



HALLWOOD
ASSOCIATES
ARBORICULTURAL AND WOODLAND CONSULTANTS

**TITLE: Arboricultural Impact
Assessment:**
1-6 Station Parade, Ickenham,
HA4 7DL

DATE: 25th March 2020

PREPARED BY: Dominic Poston

REF: HWA10453_APIII



ARBORICULTURAL IMPACT ASSESSMENT

**1-6 Station Parade,
Ickenham, HA4 7DL**

**REF: HWA10453_APIII
DATE: March 2020**

**Prepared For
B & V Investments Ltd**

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1.0	25.03.20	Dominic Poston	First Issue

Summary

It is the author's opinion that there is no specific arboricultural reason why this development cannot proceed as highlighted within this report.

The site has been assessed in accordance with BS 5837:2012 'Trees In relation to design, demolition and construction – Recommendations'.

The proposal is for the conversion of 1-6 Station Parade to create 22no residential units, including 2no disabled parking bays and associated landscaping.

The proposal will not require the removal of any existing trees. The building will be within close proximity, but outside of canopy spreads of retained trees. Minor access facilitation pruning is anticipated, but otherwise, separation is good.

The proposed building makes good use of the space available allowing the good quality trees to be retained with ample space.

A detailed impact assessment can be found in Part 2; this should be read in conjunction with the Tree Protection Plan which can be found at Appendix B. Site specific methodologies are located in Part 3.

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Part One: Introduction

1 Particulars of Instruction

- 1.1 Hallwood Associates Ltd (HWA) are instructed by B & V Investments Ltd to provide specialist arboricultural advice in accordance with the principles laid out within British Standard *BS 5837: 2012 "Trees in relation to design, demolition and construction – Recommendations (BS)* with regards to a planning application being made and to report on the following:
1. To assess the quality of the Trees and Hedgerows on (and immediately adjacent to) the site.
 2. To provide an assessment of the impact the proposed development will have upon the existing significant arboricultural features.
 3. To recommend measures that will suitably protect retained trees during the development process.
 4. To recommend an appropriate level of mitigation and/or compensation where necessary.

2 Authorship

- 2.1 The author is a chartered arboriculturist and chartered environmentalist. He holds the Royal Forestry Society's Professional Diploma in Arboriculture, is a fellow member of the Arboricultural Association and a registered consultant with the Institute of Chartered Foresters. The findings in this report are reached through site observations and conclusions are made in light of the author's experience. Details are available upon request or at www.hallwoodassociates.com.

3 Provided Documents

- 3.1 The author was provided with copies of the following plan(s):
- I. Topographical land survey of existing site
 - II. Proposed layout

4 Scope of Survey

- 4.1 This report and all plans appended to it have been formulated using guidance given in the British Standard 5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'.
- 4.2 The tree survey was carried out independently, as far as possible, of the proposed new layout, as recommended in the British Standard.
- 4.3 The survey contains details of the size, condition and retention category of each tree which may be affected by the proposed development.
- 4.4 The retention category is derived from the British Standard which allows arboriculturists to place trees in certain bands so that impacts can be appropriately quantified and managed; broadly defined as follows:
- A Category - High quality and value - such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested);
 - B Category - Moderate quality and value - those in such a condition as to make a significant contribution (a minimum of 20 years is suggested);
 - C Category - low quality and value – currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested).
 - U Category - in such a condition that any existing value would be lost within 10 years and which should, in the current context be removed for reasons of sound Arboricultural management.
- 4.5 Tree positions have been taken from, or estimated from the provided (topographical) plans. It would be prudent to confirm positions if it could affect the proposed construction.

5 Limitations

- 5.1 The potential effect of development on trees, whether statutorily protected (e.g. by tree preservation order or by their inclusion within a conservation area) or not, is a material consideration that is taken into account in dealing with planning applications. HWA have not checked whether trees on site are statutorily protected and you **must** carry out a statutory tree protection check if you intend to undertake any works prior to formal planning consent being issued.
- 5.2 Comments relating to non arboricultural matters may be made throughout this report. Making comments on such matters is within the normal remit of our instructions and the range of the

author's experience. Any opinion thus expressed should be deemed as provisional and confirmation sought from an appropriately qualified professional.

- 5.3 The statements made in this report do not take account of the effects of extremes of climate, vandalism or accident, whether physical, chemical or fire. Hallwood Associates Limited cannot therefore accept any liability in connection with these factors, nor where prescribed work is not carried out in a correct and professional manner in accordance with current good practice. The authority of this report ceases at any stated time limit within it, or if none stated after two years from the date of the survey or when any site conditions change, or pruning or other works unspecified in the report are carried out to, or affecting, the subject tree(s), whichever is the sooner.
- 5.4 All rights in this report are reserved. Its content and format are for the exclusive use of the addressee in dealing with this site. It may not be sold, lent, hired out or divulged to any third party not directly involved in this site without the written consent of Hallwood Associates Limited.
- 5.5 European legislation and UK statutes such as the Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010 (as amended) provide statutory protection to birds, bats and other species that inhabit trees. These could impose significant constraints on the use and timing of site access in addition to any of the tree matters detailed in this report. These issues are beyond the scope of this report and have therefore not been considered.

6 Methodology

- 6.1 Each tree was surveyed and given a number corresponding to the provided plan(s) found at appendix C. For each group or individual information was collected as recommended at 4.4.2.5 of BS 5837. The survey was preliminary in nature and did not involve aerial or detailed inspection. This data is held within the tree schedule which can be found at Appendix A.
- 6.2 BS5837 recommends that trees within categories A-C (where A is highest quality) are a material consideration in the development process. However it should be noted that young trees with a stem diameter less than 150mm may be considered for relocation. Category U trees are those that will not be expected to exist for long enough to justify their consideration in the planning process. The A-C categories are combined with the numbers 1, 2 or 3. These numbers signify whether the justification for the category was based on arboricultural, landscape or cultural/conservation values respectively. The tree categories are illustrated on the plans with colour coding. Category A trees are light green, category B are mid blue, category C are grey and category U are dark red.

- 6.3 Where category U trees are notable for their conservation, heritage or landscape value, even though only for the short term, they may be upgraded, although they might be suitable for retention only where issues concerning their safety can be appropriately managed.
- 6.4 Section 4.6 of BS5837 recommends that the trunk diameter measurement for each tree is used to calculate the root protection area (RPA), which can then be interpreted to identify the design constraints and, once a layout has been developed, the Construction Exclusion Zone (CEZ) to be protected by barriers (tree protection plan (TPP)).
- 6.5 Following inspection and grading of the trees, the information listed in Appendix A is used to provide constraints guidance to the project architect based on the locations of the best trees. All U trees are ignored as they not of good enough quality to be considered as a material constraint on development.
- 6.6 The enclosed tree protection plan (TPP) shows the trees recommended for retention, their relevant RPA and provisional positions for protective fencing and ground protection. The position of the protective fencing is adjusted by estimating the likely root morphology. Root morphology will be influenced by the ground conditions; roots will proliferate where soil conditions are favourable and less so where the ground conditions are poor e.g. Buildings and metalled roads with deep foundations will inhibit root growth into the area.

7 The Site

- 7.1 The site, located at Ordnance Survey Grid Reference TQ 08494 86902 was visited by Dominic Poston on 04 March 2020 and comprises a parade of shops fronting Ickenham Road.
- 7.2 There are no trees on the application site, but one large tree was observed immediately adjacent to the site. As such they are of high landscape amenity value and also serves to soften the visible appearance of the existing buildings whilst restricting views both in and out of the Site.
- 7.3 Section 4.3 of BS5837 recommends carrying out a soil assessment in order to inform decisions regarding tree protection, new planting and foundation design. Given the scale and/or complexity of the site no soil assessment was carried out by HWA and it is advised to commission specialist soil investigations in order to profile soil properties and therefore influence the engineering and positioning of built structures within the site. In the absence of definitive data soil properties are assumed to be shrinkable and containing high proportion of fine material.

Part Two: Impact Assessment

8 Arboricultural features

- 8.1 There is one (1) moderate (category B) tree located immediately adjacent to the site.
- 8.2 A schedule of tree condition and category of retention (see 4.4 above) is attached at appendix A.

9 Detailed Impact Assessment

- 9.1 The proposed developments impact upon the trees has been assessed according to RPA encroachment and disturbance. All trees affected and the proposed mitigation is identified in Table 1 below:

Important Trees		Non-Important Trees	Impact	Reason	Mitigation
A	B	C			
-	-	-	Trees to be removed	Building construction and/or proximity	-
-	T1	-	Trees to be pruned	Anticipated crown lift required for access facilitation	All works to accord with BS 3998 and best practice
-	-	-	RPA disturbance	Removal or installation of surfaces/ structures/ landscaping	-

Table 1: Arboricultural Implications

- 9.2 No details of service or utility runs have been supplied for consideration within this assessment, however, due to the existing site layout and location of retained trees it is anticipated that there would be no additional conflict with the root protection zones. Where works are unavoidable, all excavation must be carried out in accordance with National Joint Utility Guidelines Publication Volume 4: Guidelines for the planning, installation and maintenance of utility services in proximity to trees.

10 Protection of retained trees

- 10.1 The successful retention of trees depends on the quality of protective measures and the administrative procedures to ensure those protective measures remain in place throughout development. An effective way of achieving this is by way of an Arboricultural Method Statement (AMS) which can be specifically referred to in a planning condition. A preliminary AMS for this development is located at part 3.

11 Mitigation

- 11.1 Given the lack of direct arboricultural impact, it is not considered necessary or appropriate to specify new planting in mitigation. However, significant new tree planting is proposed and will be specified and submitted under separate cover.

12 Tree works schedule

- 12.1 Tabulated below is a list of recommended tree works which should be carried out prior to development.
- 12.2 All recommended works should be implemented in line with British Standard 3998: Tree work or subsequent industry accepted best practice.
- 12.3 The recommendations contained herein are preliminary and subject to change subsequent to approval.
- 12.4 Provisional tree work specification (Subject to statutory protection check):

Tree No('s).	Specification	Reason	Timing
T1	Crown lift to 3m	To allow access	ASAP

Table 2: Tree works specification

13 Conclusions

- 13.1 British Standard BS5837:2012 contains clear and current recommendations for a best practice approach to the assessment, retention and protection of trees on development sites. The proposed development has followed this guidance by:

- Seeking arboricultural advice to inform the layout and design of the

proposed building

- Respecting the constraints posed to development of the site by high or moderate quality trees
- Continuing to take advice on all aspects to the proposal that may impact upon trees

- 13.2 The protection of retained trees on site during the proposed development works can be achieved by continuing to follow the recommendations of this report, BS: 5837 and suitably drafted planning conditions.
- 13.3 The retained trees will not give rise to any substantial post development pressure.

Part Three: Arboricultural/Construction Method Statement

14 General principals

14.1 An arboricultural consultant will be appointed by the developer to advise on tree management for the site and to attend:

- The pre-commencement meeting before any works start;
- As needed to oversee any specific works which could affect trees.

Additionally, the consultant will have a supervisory role in the following operations:

- Site preparation, including tree works and any demolition requirements
- Installation, maintenance and removal of barriers.

14.2 To ensure that the Local Planning Authority Tree Officer has an opportunity to visit the site, the Local Authority is to be given notice in writing 5 full working days prior to the date of commencement of development to check all physical tree protection.

14.3 Equally as important as the physical measures of tree protection are the links of communication. The section below should include the details of the relevant parties and individuals that are important in the process of tree preservation at this development site. Such details should be retained by all relevant parties and available on site at all times. It is an undertaking that the relevant parties are advised of any changes in personnel or contractor during the development process. The Contact details are to be updated prior to commencement of any works in connection with the planning permission.

Contractor: TBA

LPA Tree Officer: TBA

Project Manager: TBA

Arboricultural Consultant: Dominic Poston, Hallwood Associates (07946 938906)

15 Sequence of events

15.1 **Before demolitions, soil stripping and construction work starts (including bringing of plant and materials on site):**

- **A pre-commencement site meeting** shall be held prior to the commencement of any works associated with the proposed development. This is required in order for the Local Planning Authority, the retained Arboricultural Consultant and construction personnel to agree all approved site processes. This meeting could be used to formally agree the methods of work, position of site offices, material storage, compounds, parking and tree protection measures prior to commencement of the development and the associated clearance work. If an LPA representative is unavailable, the retained arboricultural consultant will inform the LPA in writing of the details of the meeting.
- **Tree works to be completed**

15.2 **After tree works but before demolition, soil stripping and construction work starts (including bringing of plant and materials onto site):**

- **Tree protection fencing** as shown at Section 19 and Appendix B will be constructed in accordance with the recommendations in BS5837:2012 after tree works have been carried out but before any construction or demolition has commenced.

15.3 **During construction:**

- **Tree protection will not be moved or altered** without written consent from the Local Planning Authorities tree officer and the area within (Construction Exclusion Zone (CEZ)) will be considered sacrosanct.
- **Arboricultural supervision** will be provided as and when necessary throughout development process.

15.4 **Post construction works and following removal of all plant and materials from site:**

- **Remove tree protection** to facilitate landscaping. This will only be permitted once construction work is complete; following approval from the Local planning authorities' tree officer.

16 Tree surgery works

- 16.1 All tree works will be undertaken prior to the commencement of site preparation and construction works.
- 16.2 **All permitted or approved tree work** should be carried out in accordance with the British Standard “*Recommendations for Tree Work*” BS3998:2010, by suitably qualified and experienced professional arborists. Under no circumstances shall site personnel undertake any tree pruning operations. All tree surgery works should be carried out prior to the development of the site, and erection of protective barriers.
- 16.3 If any works are required to retained trees protected by a TPO or within a Conservation Area, prior to full planning permission being granted, written approval must be obtained in advance from the LPA.
- 16.4 Consideration should be given to the timing of the proposed tree works to avoid the active growing period of trees. Therefore, all tree work should ideally be carried out during the dormant period from November through to February and then again from June to August.
- 16.5 Due to the official bird nesting season considered to be from 1st March through to the 31st July (Natural England) depending on weather conditions, consideration must also be given to the potential for nesting birds. Therefore, if tree work is to be carried out within June, July or August the project ecologist must be consulted to:
- Complete or advise on a pre-works survey which needs to be carried out by a suitably competent person. As a general rule, it should be assumed that birds will be nesting in trees, and it is down to contractors to assess, record and confirm that any works carried out in the management of trees and other vegetation has not disturbed actively nesting birds.
 - Ground vegetation, and therefore ground nesting birds, can often be overlooked by tree workers so additional care and controls should be taken when access and egress to the work site may also cause disturbance or damage to a nesting site. This is also true for retained trees on site as the removal of adjacent trees or remedial works on a tree may lead to an established nest being abandoned, exposed to the elements or predation. This action is also a breach of the Act and therefore could lead to prosecution due to the infringement of the Wildlife and Countryside Act 1981 and breaching the European Habitats Directive 1992/Nesting Birds Directive.
- 16.6 Should additional tree works become apparent during the construction process; written consent will be required from the LPA prior to these additional works being undertaken.

17 Interpretation

- 17.1 A copy of this method statement including the appended tree protection plan ref: HWA10453_TPP will be provided to all relevant parties.
- 17.2 Dimensions and positions of the approved fencing will be drawn onto all plans used by site operatives.
- 17.3 Laminated protective fence signage, such as that shown below will be erected on all protective fencing at 1.5 from ground level and every 3m along the fence.

Figure 1: Barrier signage



18 Site monitoring and supervision

- 18.1 Once the site is active, the arboricultural consultant will visit at an interval agreed at the pre-commencement meeting.
- 18.2 The supervision arrangement will be sufficiently flexible to allow the supervision of all sensitive works as they occur. The arboricultural consultant's initial role is to liaise with the developer and the LPA to ensure protective measures are fit for purpose and in place before works commence. That role will switch to compliance monitoring when development begins.

- 18.3 All supervisory visits will be formally confirmed in writing and circulated to all relevant parties, including the LPA. The purpose of these written records is to firstly provide proof of compliance that will allow the developer to robustly demonstrate adherence to best practice in the event of disputes, and secondly to help the LPA efficiently discharge the relevant planning conditions.
- 18.4 Results will be recorded and available for scrutiny by the LPA and Developer. Any defects requiring remediation or rectification shall be notified to the site foreman/manager and the client.

Example pro-forma

Date	Activity	Checked	Comments/ damage noted	By whom	Signed	Action taken
	Erection of protective barriers					
	Inspection of protective barriers					

- 18.5 Should protective fencing become damaged so as to impair its function as a protective barrier, all works shall cease in the vicinity of the damage, until the fence has been repaired.
- 18.6 Should damage occur to any of the retained trees for whatever reason, the damage should be reported to the site foreman/manager immediately. The site foreman/manager will then report to the retained arboricultural consultant to enable remediation to be implemented as necessary and agreed with the LPA.
- 18.7 The LPA Tree Officer (or appropriate representative) will have agreed access to the site, and will report on any problem areas directly to the developer's retained arboriculturist, who will then visit the site and make recommendations to the developer on how best to rectify the situation and ensure the implementation.
- 18.8 Upon completion of all development works the retained Arboricultural Consultant, the client and a representative from the LPA will meet on site to discuss any remedial works required.

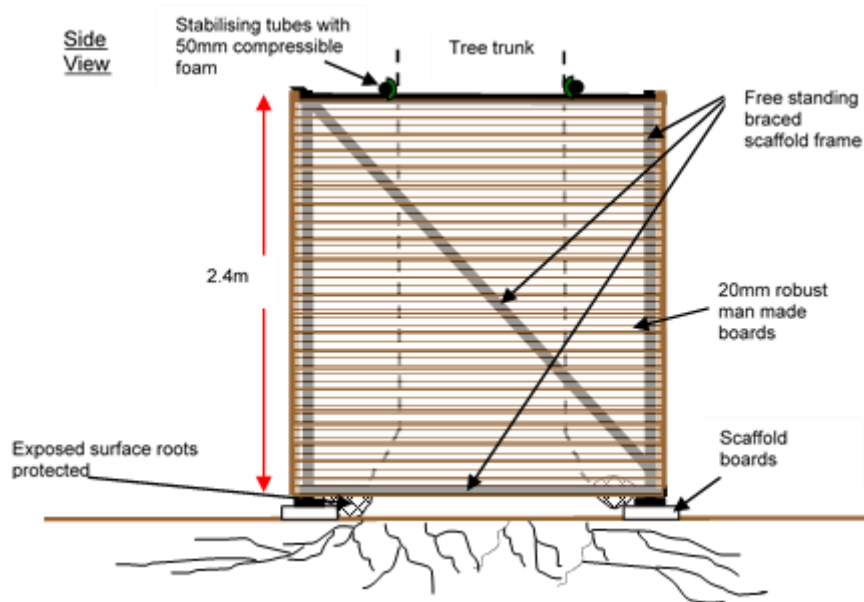
19 Tree protection

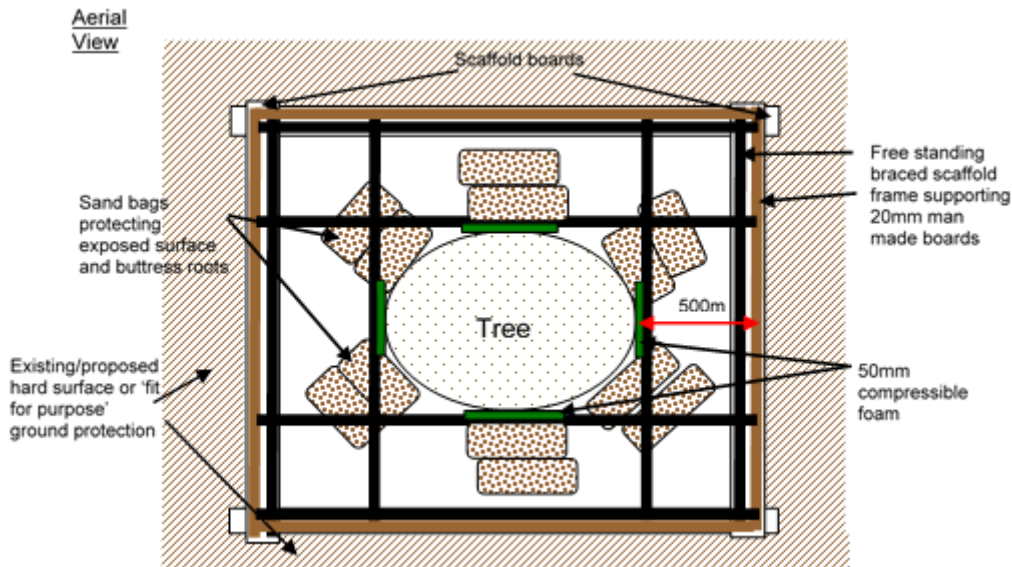
- 19.1 Before starting demolition works tree protection will be installed in accordance with Tree Protection Plan (ref: HWA10453_TPP). This will occur immediately following the completion of tree works and prior to any site preparation works starting.

A copy of the Tree Protection Plan will be displayed in the site office and canteen as a point of reference for all site operatives.

- 19.2 **Individual Trunk Protection** is required for tree T1 due to site access/existing hard surfaces/the need to maintain public access preventing the utilisation of standard barriers. Due to the trees' position close to areas of high construction activity, these trees will be protected using heavy-duty individual trunk protection to a height of not less than 2.4 metres. This will consist of a well-braced self-supporting scaffold frame to a height of 2 metres, clad with 20mm thick robust man-made boards. Buttress roots will be protected with two layers of sand bags and horizontal bars covered with a compressible foam to prevent damage to trunk bark (See Figure 2 below).

Figure 2: Heavy Duty Individual Trunk Protection





Once the barrier is in place it must remain *in-situ* throughout the following list:

- Contractor occupancy
- Plant and Materials delivery
- Construction works
- Utility installation
- Completion of development
- Landscaping

The area within the CEZ will be regarded as **sacrosanct**, and the tree protective barrier shall not be taken down or relocated at any time without the written approval of the LPA.

20 Siting of temporary offices, toilets and material storage compounds

- 20.1 It is anticipated that all storage materials and deliveries shall make use of the existing access and hard surfaces within the site confines, in order to avoid unnecessary damage to tree roots.
- 20.2 The locations shall be agreed in writing with the LPA prior to the commencement of works on site, and will remain in only those agreed locations throughout the construction phases. If an alternative location is required, this must be agreed in writing with the LPA. This will also include the delivery; storage and movement of all essential facilities, as well as aspects such as temporary contractor vehicle parking and site location of chemical mixing (e.g. concrete). All such locations will be outside of the RPAs, and avoid areas where 'run off' of chemicals may flow into RPAs.

20.3 **Material Storage**

This shall be accommodated outside of the CEZ, particularly to avoid harmful spillages of fuel, or phytotoxic substances that may damage the health of retained trees.

21 **General considerations within and outside the construction exclusion zone**

21.1 Inside the CEZ formed by the protective barrier and ground protection measures, the following prohibitions shall apply:

- No construction activity will occur within the CEZ unless otherwise stated in this report, or agreed in writing with the LPA prior to the specific activity taking place.

21.2 In addition to the above, further precautions are necessary adjacent to trees outside the CEZ:

- Materials, which will contaminate the soil e.g. concrete mixing, diesel oil and vehicle washings, shall not be discharged within 10 metres of the tree stem. This should take into consideration the topography of the site and slopes, to avoid materials such as concrete washings running towards trees.
- Fires shall not be lit in a position where their flames can extend to within 5 metres of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.
- Notice boards, telephone cables or other services shall not be attached to any part of the tree. (See appendix CB5 Common Causes of Damage During Construction Works)

22 **Utility service connections**

22.1 Details of service location proposals have not been forwarded to HWA at the time of compiling this assessment. It is however assumed, given the location of the trees, that services will be installed outside the root protection areas of retained trees, and connected to the existing where practicable, this will avoid disturbance of tree roots and ensure their healthy retention.

23 Removal of protective barriers

- 23.1 When the development phase is complete, all drainage and service runs are in place, all site machinery has been removed and any landscaping for the principal area of the site has been implemented, the protective barriers will be dismantled.
- 23.2 This fence dismantling must be undertaken with great care, and will need to be supervised to avoid heavy machinery being used within the root protection areas. Hoarding, scaffolding and other barrier materials will need to be removed from site immediately.

Appendices

APPENDIX A – Tree Survey Schedule

APPENDIX B – Plans

Appendix A

TREE SURVEY SCHEDULE

TREE SURVEY KEY

		Age Class		Definition	Retention Category			
Stem Dia	= Stem diameter (mm) at 1.5m above ground level	Y	Young	1st 1/3rd of life expectancy	Category (BS 5837)		Sub Category (BS 5837)	
C.C.	= Height of crown clearance above ground level	SM	Early Mature	2nd 1/3rd of life expectancy	A	High Quality & Value	1	Mainly arboricultural value
U.L.E.	= Useful Life Expectancy of the tree in years	M	Mature	Final 1/3rd of life expectancy	B	Moderate quality & value	2	Mainly landscape value
Stems	No of stems emanating below 1.5m above ground level	OM	Over mature	Beyond life expectancy & in natural decline	C	Low quality & value	3	Mainly cultural value
(Ref)	Number and type of feature (T - tree, H - hedge, G - group, S - stump)	V	Veteran	Great age & poss. high conservation value	U	No quality & value - Remove		

NB: Estimated ultimate height and crown spread achievable at maturity if conditions are ideal are given (in brackets) next to actual measured dimensions

TREE SURVEY SCHEDULE (TABLE 1)

(Ref) No.	Species	Height (m)	Stem diameter (mm)	No of stems	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	Canopy Height (m)	Life Stage	Observations	Recommendations	ULE (yrs)	Retention category
T1	Lime	18	480	1	5.5	5.5	5.5	5.5	1.5	M	Growing off site and within hard landscape. Prominent local feature.	-	40+	B1

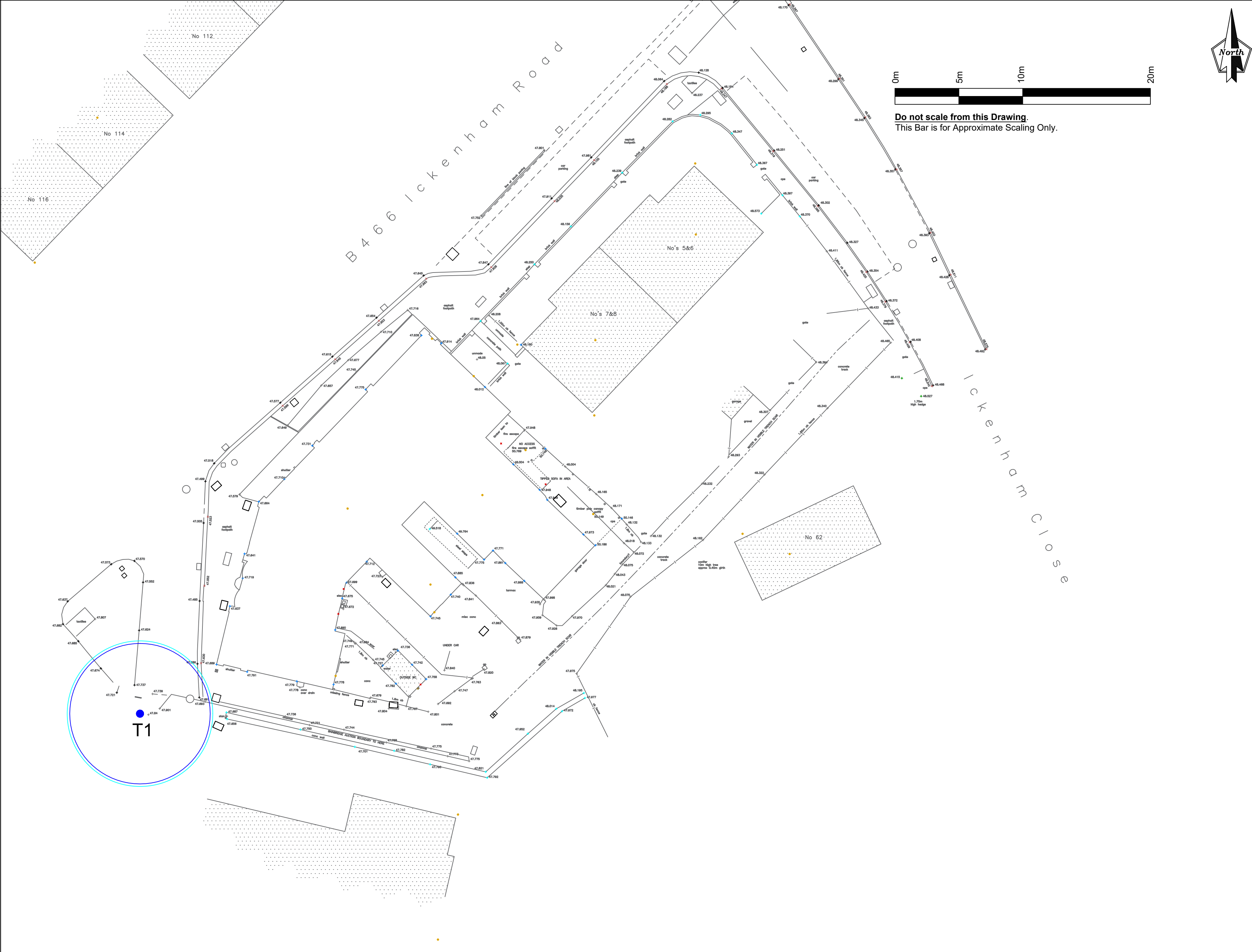
APPENDIX B

Plans

Figure 3: Tree Survey/ Constraints Plan

Figure 4: Tree Protection Plan

Figure 2: Tree Survey/Constraints Plan

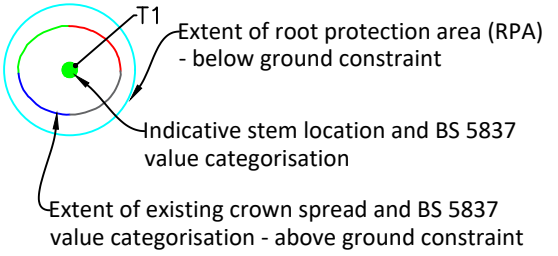


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LEGEND:



BS 5837 value categorisation colour code:
Green - High value
Blue - Moderate value
Grey - Low value
Red - No value

TREE SURVEY SCHEDULE:

Surveyed Trees	Reference	Species	Height	Stem	Diameter	Canopy	NESW	Crown	Clearance	Height	Age	Class	Physiological	Condition	Structural	Condition	Recommendations	Est. Remaining	Contribution	Category
T1		Tilia europaea	18m	0.48m		5.5N	5.5E	5.5S	5.5W	1.5m		Mature	Fair		Fair		None	20-40 Years		B1


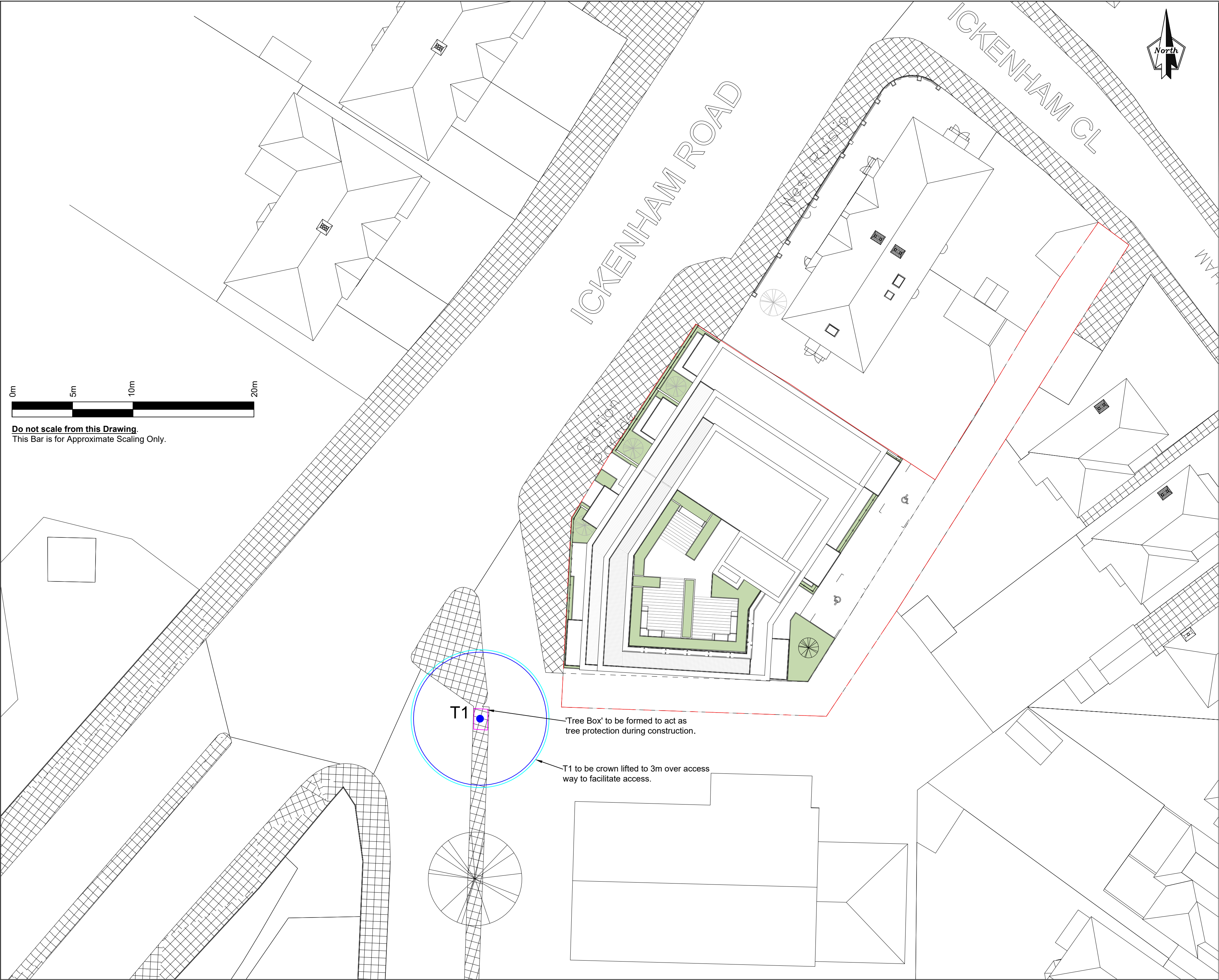
Rev.	Description	Date
Client: GAA		
Job: 1-6 Station Parade, Ickenham, HA4 7DL		
Drawing Title: TREE SURVEY/CONSTRAINTS PLAN 1 of 1		
Client Logo:		
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Date:	09.03.20	Drawn By: DAP
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Figure 3: Tree Protection Plan



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LEGEND:


T1

Extent of root protection area (RPA)
- below ground constraint

Indicative stem location and BS 5837
value categorisation

Extent of existing crown spread and BS 5837
value categorisation - above ground constraint

BS 5837 value categorisation colour code:
Green - High value
Blue - Moderate value
Grey - Low value
Red - No value

Rev.	Description	Date
Client: GAA		
Job: 1-6 Station Parade, Ickenham, HA4 7DL		
Drawing Title: TREE PROTECTION PLAN 1 of 1		
Client Logo:		
<div><div><div><p>HALLWOOD ASSOCIATES LTD</p><p>4 Granger Avenue Maldon Essex. CM9 6AN t: 01821 770168 m: 07946 938908 e: enquiries@hallwoodassociates.com</p></div></div></div>		
Date: 25.03.20		Drawn By: DAP
Scale: 1:200 @ A2		Checked By: GLP
Drawing Number: HWA10453_TPP		Rev. .