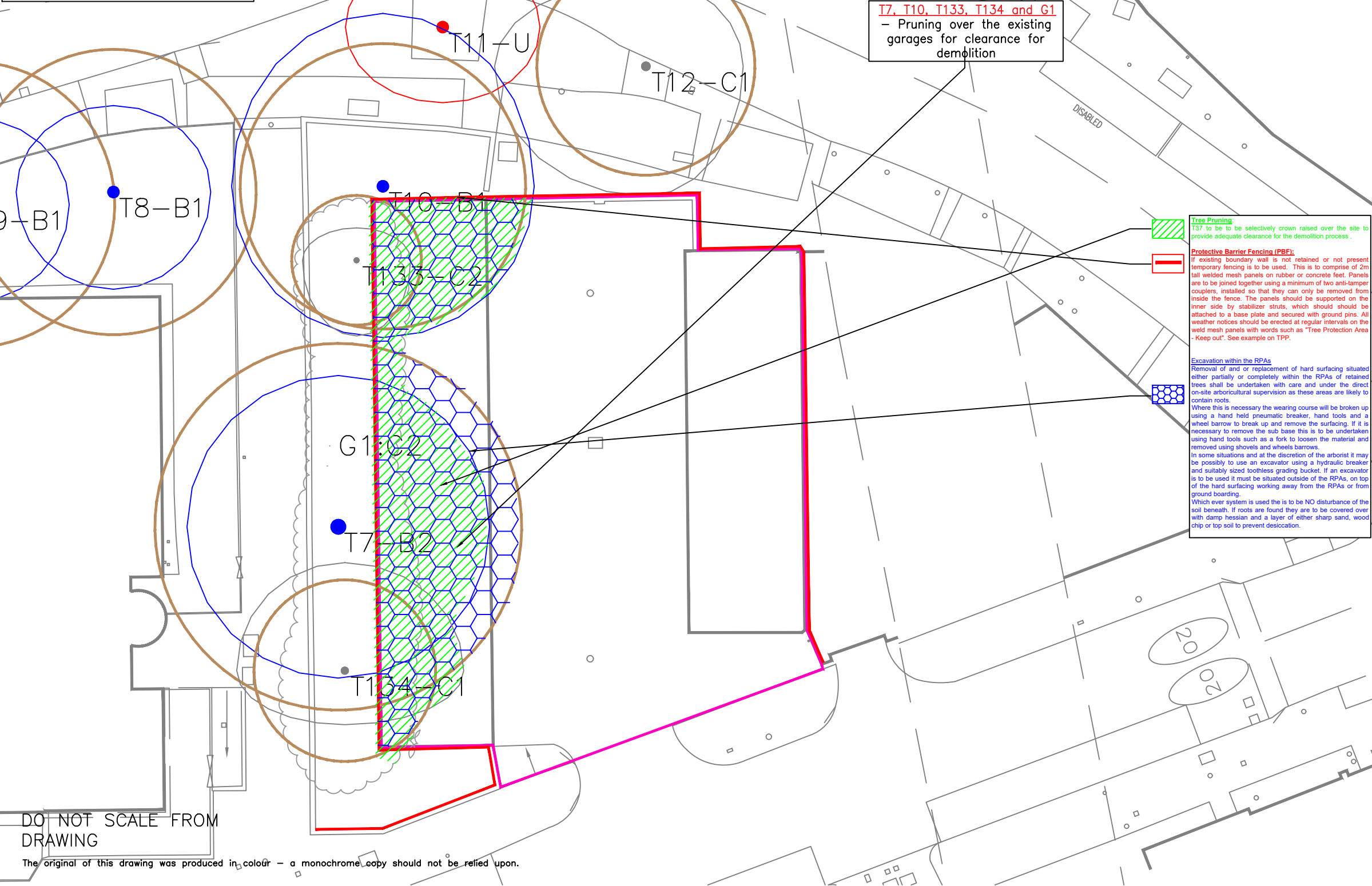
Figure 3 Examples of above-ground stabilizing systems



PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.



TREE PROTECTION AREA KEEP OUT!
(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY



T7, T10, T133, T134 and G1
– Pruning over the existing garages for clearance for demolition

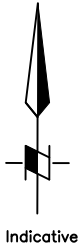
KEY

- Tree Crown Spread
- Root Protection Area (RPA)
- Tree Stem
- T1 Tree No.

Tree Condition Category

- A
- B
- C
- U

The surveyed trees are illustrated on this Constraints Plan which is prepared in accordance with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'



Tree Pruning
T37 to be to be selectively crown raised over the site to provide adequate clearance for the demolition process.

Protective Barrier Fencing (PBF)
If existing boundary wall is not retained or not present temporary fencing is to be used. This is to comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabilizer struts, which should be attached to a base plate and secured with ground pins. All weather notices should be erected at regular intervals on the weld mesh panels with words such as "Tree Protection Area - Keep out". See example on TPP.

Excavation within the RPAs
Removal of and or replacement of hard surfacing situated either partially or completely within the RPAs of retained trees shall be undertaken with care and under the direct on-site arboricultural supervision as these areas are likely to contain roots.
Where this is necessary the wearing course will be broken up using a hand held pneumatic breaker, hand tools and a wheel barrow to break up and remove the surfacing. If it is necessary to remove the sub-base this is to be undertaken using hand tools such as a fork to loosen the material and removed using shovels and wheels barrows.
In some situations and at the discretion of the arborist it may be possible to use an excavator using a hydraulic breaker and suitably sized toothless grading bucket. If an excavator is to be used it must be situated outside of the RPAs, on top of the hard surfacing working away from the RPAs or from ground boarding.
Which ever system is used the is to be NO disturbance of the soil beneath. If roots are found they are to be covered over with damp hessian and a layer of either sharp sand, wood chip or top soil to prevent desiccation.

Based on TCP 21745_24/04 & Demolition Plan		RB	TB	26/2/24
REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT
Camden

PROJECT
21745_24/A1
WKTE – West Kentish Town Estate,
Rhyl Street, NW5 3HB
Athlone Street Garage

TITLE
Tree Protection Plan
Athlone Street Garage

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	26/02/2024	AT	26/02/2024			1-200

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Drawing Number
21745_24/A1/TPP/02

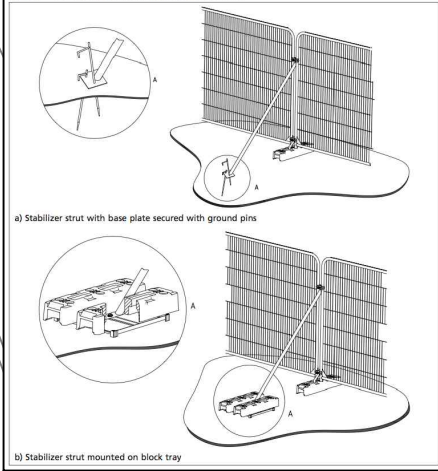
A3
REV.

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Figure 3 Examples of above-ground stabilizing systems



PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.



TREE PROTECTION AREA KEEP OUT!
(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

Root Protection Area (RPA) Notes

BS5837:2012 standard circular RPAs are illustrated here, with consideration required for anticipated root growth influence and restrictions, such as -

Root growth from trees generally may be absent restricted or deflected from site due to the lower/higher level changes, raised concrete structures, existing foundations, hard surfaces, longstanding compacted ground and existing structures for example. Further investigation may be required to establish the presence or absence of roots.

In this case the rooting areas (RPA's) of T33, T51, T52 are likely to have been curtailed due to the hard surfaces/foundations of the garage.

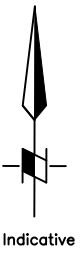
KEY

- Tree Crown Spread
- Root Protection Area (RPA)
- Tree Stem
- T1 Tree No.

Tree Condition Category

- A
- B
- C
- U

The surveyed trees are illustrated on this Constraints Plan which is prepared in accordance with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'



Tree Removals:
G3 to be removed to facilitate the demolition scheme.

Protective Barrier Fencing (PBF):
If existing boundary wall is not retained or not present temporary fencing is to be used. This is to comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabilizer struts, which should be attached to a base plate and secured with ground pins. All weather notices should be erected at regular intervals on the weld mesh panels with words such as "Tree Protection Area - Keep out". See example on TPP.

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REV.	DESCRIPTION	DWN	CHK'D	DATE
	Based on TCP 21745_24/03 & Demolition Plan	RB	TB	26/2/24

CLIENT	Camden
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PROJECT	21745_24/A1 WKTE - West Kentish Town Estate, Rhyl Street, NW5 3HB Coity Road Garage
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TITLE	Tree Protection Plan Coity Road Garage
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DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	26/02/2024	AT	26/02/2024			1-200



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