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YSGOL COED MAWR, BANGOR; ARBORICULTURAL IMPACT ASSESSMENT

**Report Ref: RTA.30.01
January 2023**

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**Ysgol Coed Mawr, Bangor
Arboricultural Impact Assessment
Report Reference: RTA.30.01
Version 3.0
January 2023**

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YSGOL COED MAWR, BANGOR
ARBORICULTURAL IMPACT ASSESSMENT

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1.0 INTRODUCTION

- 1.1 I have been commissioned by Gwynedd Council to conduct an arboricultural survey of land associated with Ysgol Coed Mawr, Bangor, Gwynedd. This report details the arboricultural impact of developing the site, subsequent mitigation recommendations and protective measures.
- 1.2 The initial survey was carried out on the 09th of June 2021 with a further update survey carried out on 24th November 2023. Surveys were carried out by means of inspection from ground level by Rob Taylor FdSc, MSc, a qualified Arboricultural Consultant. Trees were assessed in accordance with *BS 5837:2012 Trees in Relation to design, demolition and construction – Recommendations*.
- 1.3 Under the British Standard the assessment of trees is made objectively. The categorisation method identifies the quality and value of the existing tree stock.
- 1.4 A topographic plan was used to record the position of trees and vegetation (20013_2D). Where the age distribution and species mix of tree cover was relatively uniform, trees were plotted as groups. A number of trees were not plotted on the topographic plan, in which case, on-site measurements and estimations were used to plot their locations.
- 1.5 A total of 9 individual trees (T1-T9) and 5 groups of trees (G1-G5) were surveyed and mapped (refer to Drawing 1). All arboricultural information recorded during the survey is presented at Appendix 1.
- 1.6 The nature of the soils on site was not assessed during the survey.
- 1.7 This report provides the results of the survey and includes the following:
- A schedule of all trees located on, or within influencing distance of the proposed development site (Appendix 1);
 - An assessment based on *BS 5837:2012*, of trees in terms of their potential value within any future development. On the basis of this assessment trees have been categorised into one of four categories: A, B, C or U (Appendices 1 & 2);
 - An assessment, based on *BS 5837:2012*, of the requirement for protection of trees during the demolition and construction phase (Section 5);
 - Advice on removal, retention and management of trees based on their current condition (Section 6);
 - A Tree Constraints Plan detailing tree quality categories, canopy spreads and Root Protection Areas (**RPA**) for all trees surveyed (Drawing 1); and
 - A Tree Implications and Protection Plan detailing the development proposals, trees to be retained and removed, tree protection fencing alignment and areas of specialised ground treatment (Drawing 2).

2.0 THE SITE AND SURROUNDINGS

- 2.1 The site lies off Bron-Y-De, approximately 0.5km to the southwest of Bangor town centre, Gwynedd, North Wales. The surrounding land use is entirely residential.
- 2.2 The derelict buildings associated with Ysgol Coed Mawr occupied the site at the time of survey. Carparking areas, hard and soft landscaping, play areas and lawns surround the building. The survey area is predominantly flat, although land in the easternmost section of the site is on a slightly raised elevation.
- 2.3 Weather conditions during the survey were dry and overcast.

Development Proposals

- 2.4 The proposed development includes the construction of 10 new residential units. Each property will feature a garden area to the rear and parking space at the front. A playground will occupy land on the western side.
- 2.5 Detail of the proposals is shown on Drawing 2 and is based on the proposed site plan (Ref: SH2006_A.02.1) supplied by WM Design and Architecture Ltd.

3.0 STATUTORY PROTECTION

Tree Preservation Orders & Conservation Area Designations

- 3.1 Where it is considered expedient to do so, local authorities reserve the right to create Tree Preservation Orders (TPO) to protect the amenity value conferred to a location by a tree or group of trees. Where a TPO is in force, lopping, topping, felling, uprooting or wilful damage caused to a tree is prohibited and such actions may be prosecuted and incur an unlimited fine. Works to TPO protected trees must only be undertaken with the written consent of the local authority.
- 3.2 Trees also have a significant role in complimenting and enhancing the character, history and architectural form of those areas which have been designated with Conservation Area status. Prior to undertaking any tree work within a Conservation Area, there is a legal obligation to submit a six week 'Notice of Intent' to the LPA in accordance with section 211 of the Town & Country Planning Act 1990.
- 3.3 Consultation with Gwynedd County Council confirmed that at the time of writing, no trees on or immediately adjacent to the site were subject to Tree Preservation Orders or stand within a Conservation Area.

Protected Species – Bats and Barn Owls

- 3.4 Mature trees often contain cavities, crevices and hollows which are a potential habitat for roosting bats. Bats are afforded protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), as well as under Schedule 2 of the Conservation of Species and Habitats Regulations 2010 (as amended), and as such causing damage to a bat roost constitutes an offence.
- 3.5 Tree cavities, crevasses and hollows are also potential nesting sites for owl species, including barn owls; a species included on the 'Amber List' of Birds of Conservation Concern in the UK owing to habitat loss.
- 3.6 A preliminary ground level appraisal of the wildlife habitat value of each tree was undertaken by a trained layperson during the arboricultural survey. No features of interest to bats or barn owls were noted, however, the extent of any bat roost or owl nest potential in trees should be determined by the project ecologist.
- 3.7 Should the presence of a bat roost or owl nest be suspected whilst undertaking works on any other trees and groups on site, operations must be halted until a licensed bat handler or ecologist can provide advice.

Protected Species - Birds

- 3.8 Trees are a potential habitat for nesting birds, which (as well as their nests and eggs) are protected under the *Wildlife and Countryside Act 1981* (as amended). This makes it an offence to intentionally or recklessly, damage or destroy an active birds nest or any part thereof.
- 3.9 Due to the suitability of the trees within the survey boundary for nesting birds, all tree work should ideally be undertaken outside the bird nesting season (British bird nesting season: March to September inclusive).
- 3.10 If this is not possible then a detailed inspection of each tree should be undertaken by a qualified ecologist immediately prior to the arboricultural works. Should an active nest be found (being built, containing eggs or chicks) then any work likely to affect the nest must be halted until chicks have fledged.

4.0 TREE POPULATION

- 4.1 9 individual trees (T1-T9) and 5 groups of trees (G1-G5) were recorded within influencing distance of the site. A schedule of all trees and groups in terms of species, condition, age management recommendations and *BS 5837:2012* quality categories is provided at Appendix 1.
- 4.2 The surveyed trees comprise a mixture of ornamental planting remnant of the previous land use and mature trees overhanging from neighbouring residential land.
- 4.3 The most significant tree within influencing distance of the site is T2, a mature sessile oak standing on the southern site boundary. This tree is assumed to be a former field boundary feature remaining from previous agricultural land use and contributes substantial visual amenity to the area. It has a broad and vigorous crown and several pruning wounds on the main stem which have occluded well indicating good vitality. Minor dead wood was observed throughout the crown typical of tree of this maturity and species.
- 4.4 In the easternmost corner of the site stand several middle aged ornamental broadleaved trees. These are entirely silver birch and rowan (trees T4, T5 and T6 and groups G3 and G4) and vary in condition with a small number of trees displaying advanced crown decline. Tree T5 is the highest quality tree within the group, being the most dominant and vigorous.
- 4.5 Tree T1 is a semi-mature silver birch standing separately in the eastern side of the site. Although its roots display minor girdling and are moderately conflicting with neighbouring hardstanding, it shows good vitality and crown form.



Image 1: Tree T2, mature sessile oak



Image 2: Ornamental birch and rowan in the west of the site

- 4.6 A number of Lawson cypress trees (trees T8 and T9 and group G1) were recorded on third party neighbouring land during the survey. These are dense, vigorous trees typical of the species and overhanging the site by up to 3m. Surface roots from G2 were observed protruding into the site.



Image 3: Trees T8 and T9: Dense Lawson cypress on neighbouring land

4.7 Tree and group locations, their quality categories and canopy spreads are shown on Drawing 1.

Tree Quality Categorisation

4.8 Under *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations* trees and groups are objectively assigned a quality category designed to quantify their value within any future development. Table 1, overleaf, presents a summary of the categories presented in the British Standard. The full table has been reproduced at Appendix 2.

4.9 Table 2, overleaf, details which of those trees surveyed come under each tree quality category.

Table 1: Summary of BS 5837 tree quality categorisation criteria

Category A	Trees of high value including those that are particularly good examples of their species and/or those that have visual importance or significant conservation or other value
Category B	Trees of moderate value including those that do not qualify as Category A due to impaired condition and/or those that collectively have higher value than they would as individuals; also trees with material conservation or other value
Category C	Trees of low value including those with very limited merit or impaired condition; trees offering transient or temporary landscape benefits
Category U	Trees with irremediable defects and anticipated early loss due to collapse; dead trees or those in immediate decline and those with infection pathogens that threaten other trees

Table 2: BS 5837:2012 Quality Categorisation for surveyed trees

Category A	Category B	Category C	Category U
Trees			
T2	T1, T5, T8	T3, T6, T7, T9	T4
TOTAL: 1	TOTAL: 3	TOTAL: 4	TOTAL: 1
Groups			
-	--	G1, G2, G3, G4, G5	-
TOTAL: 0	TOTAL: 0	TOTAL: 5	TOTAL: 0

5.0 IMPACTS OF THE PROPOSED DEVELOPMENT

5.1 Table 3, below, lists the number and quality of trees that will require removal in order to facilitate the development proposals and those that can be retained. This is the result of an assessment based on the proposed site plan and discussions with the client regarding their application strategy.

Table 3: Arboricultural implications of the proposed development

	Tree Quality Category			
	A	B	C	U
Trees and groups that can be retained	T2	T8	T6, T7, T9, G1, G4	-
Trees and groups that require removal to facilitate development	-	T1, T5	T3, G2, G3, G5	T4

See Appendix 1, Arboricultural Data Sheets for subcategories

- 5.2 Four individual trees and three groups of trees must be removed to facilitate the development proposals, the majority of which are of low arboricultural value. They are all located either directly within the footprint of the new development or too close to be retained in a healthy and stable condition.
- 5.3 The cluster of trees in the far west corner of the site are suitable for the previous land use. Their retention would unduly constrain the construction of a new play area in this space and their removal and replacement with an appropriately configured planting scheme would be preferable to retention.
- 5.4 With suitable protection during construction, the most prominent and valuable of the surveyed trees, T2, will be retained and incorporated into the development. It should be noted that the original layout proposal was amended to enable the healthy retention of this tree, reducing the space available for the retention of T1.

- 5.5 Fencing and temporary ground protection will be necessary to safeguard the healthy retention of existing trees. This may slightly reduce the useable area for works and storage of materials during development.
- 5.6 Where planning permission is granted, the retention schedule shown in Table 3 and Drawing 2 would normally form a part of that permission. Any change to this schedule would therefore be likely to require an application to vary the consent.

6.0 TREE PROTECTION REQUIREMENTS

Root Protection Areas

- 6.1 As per *BS 5837:2012*, the **Root Protection Area (RPA)** is calculated using the trees diameter at 1.5 metres (refer to Appendix 1) and represents the minimum area around each tree that must be left undisturbed to ensure their survival.
- 6.2 Tree roots typically spread two times the width of the crown, although this figure may be significantly increased for certain species and where specific ground conditions are present. The majority of tree roots are found in the top 600 mm of soil and most of the fine roots that absorb water and nutrients are found in the top 100 mm.
- 6.3 The morphology of roots is influenced by past and present site conditions (the presence of roads, structures and underground services), soil type, topography and drainage. This means that a tree's roots may not be uniform in their extent and the **RPA** may not be a circular area centred on the tree stem.
- 6.4 Notable barriers to growth on this site are likely to be the footprint of the recently demolished school building and other areas of hardstanding around the site. Roots are unlikely to be absent in all these areas but where unfavourable conditions exist, growth will certainly be impeded. The **RPA** may be adjusted or offset to most accurately represent the likely spread of roots for each individual tree (refer to Drawing 1).

Protective Fencing and Exclusion Zones

- 6.5 Temporary protective barrier fencing will be required to demarcate a **Construction Exclusion Zone (CEZ)** around retained trees. This must be put in place prior to the commencement of any development works, including bringing machinery or materials onto site, the erection of site huts or demolition of the existing house.
- 6.6 The **CEZ** acts to protect both tree roots and branches and has been extended to incorporate canopy spread where appropriate.
- 6.7 Protective fencing alignment is shown on Drawing 2.

- 6.8 The fencing must be fixed into the ground to withstand accidental impact from machinery and to ensure that a sufficient protective area is maintained. A weatherproof notice stating 'Construction Exclusion Zone – Keep Out' must be fixed to each fencing panel. Details of recommended protective fencing are shown in Appendix 3.
- 6.9 Any alteration to the fencing alignment to allow for approved activities will be made in agreement with the council's Arboricultural Officer.
- 6.10 The protective fencing must not be removed until the physical construction phase has been completed and all vehicles have been removed from site, to the satisfaction of the council's Arboricultural Officer.

Construction of Rear Gardens and New Permanent Fence Erection

- 6.11 Protective fencing will need to be re-aligned to during the construction of rear gardens within the RPAs of tree T2 and group G1. Excavation or changes in ground levels will not be carried out in this area. Plant machinery will only be used if appropriate ground protection is installed.
- 6.12 New fencing is proposed within the RPAs of tree T2 and group G1. It is the recommendation of this report that the healthy retention of these trees will be achievable through careful foundation construction and alignment.
- 6.13 In order to reduce the impact on the retained trees, the following sequence of works should be observed:
- 1- All surrounding vegetation not scheduled for retention will be removed manually. No plant machinery will be used within the RPA.
 - 2- Any low hanging branches that obstruct fencing alignment will be pruned in accordance with *BS:3998 2010 Tree work- recommendations*.
 - 3- The ideal location for fence foundations will be marked and exploratory excavation of pilot holes using hand tools will be carried out by a qualified arboriculturist.
 - 4- If any roots greater than 30mm diameter are found, holes will be back-filled and an alternative location will be tested. Roots smaller than 30mm may be cut back to the hole face using sharp hand tools.
 - 5- Foundation holes will be no larger than 300mm width and 400mm depth as per fence manufacturers specifications.
 - 6- During fence erection, no heavy plant machinery will be used and no construction materials will be stored within the RPA.

Ground Contamination

- 6.14 Storage areas for liquids such as fuels, oil or paint should not be located within 10m of any trees on or within proximity to the site due to the risk of soil contamination caused by accidental spillage.

- 6.15 Particular care must be taken when working on or close to sloping ground to avoid unintentional runoff into the rooting area of retained trees.

Ground Level Changes

- 6.16 A rise or reduction in soil level can have major implications on the longevity and health of the trees. Minor changes (up to 100mm) can be tolerated in some cases but is heavily dependent on tree species, condition and growing environment.
- 6.17 Existing ground levels within the **Construction Exclusion Zone** should be respected as far as is reasonably practicable. The advice of a qualified Arboricultural Consultant should be sought if level changes are required.

7.0 MANAGEMENT RECOMMENDATIONS

Pre-start Meeting

- 7.1 To reinforce the required tree protection measures and avoid the requirement for ongoing arboricultural supervision, a pre-start meeting should be arranged between the site contractor, a qualified Arboricultural Consultant and the council's Arboricultural Officer.
- 7.2 During the meeting the alignment of protective fencing and RPAs will be marked out and any technical or logistical issues discussed.

Tree Work

- 7.3 A number of items of tree work are recommended to facilitate the proposals and as general sound tree management.
- 7.4 It is recommended that dead wood >30mm is removed from tree T2 to prevent future shedding within the rear gardens of the proposed properties.
- 7.5 Trees T8 and T9 and group G1 overhanging the site by several meters. It will be necessary to crown raise these trees in line with the site boundary to approximately 3 meters. Liaison with the tree owner should be carried out prior to this.
- 7.6 All tree work should be carried out by a qualified contractor working in accordance with *BS 3998: Tree Work: Recommendations* and ideally take place prior to the main construction phase.

Mitigation Planting & Landscaping

- 7.7 Four individual trees and three groups of trees within the site must be removed to facilitate the development proposals. Mitigation for their loss and associated habitat should take the form of replacement tree planting.
- 7.8 There will be suitable space within the front and rear gardens of the new properties for the establishment of several new trees of small to medium mature size mature crown dimensions. These areas are marked in Drawing 2. Recommended species for these areas include field maple (*Acer campestre*), domesticated pear (*Pyrus communis*) and magnolia (*Magnoliaceae sp.*).
- 7.9 Grass verges and site peripheries also feature space for the potential planting of trees of a medium to large mature size. These areas are also shown on Drawing 2. Suitable species include Scots pine (*Pinus sylvestris*), walnut (*Juglans regia*) and silver birch (*Betula pendula*).
- 7.10 If the above is carried out, a **net increase** in tree cover and arboricultural value of the site will be achieved.
- 7.11 Aftercare is vital to the survival of newly planted trees. Provision should be made for the maintenance of newly planted trees and include watering, formative pruning and the checking of tree ties and stakes.
- 7.12 The extent of mitigation planting will ultimately be determined in agreement with Gwynedd County Borough Council.

Post Construction Tree Care

- 7.13 Hazard recommendations are based on observations at the time of survey. Trees are dynamic living organisms whose structure is constantly changing. Even those in good condition can suffer from damage or stress. Following site development, regular (annual or biennial) inspections of all retained trees should be undertaken by a qualified Arboricultural Consultant.

8.0 SUMMARY

- 8.1 Based on an objective assessment made in accordance with *BS 5837:2005 Trees in Relation to Construction – Recommendations*, there are 1 Category A, 3 Category B, 9 Category C and 1 Category U trees and groups on or within influencing distance of the site. Tree locations, their quality categories, Root Protection Areas (RPA) and canopy spreads are shown on Drawing 1 - Tree Constraints Plan.
- 8.2 At the time of the survey no trees within or immediately adjacent to the site were subject to Tree Preservation Orders or stand within a Conservation Area.
- 8.3 Four individual trees and three groups of trees must be removed to facilitate the development proposals, the majority of which are of low arboricultural value. They are all located either directly within the footprint of the new development or too close to be retained in a healthy and stable condition.
- 8.4 With suitable protection during construction, the most prominent and valuable of the surveyed trees, T2, will be retained and incorporated into the development. It should be noted that the original layout proposal was amended to enable the healthy retention of this tree, reducing the space available for the retention of T1
- 8.5 Temporary protective barrier fencing will be required to demarcate a **Construction Exclusion Zone (CEZ)** in proximity to retained trees. Protective fencing will need to be re-aligned during the construction of rear gardens within the RPAs of tree T2 and group G1. Excavation or changes in ground levels will not be carried out in this area.
- 8.6 Mitigation for the loss of tree cover and associated habitat may be achieved through replacement tree planting. There will be suitable space within the front and rear gardens of the new properties and at the site peripheries for the establishment of several new trees of varying mature sizes. This will result in a net increase in tree cover on the site.
- 8.7 A pre-start meeting between the site contractor, a qualified Arboricultural Consultant and the council's Arboricultural Officer will allow any technical or logistical issues to be discussed.

APPENDIX 1

ARBORICULTURAL SURVEY DATA SHEETS

No.	Species	Age class	Height (m)	DBH	# stems	N	S	E	W	Comments	SULE	Category	Recommendations
T1	Silver birch (<i>Betula pendula</i>)	MA	7	520	1	4	3.5	4	3.5	Minor root girdling. Roots lifting tarmac. Broad crown with good vitality. Stems trifurcate at base. No significant visible defects.	M	B1,2	
T2	Sessile oak (<i>Quercus petraea</i>)	M	11	1150	1	7	6	8	5.5	Prominent tree pre-dating current development. Broad and vigorous crown. Stem in good condition. Minor epicormic sprouting lower stem. Growing against stone wall. Good wound occlusion. Minor dead wood throughout crown.	L	A1,2	Remove deadwood (>30mm)
T3	Silver birch (<i>Betula pendula</i>)	Y	4	110	1	1	1	2	1	Vigorous crown. Crown growth severely restricted due to location beneath T2.	M	C1	
T4	Silver birch (<i>Betula pendula</i>)	MA	6	130	1	1	1	1	1	Severely reduced vitality. Senescent crown.	S	U	
T5	Silver birch (<i>Betula pendula</i>)	MA	7	220	1	3	2	3	3	Most vigorous and dominant tree within group. Good form and vitality.	L	B1,2	
T6	Silver birch (<i>Betula pendula</i>)	MA	4	150	1	2	1.5	3	1.5	Minor branch stubs. Good form. Slightly reduced vitality.	L	C1,2	

No.	Species	Age class	Height (m)	DBH	# stems	N	S	E	W	Comments	SULE	Category	Recommendations
T7	Wild cherry (<i>Prunus avium</i>)	Y	4	100	1	1	1	1	1	Growing close to boundary fence. Good form and vigour. No significant visible defects.	L	C1,2	
T8	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	MA	9	450	2	3	3.5	3	4	Vigorous tree on third party land. Overhanging low over site. Multi-stemmed form. Good crown balance. Minor dead wood central crown.	L	B1,2	Crown raise to site boundary (~3m)
T9	Leyland cypress (<i>Cupressus x leylandii</i>)	MA	9	470	5	4	3	3	3.5	Dense, vigorous, multi-stemmed tree on third party land. Overhanging site boundary.	L	C1,2	Crown raise to site boundary (~3m)
G1	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	MA	To 7	To 400						2 trees on third party land opposite brick wall. Vigorous. Overhanging site by 4. Surface roots protruding into site.	M	C1,2	Crown raise to site boundary (~3m)
G2	Rowan (<i>Sorbus aucuparia</i>)	Y-MA	To 4	To 170						4 trees. Good vitality. Minor crossing and rubbing stems. Crown expansion restricted beside more dominant birch.	M	C1,2	
G3	Silver birch (<i>Betula pendula</i>)	MA	To 6	To 180						Westernmost tree displaying reduced vitality. Other 3 trees in reasonable condition. No significant visible defects.	L	C1,2	

No.	Species	Age class	Height (m)	DBH	# stems	N	S	E	W	Comments	SULE	Category	Recommendations
G4	Silver birch (<i>Betula pendula</i>)	MA	To 7	To 100						2 trees. Moderate lower stem damage and kink. Lower crowns restricted by neighbouring privet hedge. Good vitality.	L	C1,2	
G5	Hawthorn (<i>Crataegus monogyna</i>); Apple (<i>Malus domestica</i>)	Y	To 2.5	To 100						Vigorous ornamental planting. Apple tree with good form. No significant visible defects.	M	C1	

APPENDIX 2

SURVEY METHODOLOGY

The survey of trees is conducted from ground level only. The nature of the soils on site is not assessed.

Trees are dynamic living organisms with a constantly changing structure; even trees in good condition can suffer from damage or stress. The information recorded is presented as being correct at the time of survey.

The following features of each tree, group of trees or wood may have been recorded in the Arboricultural Survey Data Sheets at Appendix 1.

Species	Common name and scientific name is given.
Height	Top height of tree recorded in metres.
Stem Diameter	For single-stemmed trees the measurement is taken at 1.5 metres above ground level and recorded in millimetres. For multi-stemmed trees an average all stems measured at 1.5m above ground level is used. For tree groups a range from minimum to maximum diameters is provided based on measurements taken using one of the aforementioned methods.
Crown Spread	The N, S, E and W branch spreads are recorded in metres to provide a representative crown shape.
First Significant Branch (FSB)	Crown clearance above ground level recorded in metres.
Age	Young Trees that can reasonably be relocated or replaced like for like, without undue cost; Middle Age Trees in the established growth stage of their life with the potential to continue increasing in size; Mature Trees that have reached their ultimate size, given their location and surroundings;
Comments significant	A brief evaluation and description of the tree with comments on form, vitality, health and any defects or symptoms of ill-health.

BS 5837 Tree Quality Assessment

The tree quality assessment is based on the Cascade Chart from of BS 5837:2012 (See below). Four categories (A, B, C and U) are used to denote tree quality (A= High, B = Moderate, C = Low, U= Unsuitable for retention).

Subcategories (1-3) denote the specific function value of the trees and the reasoning behind the allocation of a specific category (the subcategories may be used in combination but do not accumulate collective weight).

Root Protection Area (RPA)

RPA is allocated to ensure that a sufficient area is left undisturbed during development. It is provided as an area (m²) and as the radius of a circle (m) typically plotted from the centre of the stem.

The RPA is calculated using a mathematical equation included in BS 5837:2012 (Section 4.6 and Table D.1) and is based on a trees stem diameter. In some cases the RPA may need to be adapted to best reflect the likely area and position of roots required to ensure survival; this may be based on criteria such as the tree's condition, species, crown spread and any barriers to growth. Any alteration must be justifiable but is made at the Arboricultural Consultants discretion.

Recommendations

Recommendations for arboricultural works, etc. are based on the **current** land use, and take into account the tree or group attributes without bias to the proposed development.

Safe Useful Life Expectancy (SULE)

An estimation of the life expectancy as healthy functioning tree. This will be influenced by species and the condition of the tree at the time of survey.

Long > 40 years

Medium 20 – 40 years

Short less than 20 years

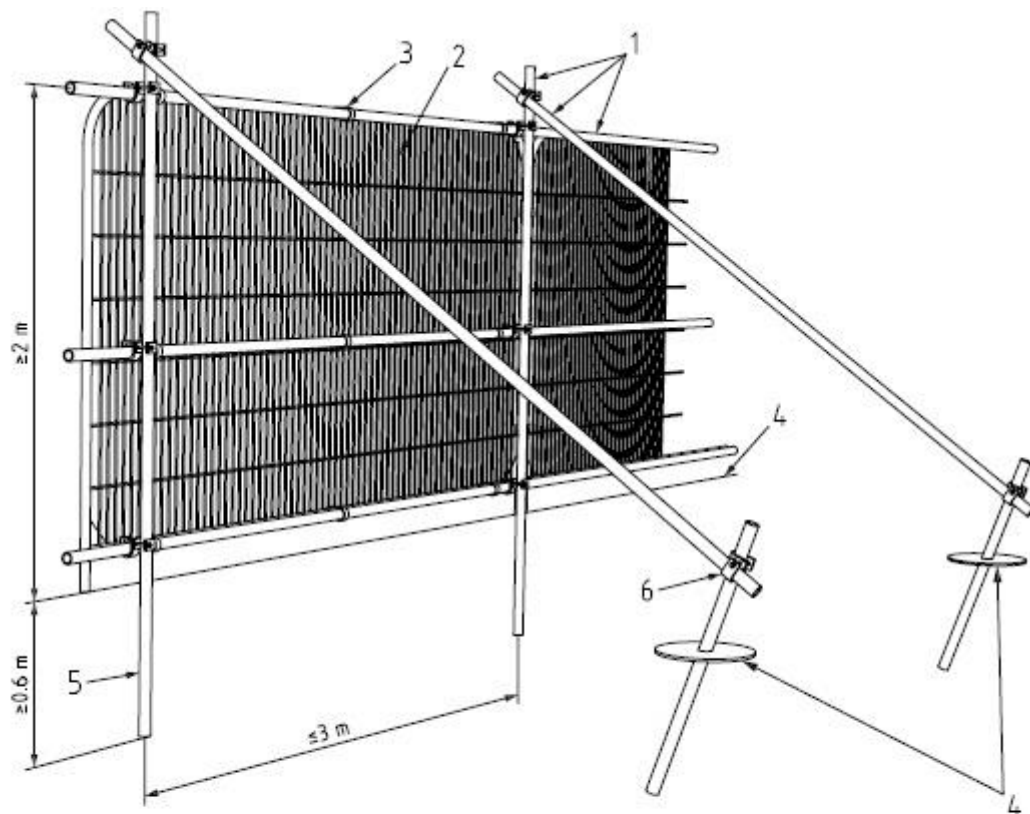
Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> 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 category U trees (e.g. 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, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</p>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

British Standards Institute (2012) BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations.*

APPENDIX 3

TEMPORARY TREE PROTECTIVE FENCING EXAMPLE

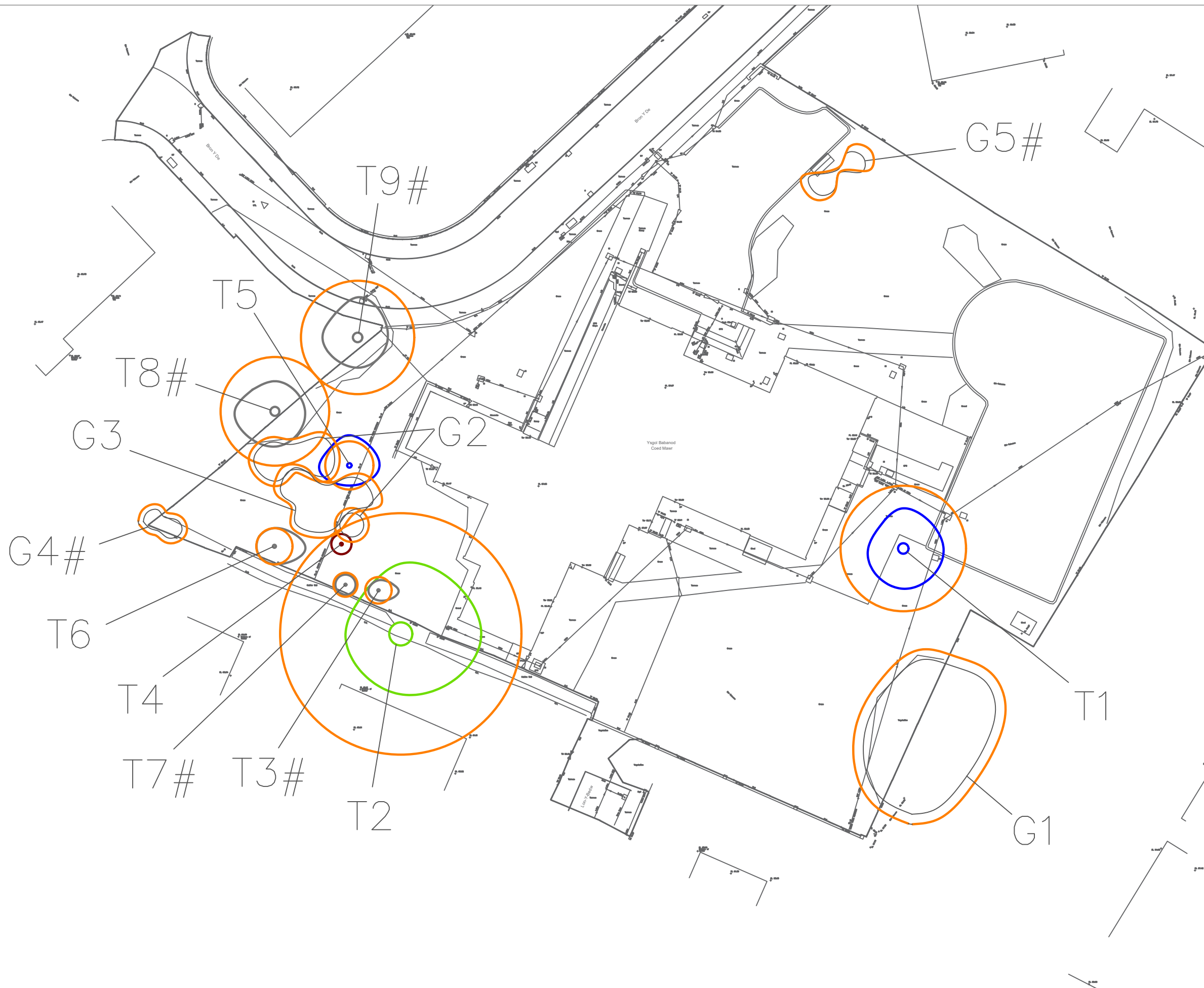


Key

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

DRAWING 1

TREE CONSTRAINTS PLAN




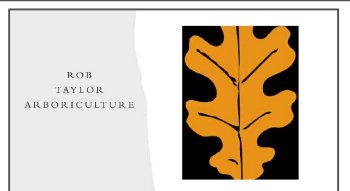
KEY

- T1 Individual trees
- G1 Groups of trees
- Root Protection Area (RPA)
- # Approximate location (features not shown on topo)

Tree Quality Categorisation

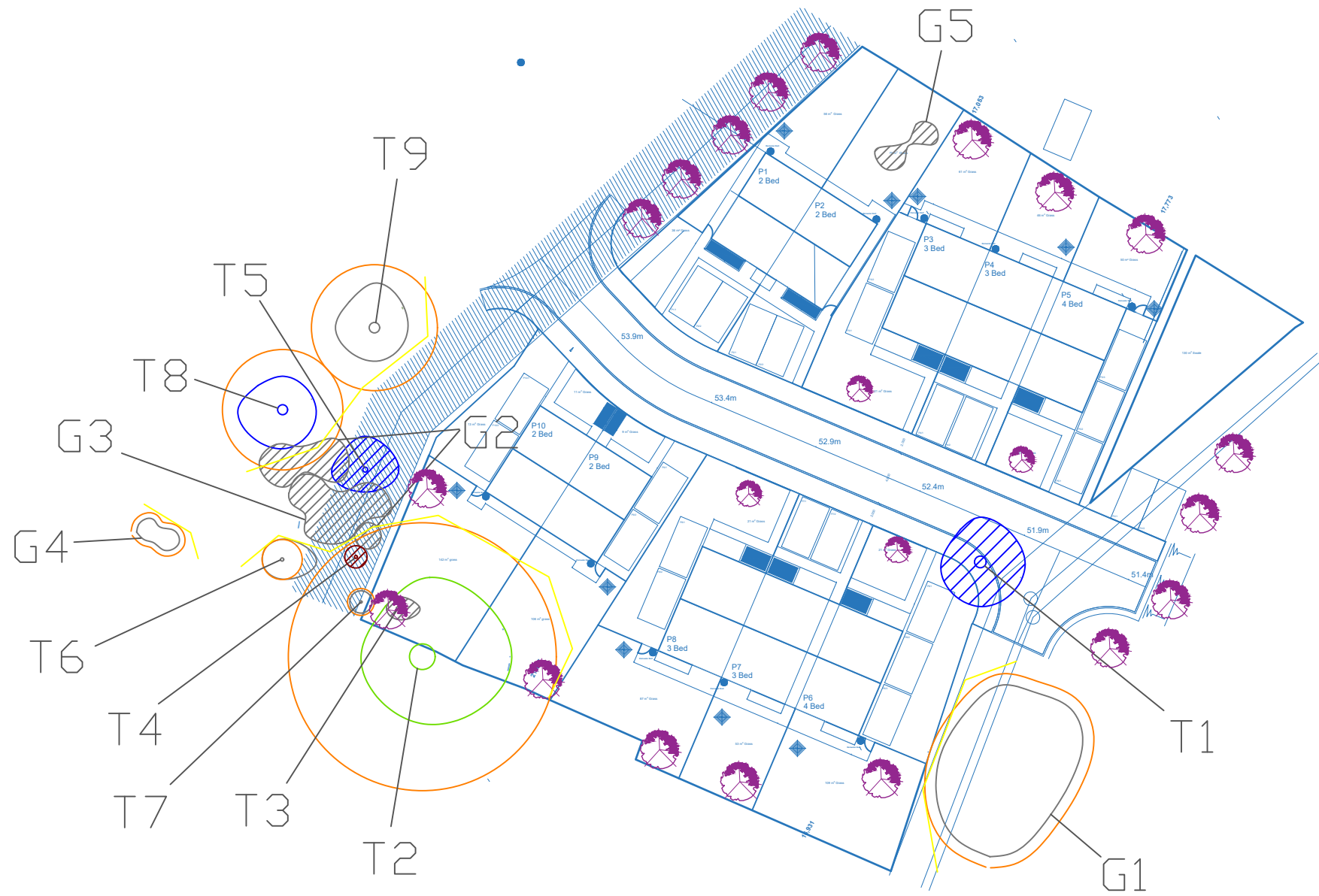
- Category A trees/groups
- Category B trees/groups
- Category C trees/groups
- Category U trees/groups

Note: Categorisation based on BS5837:2012
This drawing should be read in conjunction with the respective Arboricultural Data Sheets

Amendments			
Rev	Date	Description	
			
Project Ysgol Coed Mawr, Bangor Arboricultural Impact Assessment			
Drawing Title Tree Constraints Plan			
Drawn by RNT	Drawing number D.RTA.30.01	Scale 1:500 @ A3	Date 10/06/21

DRAWING 2

TREE IMPLICATIONS AND PROTECTION PLAN



KEY

- T1 Individual trees
- G1 Groups of trees
- Design proposal
- Protective fencing alignment
- Mitigation tree planting

- Tree Quality Categorisation
- Category A trees/groups
 - Category B trees/groups
 - Category C trees/groups
 - Category U trees/groups

- Trees/groups to be removed
- Category B trees/groups
 - Category C trees/groups
 - Category U trees/groups

Note: Categorisation based on BS5837:2012
 This drawing should be read in conjunction with the respective Arboricultural Data Sheets

Amendments		
Rev	Date	Description
A	3.1.24	Amended layout

Project Ysgol Coed Mawr, Bangor
 Arboricultural Impact Assessment

Drawing Title
 Tree Protection Plan

Drawn by	Drawing number	Scale	Date
RNT	D.RTA.30.02_B	1:500 @ A3	03/01/24