BRITISH STANDARD 5837 TREE SURVEYS ARBORICULTURAL IMPLICATION STUDIES TPO/PLANNIG ADVICE/ PROJECT MANAGEMENT
TREE INVENTORIES AND RISK ASSESSMENTS WOODLAND MANAGEMENT PLANS TREE PLANTING SCHEMES TPO RE-SURVEY






ARBORICULTURAL IMPLICATIONS ASSESSMENT

PROPOSED DEVELOPMENT

AT

LAND AT ESSEX AVE
DIDSBURY

Author: C. Salisbury
Date: 31 October 2024
Ref: TRE/21CRD

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1.0 Introduction

1.1 Mulberry Tree Management were instructed by Mr P Heneghan, to carry out an arboricultural survey of trees at their site in Essex Ave, Didsbury.

1.2 This report details the arboricultural implications of developing the site, including:

- a survey of the trees on and near the development which may impact the proposal from ground level, noting their location, species and all relevant parameters, i.e. stem diameter, height, crown spread, condition etc;
- providing advice on the removal, retention and management of trees;
- assessment of the potential effects of the proposal on retained trees and vice versa;
- assessment of the requirement for tree protection for the duration of the works;
- mitigation for any loss;
- preparation of a tree schedule;
- and report on the above matters.

1.3 The survey was carried out on 19 December 2023 by means of inspection from ground level by an experienced and qualified arboriculturalist. The inspection can be restricted in cases where trees were Ivy clad or surrounded by vegetation.

1.4 Under *BS5837: 2012 Trees in Relation to Construction - Recommendations*, the assessment of trees is made objectively. The tree categorisation method identifies the quality and value of the existing tree stock, allowing informed decisions to be made concerning development design layout.

1.5 The following documents have been made available by the client:

- Drawing- 21 Cranmer Road Tree Survey Template.dwg
- Drawing- Land off Essex Av.dwg

1.6 The supplied drawing included some tree positions plotted. Any dimensions regarding tree positions and protective fencing must be checked on site.

1.7 Weather conditions during the survey were dry and still.

1.8 The survey was carried out noting the conditions of the trees at the time of inspection. As trees are part of the natural environment, conditions can naturally change; therefore the contents of this report are valid for one year only. After this period, re-inspection may be necessary.

2.0 Survey Methodology

2.1 The trees were surveyed (prefixed T, or G for group) and recorded in the tree schedule in appendix one. Where groups are recorded, average height and diameter at breast height (DBH) of the trees in the group are reported. Where access to the base of any trees was limited, stem size was estimated.

2.2 All the trees were assessed using: a grading A to C (retention) and U (removal); condition and age class as defined in appendix two.

2.3 Where appropriate, canopy spread for each tree was recorded at four cardinal points in order to reproduce an accurate representation of the crown shape of the tree on the tree plan in appendix three.

2.4 The survey included all trees within the proposal area and trees near to the proposal.

3.0 Development Proposals

3.1 Due to the proposed development and its associated infrastructure there are a number of locations where the proposals are in close proximity to the trees surveyed. The Site Layout Plan within appendix three identifies the trees in relation to the proposed development.

3.2 In order to fully assess the impact of the proposals an Impact Table has been created detailing each tree, which shows the proximity of the associated works to the tree.

3.3 This can then be assessed in accordance with BS 5837:2012 to determine whether the development will have a detrimental impact on the health of each tree. Once this has been determined remedial measures can be detailed to reduce the impact the proposals will have on the treescape.

3.4 Impact Table:-

Tree No.	Root Protection Area identified in Table 2 of BS 5837:2012	Distance to Proposed Hard Standing (m)	Distance to Proposed Development (m)	Can the Tree/s be Successfully Retained
T1	31m^2	0.40	4.90	Yes as outlined in section 5.0
T2	31m^2	N/A	2.90	Yes as outlined in section 5.0
T3	31m^2	N/A	3.20	Yes
G1	43m^2	1.00	4.30	Yes as outlined in section 5.0
G2	49m^2	1.80	2.70	Yes as outlined in section 5.0

4.0 Impact Assessment

4.1 To assess the implications of the Impact Table each tree can be categorised in the following way: -

	Trees to be retained		Trees to be removed	
	With No Impact	With detailed construction	Due to Condition	Due to Development
Tree No.	T2 & T3	T1, G1 & G2	N/A	N/A

5.0 Mitigation Proposals

5.1 Garage Construction

5.1.1 The impact table below shows the proposed development having a minor encroachment into the root protection area of T2. It is felt that due to the species, condition and limited extent of encroachment the proposal will not have a detrimental impact on the safe useful life expectancy of these trees.

5.1.2 Section 7.5.3 of BS 5837:2012 advises that where a slab or minor structure is to be formed within the RPA it should not exceed 20% of any existing unsurfaced ground. The table below details the amount of encroachment within the RPA.

Tree No	Total Area m2 of RPA	Total m2 of Structure within the RPA	Percentage of Structure within the RPA
T2	31	0.40	1.30%

5.1.3 As you can see form the table above the proposed structure does not exceed 20% of the RPA. It is therefore felt that the proposed development will not have a detrimental impact upon the existing trees.

5.2 Car Parking

5.2.1 The impact table below shows the proposed car parking having a minor encroachment into the root protection area of T1, G1 & G2. It is felt that due to the species, condition and limited extent of encroachment the proposal will not have a detrimental impact on the safe useful life expectancy of these trees.

5.2.2 If ground levels remain the same, the detrimental effects the driveway would have on this tree would be: -

- Compaction, resulting in oxygen depletion, caused from creating the access way.
- The loss of a permeable surface.

5.2.3 It is now possible with the use of a cellular confinement system to be able to create road surfaces very close to trees without having a detrimental effect.

5.2.4 A cellular confinement system provides a load transfer mattress which prevents direct loads on tree roots and reduces the bearing pressure on subsoil's by stabilising aggregate surfaces against rutting under wheel loads.

5.2.5 Section 7.4.2.3 of BS 5837:2012 advises that new permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA. The table below details the amount of new surface proposed within the RPA of each tree.

Tree No	Total Area m2 of RPA	Total m2 of New Hard Surfacing within the RPA	Percentage of Hard Surfacing within the RPA
T1	31	12.70	41.00%
G1	43	12.60	29.40%
G2	49	2.70	5.60%

5.2.7 As you can see form the table the proposed hard surfacing does exceed 20% of the RPA of T1 & G1. Section 4.1 76 of the Arboricultural Associations Publication 'The Use of Cellular Confinement Systems Near Trees, A Guide To Good Practice' states that: 'BS5837:2021 recommends that new permanent hard surfacing should not exceed 20% of any existing unsurfaced RPA of a tree. This is a cautious recommendation, and it should not necessarily be considered the absolute limit because in some circumstances covering a higher proportion of the root zone with a permeable surface may be acceptable'. It is felt that in this circumstance the additional RPA coverage will not adversely affect the useful life expectancy of these trees.

6.0 Conclusions and Arboricultural Recommendations

6.1 The tree categorisation method identifies the quality and value of the existing tree stock but it is not meant to be interpreted rigidly and is presented in order to form a balanced judgement on tree retention and removal.

6.2 A precautionary method of working near trees is detailed in the accompanying Arboricultural Method Statement.

6.3 Following site development, regular (annual or biannual) inspections of all retained trees should be undertaken by a qualified Arboricultural Consultant.

6.4 It is considered that in following the advice in this document, any negative factors affecting trees on the site will be minimised.

Appendix One

Tree Survey Schedule

TREE SURVEY SCHEDULE

Arboricultural Data Sheet:				Date of Survey: 19/12/23						Surveyor: C. Salisbury		
Tree No.	Species	DBH (mm)	Height (m)	Age	Crown Spread (m)				Crown clearance	Condition rating	Comments and preliminary management recommendations	Estimated remaining contribution	Tree quality category rating
					N	**E**	**S**	**W**					
T1	Apple	260	4.20	M	3.0	2.0	2.5	2.0	2.00	B	A reasonable specimen in an adjacent property	10-20	C2
T2	Oak	260	6.80	SM	1.0	1.0	1.0	1.0	2.50	B	A individual specimen in an adjacent property	80+	C2
T3	Maple	260	6.80	SM	3.0	2.5	2.5	2.5	2.50	B	A individual specimen in an adjacent property	80+	C2
G1	1 x Cherry & 1 x Appl	310 <	5.40	EM	-	-	-	-	3.00	B	An ornamental group within an adjacent property	10-20	C2
G2	2 x Hawthorn & 1 x Apple	330 <	6.60	EM/ M	-	-	-	-	2.50	B/C	A mixed species group	10-20	C2

Appendix Two

Tree Survey Key

Trees for removal			
Category and definition	Criteria		
Category U Those 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	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality **Note** – Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).		
Trees to be considered for retention			
Category and definition	Criteria - Subcategories		
	1 Arboriculture values	2 Landscape values	3 Conservation values
Category A **Those of high quality and value**: in such a condition as to be able to make a substantial contribution (a minimum 40 years is suggested)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboriculture features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)
Category B **Those of moderate quality and value**: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboriculture features (e.g. trees of moderate quality within avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits
Category C **Those 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 below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits
	Note - Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation		

Age Class

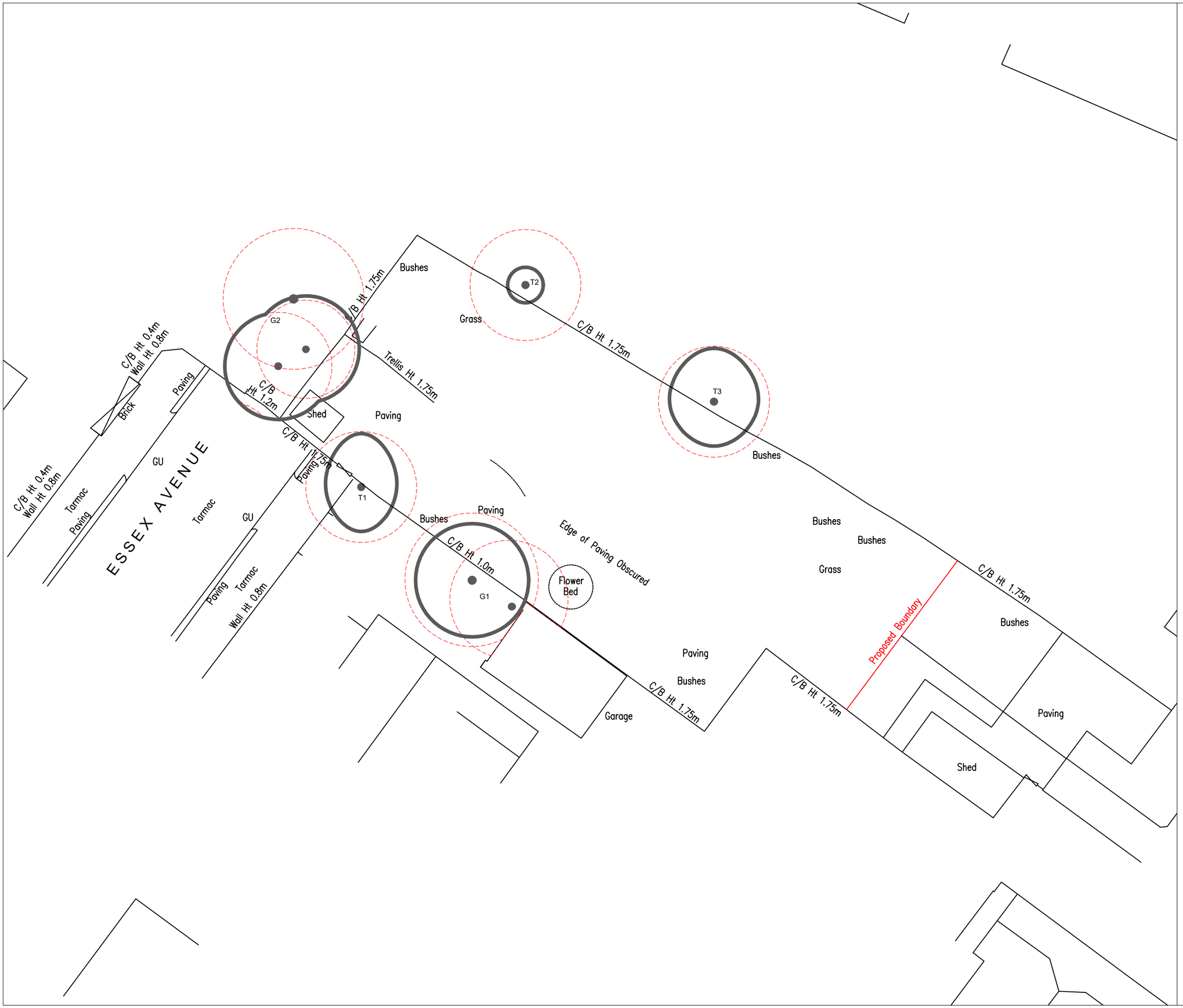
Y	Young	Trees that have not yet established
SM	Semi-Mature	Established trees up to 1/3 of expected height and crown
EM	Early mature	Between 1/3 and 2/3 expected height and crown
M	Mature	Between 2/3 and full expected height and crown
FM	Fully Mature	Full expected height and crown
OM	Over-Mature	Crown beginning to break up and decrease in size
S	Senescent	Crown in advanced stage of break-up

Condition

A	Good
B	Fair
C	Poor
D	Dead

Appendix Three

Plans



Mulberry TMC
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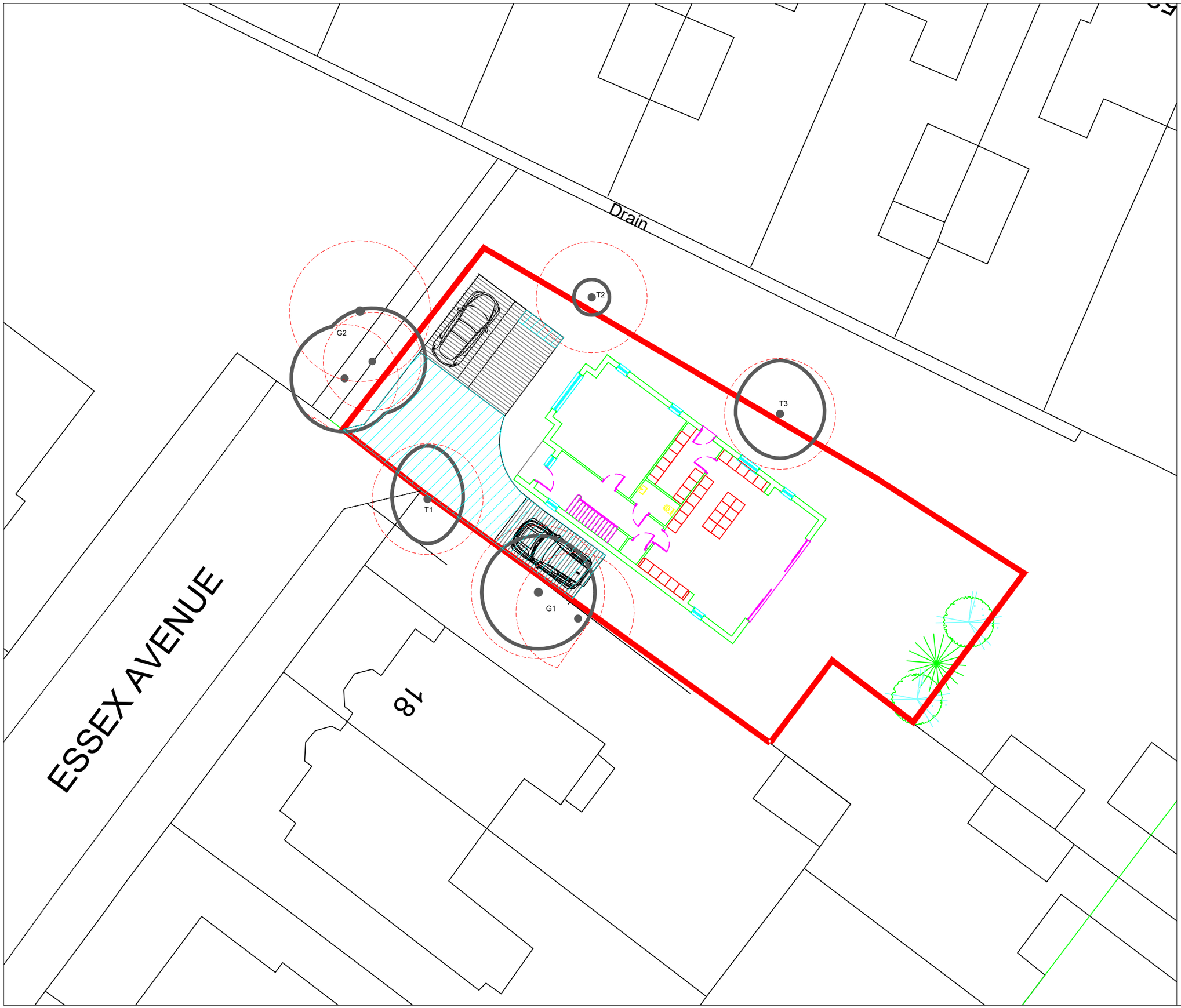
Site Address:
21 Cranmer Road
Didsbury

Drawing Title:
BS5837 Plan

Drawing No:
21CRD/BS/01

Date:	Scale:	Drawn by:
24/09/2024	1:200@A3	CS

Note: Dimensions are not to be scaled from this drawing. All written measurements are to be checked on site by the contractor. Copyright Mulberry TMC.
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Category A Trees

Category B Trees

Category C Trees

Category U Trees

Root protection area

Special Measures

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Email: info@mulberrytmc.co.uk

Site Address:
21 Cranmer Road
Didsbury

Drawing Title:
AIS Plan

Drawing No:
21CRD/AIS/01

Date:	Scale:	Drawn by:
31/10/2024	1:200@A3	CS

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Appendix Four

Construction of Special Surface

METHODOLOGY FOR THE CONSTRUCTION OF CAR PARKING

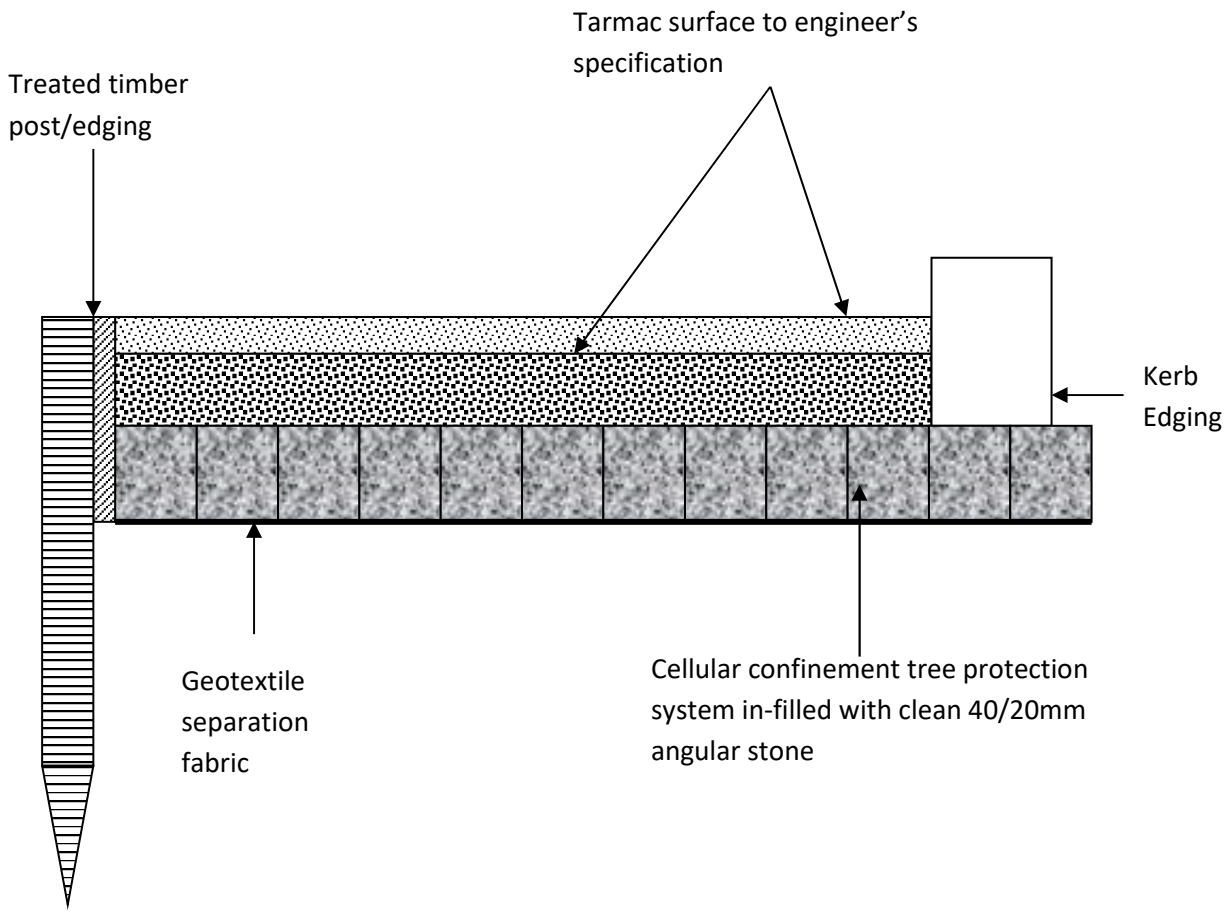
The following methodology supports the drawing indicating the construction of the proposed car parking. The methodology is prepared on the basis of the sequence of operations necessary to complete the construction of the driveway with the minimum damage to the trees proposed for retention.

- Surface layer to be scraped off. This can be done either by hand or by very small machinery.
- Erect protective fencing to the edge of the construction area.
- Spread a sub grade material over the length of the driveway to fill any small ruts.
- Construct edging using treated timber if required.
- Lay geotextile mat over smoothed area.
- Extend the Geoweb perforated tree root protection system over the area of the driveway with sufficient overlap such that kerbs can be constructed on top of the Geoweb.
- Fill the voids within the Geoweb with reduced fines Type 1 material working into the site over the top of the Geoweb.
- Lay kerbs and surface over the Geoweb such that the construction binds itself together.
- Construct finished surface as required in line with guidance illustrations below.

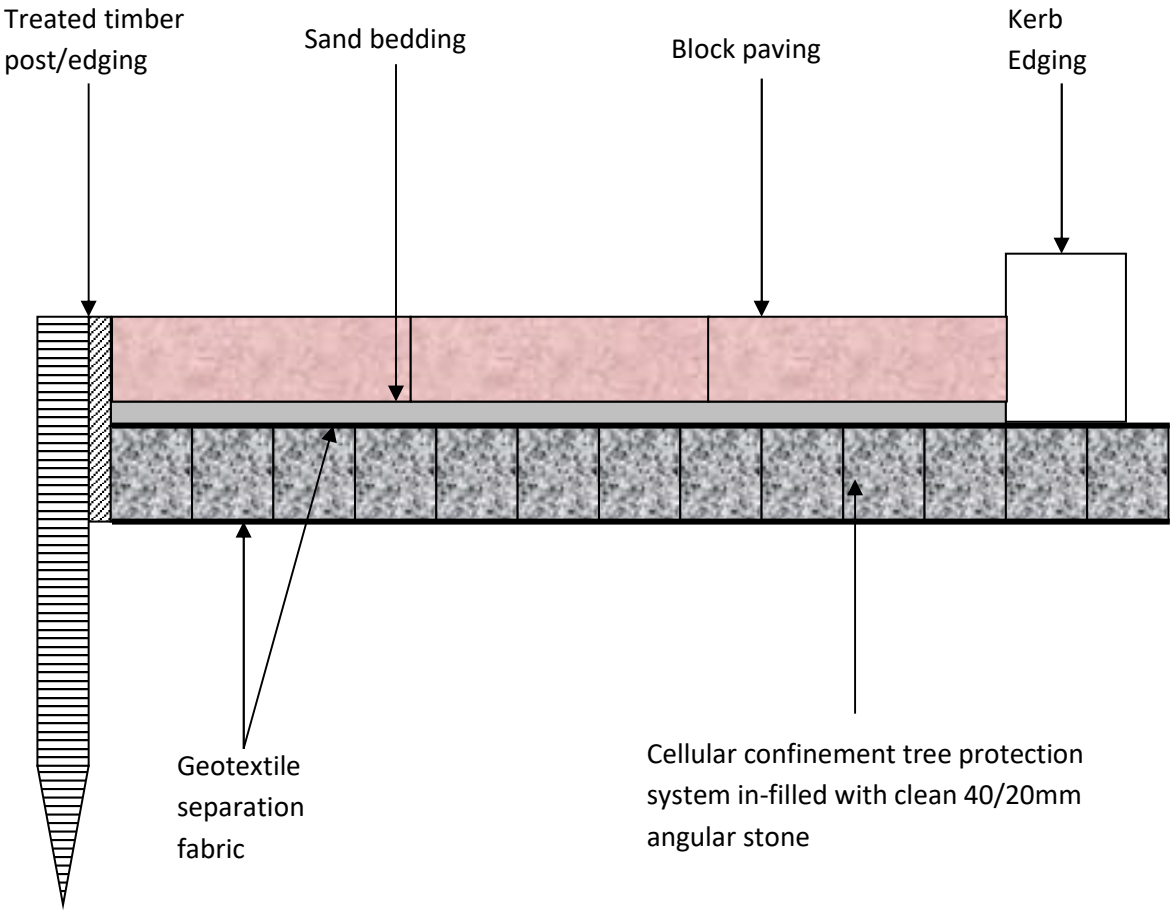
GEOWEB BASED CONSTRUCTION – (INDICATIVE ONLY)

Depth of confinement system variable according to use- refer to manufacturer

Tarmac Surface



Block Paved Surface



Gravel Surface

