

Trees and Construction

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

Site: 2 Cliff Ave, Summerseat, BL9 5NE

Ref: 20543.23 / A1_AIA

Client: Sterling Properties



(Mail) 2nd Floor | 1 Hunters Walk | Canal Street | Chester | CH1 4EB

0333 123 7080 | info@indigosurveys.co.uk

www.IndigoSurveys.co.uk

Arboricultural Consultant (Author):	Arboricultural Consultant (Checked by):
Tony Banner <i>TechCert (ArborA), TechArborA</i>	Andrew Turnbull <i>FDS Sc MA ArborA</i>

- June 2023 -

TABLE OF CONTENTS

Chapter	Title	Page
1	Introduction	3
2	Site & Application Information	4
3	Scheme / Impact Assessment	5 - 6
4	Method Statement 'Considerations'	7 - 9

Appendices

Caveat	I
Terms and Definitions	II
Tree data table, Tree Constraints Plan & Tree Protection Plan	III

Revision	Description	Date
/	/	/

1. INTRODUCTION

- 1.1 **Instruction:** This advice has been prepared for Sterling Properties (hereafter; client) and is in respect of the tree related planning considerations at 2 Cliff Ave, Summerseat, BL9 5NE (hereafter; site).

As the proposal relates to development 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 advice has been produced in accordance with BS5837 and is intended to demonstrate the site's realistic arboricultural constraints and assist with the design process. The objective is to systematically assess the site and provide suitable recommendations regarding the proposal's potential impact on trees and vice versa.
- 1.4 Following instruction the consultant surveyed the site on the 1st June 2023 where a site walkover and BS5837 tree survey were carried out; 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 use the supplied topographical survey to illustrate the surveyed trees in plan format as a 'Tree Constraints Plan' (hereafter; TCP).

The TCP has an overlay of the proposed scheme to enable this review. The TCP informs this assessment and is used as a base layer for the appended 'Tree Protection Plan' (hereafter; TPP); the TCP, tree survey data table and TPP are at Appendix III.

2. SITE INFORMATION & TREE ASSESSMENT

- 2.1 The site currently comprises a residential property with associated access, parking and gardens. The site is accessible directly off Cliff Avenue and Crag Lane.
- 2.2 **Proposal:** It is understood that a proposed scheme involves the demolition of the existing residential property and construction of a new residential properties with parking provisions and site landscaping. This is confirmed as per the client's proposed site plan as illustrated on the TCP.
- 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 trees -
- 2.4.1 The tree survey and assessment resulted in the BS5837 quality/retention categories of 'A - high', 'B - moderate' and 'C - low' being attributed to trees/tree groups, as well as those of curtailed life expectancy categorised as 'U'.
- 2.4.2 The BS5837 tree survey is a means of objective assessment and reflects the trees' condition, quality contribution, remaining life expectancy and spatial considerations (stem, crown and roots). On this basis and in order to consider the trees' accurate constraints, the survey data has the crown extents for north, east, south and west, the stem diameter measurement, and the calculated root protection areas (hereafter; RPAs). Hereafter, the trees are therefore reviewed and considered on their own merits and in line with the guidance of BS5837.

3. SCHEME / IMPLICATIONS ASSESSMENT

- 3.1 For the purpose of this assessment, the proposed site plan is used as a basis for consideration. This takes account of anticipated tree removals, tree protection options and potential alterations to account for arboricultural features; as per s.1.6 and s.2.2 herein, the TCP shows the '*proposed site plan*' as an overlay for review.
- 3.2 Based on the noted defects and limited future potential of the 'U' category trees, it is recommended T4, T9, T20 and T33 be removed as part of H&S tree risk management in conjunction with the proposed scheme.
- 3.3 Further to the above, due to poor condition of T22, it is recommended this be removed as part of H&S tree works in conjunction with the proposed scheme.
- 3.4 The proposed scheme is in conflict with the 'C' category trees G4 and T24 - T28. However, as per s.3.2.3, these trees are low quality and should not significantly constrain nor guide the scheme. Therefore, said trees should be removed to facilitate the scheme and mitigated by new tree planting as part of a landscape scheme is recommended; a 1:1 removal to replacement ratio as mitigation is recommended for 'C' category trees.
- 3.5 Following the above considerations, the trees are clear of the active construction area. However, the installation of temporary tree protection will be required to ensure no impact on trees from access, vehicles and material storage.
- 3.6 Further to the above, the following tree works are required prior to site works.

TREE WORK SUMMARY

NUMBER	TREE REMOVALS / PRUNING WORKS	
T4, T9, T20, T22 and T33	Remove	Remove as part of H&S tree risk management in conjunction the scheme
G4 and T24 - T28	Remove	Remove in order to facilitate and in conjunction the scheme: - to be replaced with new site landscaping.
Retained trees		Protection by placement of fixed Heras panels around the crown/RPA extents, to have no access during construction.

- 3.7 Further to the above review and in consideration for the need to protect retained trees, the following section contains said details as an Arboricultural Method Statement (Application Stage).

4. METHOD STATEMENT (Application Stage)

4.1 Arboricultural Construction Restrictions

4.1.1 The following restrictions are considered relevant for tree protection purposes which are illustrated on the appended Tree Protection Plan:

- a) Tree works; are to be completed prior to any site works: additional tree works are not permitted unless agreed in writing by the council.
- b) Protective Barrier Fencing (hereafter; PBF); is to be installed around the retained trees immediately after the tree works and prior to the site works commencing.
- c) Construction Exclusion Zone (hereafter; CEZ); following the installation of PBF the fenced off section is to act as a CEZ and be supplemented with ground protection for RPA sections outside of fenced off areas as the CEZ.
- d) Material Handling; no chemicals/ materials are to be transported/ stored/ used/ mixed within exposed grounds on site; all chemical / cement storage, transport or use will be pre-prepared with impermeable liner and detail within a Construction Management Plan.
- e) Site Management; no fires are to be lit and no machinery, plant or vehicles are to be washed down within 10m of a tree's canopy, within a RPA / CEZ, and the RPA/CEZ may not be breached, i.e. no mechanical digging or scraping is permitted within a RPA/CEZ.
- f) Sensitive Landscape; only following construction completion can the PBF be removed and any remaining soft landscape works be undertaken (ground levels to be retained within RPAs and works undertaken manually with non-mechanical hand tools).

4.2 Arboricultural Site Monitoring / Supervision

4.2.1 The site should be checked by a qualified arboriculturist throughout the construction processes to ensure the tree protection measures are adhered to, thus -

- (a) pre-commencement to confirm tree removals and to inspect installed tree protection;
- (b) during construction to ensure adherence to this AMS; and
- (c) prior to removal of tree protection after construction completion to sign off the site for correct tree protection.

4.3 Protective Barrier Fencing (PBF) Specification

4.3.1 Barrier fencing is to be installed (and signed off by way of arboricultural supervision) following the completion of the tree works. It is illustrated on the Tree Protection Plan and is to remain in situ for the entire duration of preparation/construction processes unless otherwise agreed in writing by the council.

4.3.2 The barrier fencing is to consist of a series of Heras panels secured in place by driven scaffold posts or a scaffold frame to ensure that the fencing lines are well braced to resist impact, and site hoarding around the application boundary to prevent access to the RPA/CEZ areas around the approved works.

4.4 Underground utilities

4.4.1 Underground utilities are to be installed as per a dedicated plan and be clear of RPA by design. Otherwise, and if RPAs cannot be avoided, the following restrictions are recommended for underground utilities within RPAs:

- Any necessary excavations to be undertaken sensitively using either a no-dig method (e.g. Air-Spade) and/or under arboricultural supervision;
- Any exposed roots shall be packed with a clean damp sand (not builders sand) and wrapped in hessian sacking to protect them;
- Small roots which are identified (those less than 25mm diameter) may be carefully pruned back with a clean sharp tree saw; and
- Larger roots which are identified (those greater than 25mm in diameter) are to be retained and protected as they may be necessary for a tree's health and stability.

4.5 Ground Protection

4.5.1 In this instance the ground within RPAs is to be protected by PBF and retained hard surfaces.

4.5.2 If the existing hard surfaces within RPAs cannot be retained then it is necessary to install temporary ground protection for exposed areas/soils within RPAs.

Specifically, the ground is to be protected from impact for pedestrian/vehicular access. The ground protection is to be appropriate for the intensity of the pedestrian or vehicular movements thus -

- g) For pedestrians, the ground protection is to be *"a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile, or supported by scaffold"*; and
- h) For wheeled or tracked movements within an exposed RPA, the ground protection is to *"be designed by an engineer to accommodate the likely loading"*.

4.6 Ground Works within RPAs

- 4.6.1 No direct RPA incursion is anticipated, with exception of soft and hard landscaping - retained levels detail to be demonstrated by the client in the form of a 'site levels plan'.
- 4.6.2 Any excavations within a RPA or designated CEZ (the area enclosed by PBF) must:
- Only be undertaken when the construction works are completed; and
 - Use sensitive excavation techniques to protect the tree roots and their existing growing conditions i.e. retained existing soil level and manual installations.

4.7 Landscape Detail

- 4.7.1 The finer details of the site landscaping proposals are to be illustrated on a landscape plan. This is to include the exact proposals for hard and soft landscaping together with the details for any new trees' planting locations, species and stock selection, installation and maintenance; this is to be undertaken by the appointed landscape architect who will have the full support of the arboricultural consultant where required.

4.8 Report Handling

- 4.8.1 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.
- 4.8.2 The proposed scheme is reviewed in respect of the arboricultural constraints and is considered to be achievable in line with the BS5837 guidance. The recommendations herein may be approved by the council as a means of authorised tree works and tree protection.
- 4.8.3 This AMS and the TPP may be approved by the council in support of the application, subject to a conditioned final AMS and TPP 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.4.2 for '*Arboricultural Monitoring / Supervision*'.

This concludes our advice.

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 (20543.23/TCP/01)
Tree Protection Plan:	As appended (20543.23/TPP/01)

TREE SURVEY IN ACCORDANCE WITH BRITISH STANDARD 5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION & CONSTRUCTION - RECOMMENDATIONS'

CLIENT: Sterling Properties

PROJECT REF: 20543/A1

SITE: 2 Cliff Avenue, Bury, BL9 5NE

CONTACT: /

SURVEY DATE: 1st June 2023

ARB CONSULTANT: Rod Benzie ND Arb BSc Forestry

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
T1	Sycamore; Acer psuedoplatanus; Aceraceae	M	20	2	11	11	5	530, 520, 530	10.94	4	5S	Good/Fair	20-40	Ivy establishing on stems. Some large pieces of deadwood in lower crown. Set in landscaped bed. Multistemmed tree 3 stems. Some natural bracing. Upper crown growth affected by adjacent tree. Wires attached to lower stem	B 2	
T2	Sycamore; Acer psuedoplatanus; Aceraceae	M	22	11	4	11	1.5	830	9.96	4	6 Stem divergence	Good/Fair	40+	Some large pieces of deadwood in lower crown. Wires attached to lower stem. Set in landscaped bed. Tarmac driveway within 1m. Group grown feature. Slight cure north to main stem. Divergence at 5m	A 2	
T3	Common Ash; Fraxinus excelsior; Oleaceae	SM	14	4	5	7	0.5	210	2.52	6	6Stem divergence	Fair	10_20	Managed by crown lifting. Old pruning wounds on stem. Symptoms of ADB (Ash Die Back) evident. Leans east. General growth influenced by adjacent trees	C 2	
T4	Common Ash; Fraxinus excelsior; Oleaceae	SM	9	1.5	3	5	1.5	290	3.48	1.5	1.75S	Poor	< 10	Old pruning wounds on stem. epicormic growth. Managed by lopping due to electricity cable. Poor crown asymmetry. Tarmac and road debris around base. ADB	U	Fell Tree
T5	Common Ash; Fraxinus excelsior; Oleaceae	Y	6	4	1	1	2	110,110	1.87	2.25	2.75 Stem divergence	Fair/Poor	10_20	Managed by lopping due to electricity cable. Multistemmed tree 2 stems	C 2	Consider removal
T6	Common Ash; Fraxinus excelsior; Oleaceae	Y	12	1.5	3	1	4	200	2.4	5	3.25W	Fair/Poor	10_20	Managed by lopping due to electricity cable. Multistemmed tree 2 stems. Symptoms of ADB evident	C 2	Consider removal
T7	Birch; Betula (species); betulaceae	Y/SM	14	1.5	1	1	1.5	180	2.16	6	3.25W	Fair	10_20	Ivy establishing on stems. Set on raised planting bed. Tarmac driveway within 1m	C 2	
T8	Sycamore; Acer psuedoplatanus; Aceraceae	Y/SM	18	12	3	5	8	550	6.6	4	2 Stem divergence	Good/Fair	20-40	Tarmac driveway within 1m. Set on raised planting bed. Group grown feature. Upper crown growth affected by adjacent tree	B 2	
T9	Common Ash; Fraxinus excelsior; Oleaceae	M	20	9	8	5	8	540,540	9.17	4	2.75NE	Poor	<10	Symptoms of ADB evident. Significant ADB symptoms. Old fungal brackets on branch and lower branch wound. Ash dieback / Chalara ash dieback (Hymenoscyphus fraxineus). major dieback	U	Fell Tree
T10	Hybrid Holly; Ilex alterclarensis; Aquifoliaceae	M	8	2	2	2	2	200	2.4	1	1 All round	Good/Fair	20-40	Understory tree	B 2	
T11	Sycamore; Acer psuedoplatanus; Aceraceae	M/OM	20	4	10	8	6	230, 430, 550	8.82	2.25	1.75S	Good	20-40	Multistemmed tree 3 stems. Owl nest box on stem. Wires attached to lower stem. Phoenix tree regrown from stump	B 2	

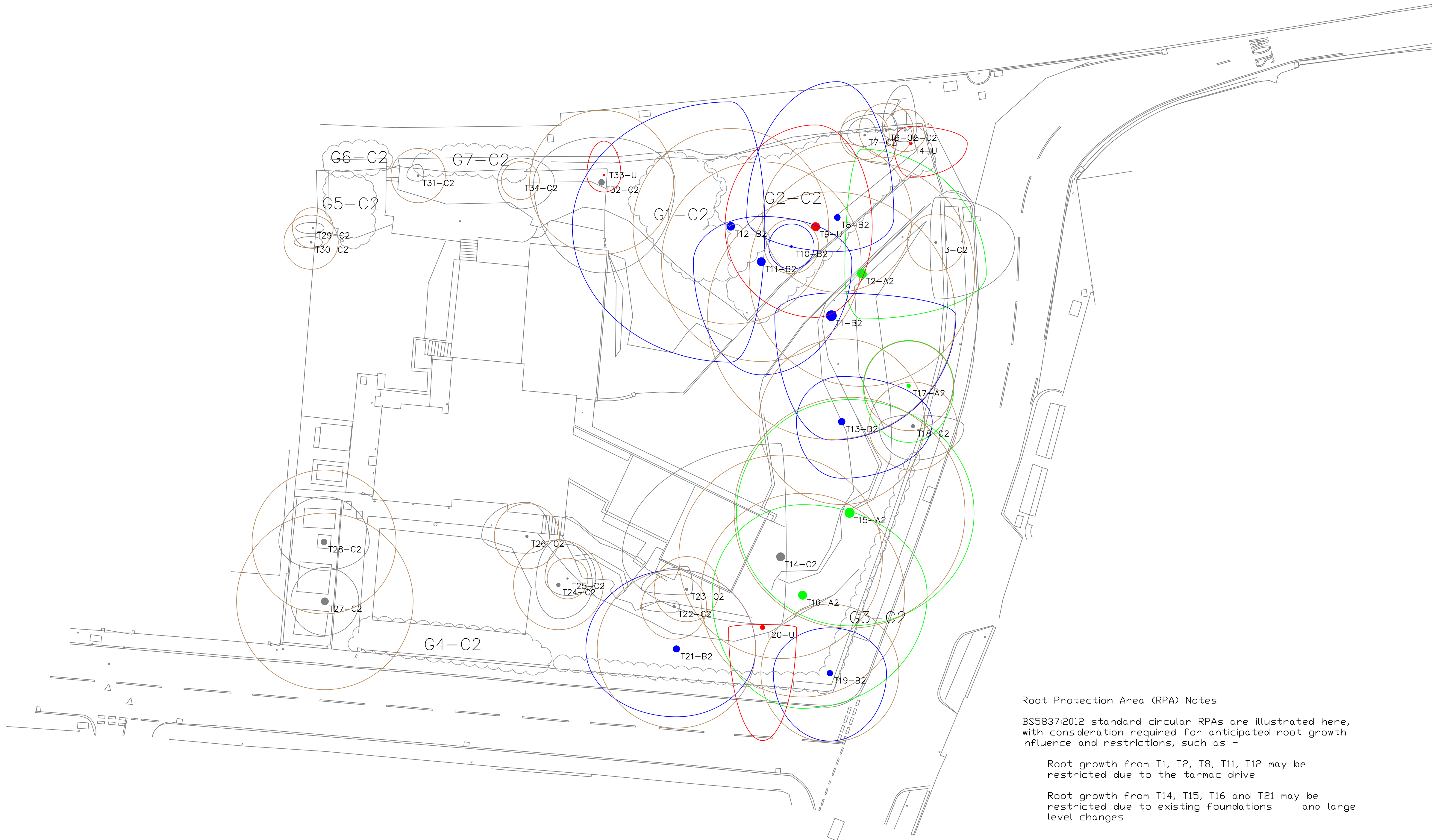
T12	Sycamore; Acer psuedoplatanus; Aceraceae	M/OM	12	11	12	3	14	720	8.64	2.25	1 All round	Good/Fair	20-40	Multistemmed tree 3 stems. Owl nest box on stem. Wires attached to lower stem. Phoenix tree regrown from stump	B	2	
T13	Sycamore; Acer psuedoplatanus; Aceraceae	M	20	4	5	8	4	610	7.32	2.25	2W	Fair	20-40	Ivy establishing on stems. Ivy preventing VTA. Some large pieces of deadwood in lower crown. Limited stem flare ground level change possible	B	2	
T14	Sycamore; Acer psuedoplatanus; Aceraceae	M	20	10	6	0.5	14	749*	8.99	2.25	1W	Fair/Poor	20-40	Major bark wounds cavities on lower main stem and scaffolds. Fire damage . Leaning over garage	C	2	
T15	Sycamore; Acer psuedoplatanus; Aceraceae	M/OM	20	10	10	11	10	850*	10.2	2.25	2.5E	Good	40+	Heavy branch crown structure.. Estimated dimensions due to location. Ivy preventing VTA. Located on top of rock face 2m above ground level	A	2	
T16	Sycamore; Acer psuedoplatanus; Aceraceae	M/OM	20	8	10	11	8	750*	9	2.25	2.5E	Good	40+	Heavy branch crown structure.. Estimated dimensions due to location. Ivy preventing VTA. Located on top of rock face 2m above ground level	A	2	
T17	Common Ash; Fraxinus excelsior; Oleaceae	EM	20	4	5	4	4	330	3.96	6	6 Stem divergence	Good	40+	Bowed main stem. General growth influenced by adjacent trees. Mild ADB symptoms	A	2	
T18	Common Ash; Fraxinus excelsior; Oleaceae	EM	12	1	3	4.5	3	240, 150, 160	3.9	6	6	Fair	10_20	Significant ADB symptoms. Managed by crown lifting. Multistemmed tree 3 stems	C	2	
T19	Sycamore; Acer psuedoplatanus; Aceraceae	EM	14	4	6	5	5	430,270	6.1	2	2 All round	Fair	20-40	Multistemmed tree 2 stems. Ivy preventing VTA. Road within RPA. Located at road junction	B	2	Remove ivy and re-inspect
T20	Goat Willow; Salix capreae; Saliaceae	EM	8	0	10	3	3	400*	4.8	0	0 All round	Poor	20-40	Multistemmed tree 2 stems. Ivy preventing VTA. Recumbent stem due to root failure. Current stem due to phoenix regrowth	U		Fell tree
T21	Sycamore; Acer psuedoplatanus; Aceraceae	EM	14	7	6	7	8	500,300	7	0	2	Fair	20-40	Bark wound in crotch with dead core. Ivy establishing on stem. Multistemmed tree 2 stems. Bifurcates at 1.5m or below	B	2	

T22	Hawthorn; Crataegus monogyna; Rosaceae	EM	10	0.5	0.5	0.5	3	240	2.88	0	0 All round	Fair	10_20	Multistemmed tree 2 stems. Bifurcates at 1.5m or below. Low vigour tree with light foliage	C	2	Fell tree
T23	Cherry; Prunus (species); Rosaceae	EM	14	2	0.5	0.5	4	240	2.88	0	0All round	Fair	10_20	Low vigour tree with light foliage. Ivy preventing VTA. Near to garage	C	2	
T24	Laburnum; Laburnum anagyroides; Leguminosae	EM	6	4	3	3	2	330	3.96	0	0All round	Fair	10_20	Ornamental tree . Multistemmed from base	C	2	
T25	Sycamore; Acer pseudoplatanus; Aceraceae	Y	10	3	1.5	2.5	2	150	1.8	4	4All round	Fair	10_20	self sown	C	2	
T26	Laburnum; Laburnum anagyroides; Leguminosae	M	4	3	1.5	2	4	240	2.88	2	2All round	Fair	10_20	Multistemmed tree 3 stems. Touching adjacent building. Old pruning wounds.. Ornamental tree	C	2	
T27	Leyland Cypress; x Cupressocyparis leylandii; Cupressaceae	M	12	3	3	3	3	650*	7.8	2	2All round	Fair	10_20	Overgrown screen tree. Recently pruned.	C	2	
T28	Ornamental Cherry; Prunus (species); Rosaceae	M	4.5	4	2.5	4	4	530	6.36	2	2All round	Fair	10_20	Overgrown screen tree. Old pruning wounds.. Bark fluxes/ signs of stress	C	2	
T29	Rowan; Sorbus aucuparia; Rosaceae	Y	4.5	0.5	0.5	1	1.5	150	1.8	2	2All round	Fair	10_20	Situated in neighbouring property	C	2	
T30	Rowan; Sorbus aucuparia; Rosaceae	Y	4.5	0.5	0.5	1	1.5	200	2.4	2	2All round	Fair	10_20	Situated in neighbouring property	C	2	
T31	Lawson Cypress; Chamaecyparis lawsoniana; Cupressaceae	SM/EM	6	1	0.5	0.5	1	200	2.4	2	2All round	Fair	10_20	Ornamental tree	C	2	
T32	Goat Willow; Salix caprea; Salicaceae	M	14	4	8	6.5	6	530*	6.36	1	2All round	Fair	10_20	Ornamental tree	C	2	
T33	Common Ash; Fraxinus excelsior; Oleaceae	SM	4	3	1.5	1.5	1.5	180	2.16	4	4All round	Poor	< 10	Significant ADB symptoms	U		Fell Tree
T34	Elm; Ulmus (species); Ulmaceae	SM	5.5	2	2.5	3	2	140	1.68	1	1All round	Fair	20-40	Self sown tree	C	2	
G1	Hybrid Holly; Ilex alterclarensis; Aquifoliaceae	M	12	0	0	0	0	300	3.7	0	0	Fair	20-40	Possible overgrown hedge/sxreen	C	2	
G2	Conifers;Acuba Japonica;Rhodedendron ; Rhodedendron ponticum; Ericaceae;Common Ash; Fraxinus excelsior; Oleaceae	SM/EM;EM/M	10	0	0	0	0	300;100	3.8	0	0	Fair	20-40	Understory undergrowth ;Some pkants near to retaining wall near footpath	C	2	

G3	Hawthorn; Crataegus monogyna; Rosaceae;Privet; Ligustrum vulgare; Oleaceae	EM	3	0	0	0	0	80	1	0	0	Fair	10_20	Boundary screen hedge;Managed by trimming sides periodically	C	2
G4	Leyland Cypress; x Cupressocyparis leylandii; Cupressaceae	EM/M	8	0	0	0	0	600	7.2	0	0	Fair/Poor	10_20	Recently pruned in height to 8m	C	2
G5	Cherry Laurel; Prunus laurocerasus; Rosaceae	Y	4.5	0	0	0	0	200	2.4	0	0	Fair/Poor	10_20	Recently pruned.;Managed by crown lifting	C	2
G6	Common Ash; Fraxinus excelsior; Oleaceae	Y	6	0	0	0	0	200	2.4	0	0	Fair/Poor	10_20	Significant ADB symptoms	C	2
G7	Fraxinus excelsior; Oleaceae;Common Ash; Fraxinus excelsior; Oleaceae	SM	5.5	0	0	0	0	140	1.68	0	0	Fair/Poor	10_20	Significant ADB symptoms	C	2

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;
IST 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	-	Approximate number of years a tree will continue to contribute without the need for oppressive arboricultural intervention, categorised in years as <10, 10-20,
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



KEY

Tree Crown Spread

Root Protection Area (RPA)

Tree Stem

T1Tree No.

Removed Tree

Tree Condition Category

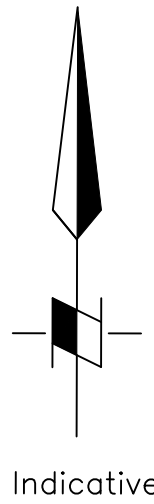
A

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'



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 T1, T2, T8, T11, T12 may be restricted due to the tarmac drive

Root growth from T14, T15, T16 and T21 may be restricted due to existing foundations and large level changes

DO NOT SCALE FROM
DRAWING

The original of this drawing was produced in colour – a monochrome copy should not be relied upon.

/	2023 tree survey data update	TB	AT	29/06/23
REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT

Sterling Properties

PROJECT

20453/A1
2 Cliff Avenue, Bury
BL9 5NE

TITLE

Tree Constraints Plan

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	25/08/2020	AT	25/08/2020			1–200

Indigo
Surveys Ltd

(Mail) Second Floor, 1 Hunter's Walk, Canal Street, Chester, CH1 4EB
Telephone: 0333 123 7080
www.indigosurveys.co.uk

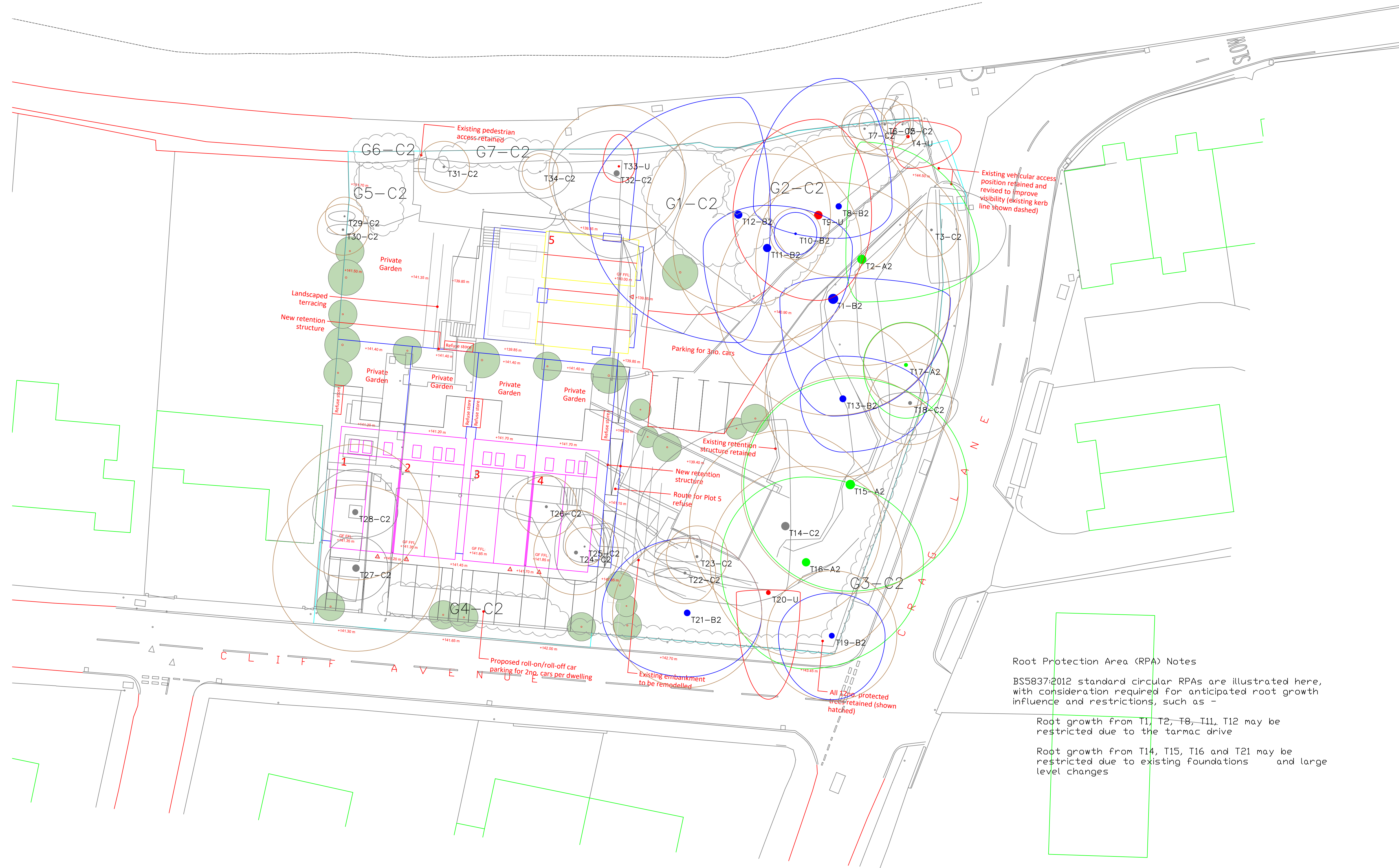
Drawing Number

20543.23/A1/TCP/01

A1

REV.

THIS DRAWING IS CONFIDENTIAL AND MUST NOT BE REPRODUCED WITHOUT THE CONSENT OF INDIGO SURVEYS LTD.



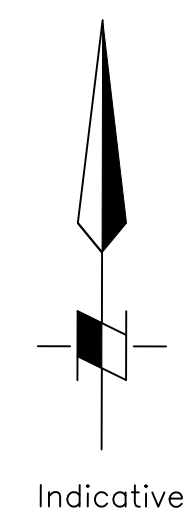
KEY

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

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'



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 T1, T2, T8, T11, T12 may be restricted due to the tarmac drive

Root growth from T14, T15, T16 and T21 may be restricted due to existing foundations and large level changes

DO NOT SCALE FROM DRAWING

The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

/	Proposed scheme overlay	TB	AT	29/06/23
REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT
Sterling Properties

PROJECT
20453.23/A1
2 Cliff Avenue, Bury
BL9 5NE

TITLE
Tree Constraints Plan

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	25/08/2020	AT	25/08/2020			1-200

(Mail) Second Floor, 1 Hunter's Walk, Canal Street, Chester, CH1 4EB
Telephone: 0333 123 7080
www.indigosurveys.co.uk

Drawing Number
20543.23/A1/TCP/01

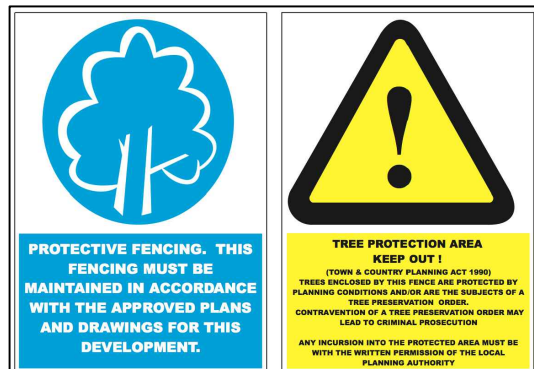
A1
REV.

THIS DRAWING IS CONFIDENTIAL AND MUST NOT BE REPRODUCED WITHOUT THE CONSENT OF INDIGO SURVEYS LTD.

Figure 2 Default specification for protective barrier

Key

1. Standard scaffold poles
2. Heavy gauge 2 m tall galvanized tube and welded mesh (1/11) panels
3. Panels secured to uprights and cross-members with white ties
4. Ground level
5. Uprights driven into the ground until secure (minimum depth 0.6 m)
6. Standard scaffold clamps

[illegible]

Ground Protection:

Ground Protection:
The existing hard surfaces are to be retained during the demolition and construction stage, only to be removed during hard landscape works (manually, with hand held tools and to retain the existing soil level).

Protective Barrier Fencing (PBF):

Heras panels to be installed (as per the illustration on this plan), to be fixed in place for the duration of site works for tree protection and to remain until demolition and construction completion, then to be realigned for hard landscape.

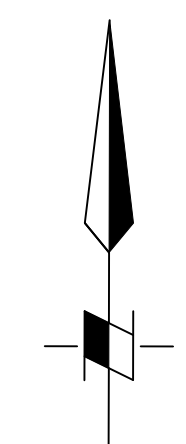
KEY

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

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',



Indicative

/	Uses TCP as base layer	TB	AT	29/06/23
REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT

Sterling Properties

PROJECT

20453.23/A1
2 Cliff Avenue, Bury
BL9 5NE

TITLE

Tree Protection Plan

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	25/08/2020	AT	25/08/2020			1-200



(Mail) Second Floor, 1 Hunter's Walk, Canal Street, Chester. CH1 4EB
Telephone: 0333 123 7080 www.indigosurveys.co.uk

Drawing Number

20543.23/A1/TPP/01

A1

REV.

THIS DRAWING IS CONFIDENTIAL AND MUST NOT BE REPRODUCED
WITHOUT THE CONSENT OF INDIGO SURVEYS LTD.

DO NOT SCALE FROM DRAWING

The original of this drawing was produced in colour – a monochrome copy should not be relied upon.