

Tyn-y-Caeau Margam

BS5837:2012 Tree Survey 19th January 2025

Membership No: TE03654





19th January 2025

Tyn-y-caeau Margam

Site Location: Tyn-y-caeau Margam	Report Reference: 08.24/TYC/V4
Client: Western Bio-Energy Limited	Date of Report: 19 th January 2025 Date of Site Visits: 5 th August 2024
Report Prepared By: Liz Phillips	Survey Carried Out By: Liz Phillips

RTAC, 6 COURTYARD FLATS, STABLE YARD, STACKPOLE, PEMBROKESHIRE, SA71 5DE

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1. Introduction

1.1 Site Location

1.1.1 Site Address: Tyn-y-Caeau, Margam, Neath Port Talbot, SA13 2NW.

1.1.2 Ordnance Survey grid reference: SS792863.

1.2 Instructions

1.2.1 RTAC has been instructed to produce an updated tree survey in compliance with BS5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' to inform a proposed planning application for construction of a Data Centre at Tyn-y-caeau, Margam. The instruction was given by Mike Fox, Director, The Urbanists. This report has been updated to include the results of a walkover survey on Tuesday 14th January 2025 to check for any damage caused by Storm Darragh on 6th and 7th December 2024.

1.3 Documents Provided

1.3.1

Document Description	Reference Number	Produced By	Date
Location Plan 1:1250		Ordnance Survey	
Data Centre – Margam – Consultant Brief – Arboriculture	2335	The Urbanists	18 June 2024
Tyn-y-Caeau Margam BS5837:2012 Tree Report	02/20/TYC/V8	RTAC	11/10/2020 Amended 7 th October 2021
Site Plan Including Tree Survey Plan 1:500 & 1:1250	1120-02F	Thomas Login Architecture	24 th September 2020
Preliminary Drainage Strategy Report	20.62	Sandvik Osprey Ltd	January 2022
Aerial Site Photo	Bitmap3804602222		
Utilities Location Plan		Wales & West Utilities	
Site Location Plan 1:1000	2335-URB-XX-XX-DR-UD-001	The Urbanists	23/07/2024
Testfit Options dwg.			

1.3.2 No independent verification or assessment of these documents has been made by RTAC. The original Tree Constraints Plan (RTAC 11/10/2021) has been reused and updated for this report.

1.4 Scope of Report

1.4.1 The purpose of this report is to survey the trees growing inside the site boundary and on the roadside verge bordering the A48.

1.4.2 This report is concerned with the arboricultural features of the site only and including any physical features which directly affect or are affected by the trees.

1.4.3 This report is a record of the condition of the trees at the time of the survey being carried out, notwithstanding this, the purpose of this survey is to assess the trees in accordance with BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations and with respect to the proposed development and the survey is not intended to be a full tree condition or hazard survey.

1.5 Survey Methodology and Limitations

1.5.1 The survey was carried out on Monday 5th August; the weather was cool and dry, and visibility was good.

1.5.2 The heights and crown spreads of all accessible recorded trees were measured with an SNDWAY SW-1000A Laser Distance Meter Telescope. Stem diameters of all accessible trees recorded were measured at 1.5 metres above ground level with a diameter tape.

1.5.3 No vegetation has been removed to inspect trees and where trees are not visible or accessible because of vegetation, fences, ditches or other obstructions a limited assessment has been carried out. The walled garden to the rear of the house is not accessible.

1.5.4 The trees were tagged during the previous tree survey in 2020 with two-inch aluminium tags numbered from 0230 to 0299; most of these tags are still in place and therefore the original numbering system has been retained. The remains of the stone wall approximately 5 metres to the west of the existing wire fence have been taken as the west site boundary for this survey. T263, T264, T268, T269 and T270 are outside the stone wall and have been omitted from this survey. T249, T250, T258, T282 and T287 have been felled since the previous survey and have been omitted from the site plans in this report.

1.5.5 Observations were made using Visual Tree Assessment (VTA) methodology (Mattheck 1994). The data was recorded using Pear Technology Pocket GIS on a Panasonic Toughpad FZ-G1.

1.5.6 This survey was undertaken in accordance with BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations.

1.5.7 The trees have been categorised in accordance with the British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations as listed below:

Category A – trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B – trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

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 150mm.

These categories are subdivided into 1. Arboricultural qualities, 2. Landscape qualities and 3. Cultural values, including conservation.

Trees not suitable for retention have been categorised as U.

See Appendix I for table of categories.

1.5.8 All observations were made from the ground. No climbing surveys were carried out.

1.5.9 No soil samples were taken.

1.5.10 No invasive decay detection techniques have been used.

1.5.11 This report is valid for one year from the date of inspection. Trees are living organisms, and no responsibility can be accepted by the surveyor for the failure of a tree or part of a tree due to adverse weather conditions, *force majeure* or other unpredictable occurrences. It is the responsibility of the tree owner to inspect and maintain his or her trees on a regular basis.

1.5.12 The tree survey was carried out by Liz Phillips TechArborA of RTAC. Liz has worked in the arboricultural industry for 18 years as a tree surgeon, surveyor, local authority tree officer and consultant.

1.6 Planning Policy

1.6.1 Planning Policy Wales Edition 12 February 2024 Chapter 6: Distinctive and Natural Places contains the following policies:

Trees, Woodlands and Hedgerows

6.4.37 Trees, hedgerows, groups of trees and areas of woodland are of great importance for biodiversity. They are important connecting habitats for resilient ecological networks and make an essential wider contribution to landscape character, culture, heritage and sense of place, air quality, recreation and local climate moderation. They also play a vital role in tackling the climate emergency by locking up carbon, and can provide shade, shelter and foraging opportunities, wider landscape benefits such as air and diffuse pollution interception, natural flood management, and building materials. The importance of trees, in particular urban trees, in creating distinctive and natural places which deliver health and well-being benefits to communities, now and in the future should be promoted as part of plan making and decision taking. Planning authorities must promote the planting of new trees, hedgerows, groups of trees and areas of woodland as part of new development.

6.4.38 Welsh native tree and hedge species, characteristic of the local area, provide a strong ecosystem resilience function, and they provide resources for local wildlife, particularly other native plants and species. Native tree and hedge species can also complement opportunities for natural regeneration. Alongside broader woodland habitat types, such as wood pasture, parkland and traditional orchards, native tree and hedge species help to define our cultural heritage and landscape, creating a strong sense of place and connection to the past.

6.4.39 Planning authorities must protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial green infrastructure function.

Planning authorities should consider the importance of trees and woodland, particularly native woodland and valued trees, and should have regard to local authority tree strategies or SPG and the Green Infrastructure Assessment. Planning authorities should adopt appropriate, locally relevant, time sensitive, minimum tree canopy cover targets for their authority area to guide the protection and where appropriate the expansion of canopy cover. The Green Infrastructure Assessment and tools such as NRW's Tree Cover in Wales' Towns and Cities study and Forest Research's i-Tree Eco tool will help establish a baseline of canopy cover and guide the identification of appropriate and measurable canopy targets. Tools to help with design and species choice in urban areas are also available.

6.4.40 Where trees, woodland and hedgerows are present, their retention, protection and integration should be identified within planning applications. Where surveys identify trees, hedgerows, groups of trees and areas of woodland capable of making a significant contribution to the area, these trees should be retained and protected. The provision of services and utilities infrastructure to the application site should also avoid the loss of trees, woodlands or hedges and must be considered as part of the development proposal; where such trees are lost, they will be subject to the replacement planting ratios set out below.

6.4.41 Whilst most focus within the planning system is targeted at urban trees, planning authorities should recognise the importance of trees within the countryside, either as woodlands, within hedgerows and hedgebanks, or free-standing trees in fields, or as wood pasture. This is particularly important as the effects of climate change are leading towards pests and diseases that are damaging many of our native species in the rural landscape. Positive mechanisms of rural tree retention should be considered, and measures taken to replace them in an effective and economic manner, either with new planting or by allowing them to grow to their full potential.

6.4.42 Permanent removal of trees, woodland and hedgerows will only be permitted where it would achieve significant and clearly defined public benefits. Where individual or groups of trees and hedgerows are removed as part of a proposed scheme, planning authorities must first follow the step-wise approach as set out in paragraph 6.4.15. Where loss is unavoidable developers will be required to provide compensatory planting (which is proportionate to the proposed loss as identified through an assessment of green infrastructure value including biodiversity, landscape value and carbon capture). Replacement planting shall be at a ratio equivalent to the quality, environmental and ecological importance of the tree(s) lost and this must be preferably onsite, or immediately adjacent to the site, and at a minimum ratio of at least 3 trees of a similar type and compensatory size planted for every 1 lost. Where a woodland or a shelterbelt area is lost as part of a proposed scheme, the compensation planting must be at a scale, design and species mix reflective of that area lost. In such circumstances, the planting rate must be at a minimum of 1600 trees per hectare for broadleaves, and 2500 trees per hectare for conifers. The planting position for each replacement tree shall be fit to support its establishment and health, and ensure its unconstrained long-term growth to optimise the environmental and ecological benefits it affords.

6.4.43 Ancient woodland, semi-natural woodlands, individual ancient, veteran and heritage trees and ancient hedgerows are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees, woodlands and hedgerows are to be afforded protection from development which would result in

their loss or deterioration unless very exceptionally there are significant and clearly defined public benefits; this protection must prevent potentially damaging operations and their unnecessary loss. In the case of a site recorded on the Ancient Woodland Inventory, authorities should consider the advice of NRW. Planning authorities should also have regard to the Ancient Tree Inventory, work to improve its completeness and use it to ensure the protection of trees and woodland and identify opportunities for more planting as part of the Green Infrastructure Assessment, particularly in terms of canopy cover.

6.4.44 The protection and planting of trees and hedgerows should be delivered, where appropriate, through locally-specific strategies and policies, through imposing conditions when granting planning permission, and/or by making Tree Preservation Orders (TPOs). They should also be incorporated into Green Infrastructure Assessments and plans.

1.6.2 Neath Port Talbot County Borough Council's Local Development Plan (2011-2016) adopted January 2016 contains the following policy:

Policy EN 7 Important Natural Features

Development proposals that would adversely affect ecologically or visually important natural features such as trees, woodlands, hedgerows / field boundaries, watercourses or ponds will only be permitted where:

- 1. Full account has been taken of the relevant features in the design of the development, with measures put in place to ensure that they are retained and protected wherever possible; or*
- 2. The biodiversity value and role of the relevant feature has been taken into account and where removal is unavoidable, mitigation measures are agreed.*

1.7 Statutory Designations

1.7.1 Amanda Holmes, Senior Land Charges Office, Neath Port Talbot County Borough Council has confirmed that most of the trees on the site are covered by Tree Preservation Order T364.

1.7.2 No works to trees covered by a TPO may be carried out without the consent of the Local Planning Authority, with the exception of the removal of dead, dying, or dangerous trees, works to abate a nuisance and works in accordance with full planning consent.



1.8 Protected Wildlife

1.8.1 Before any treeworks are carried out, the trees should be inspected for any evidence of bats or nesting birds.

1.8.2 It is an offence under the Wildlife and Countryside Act 1981 to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of a wild bird included in Schedule ZA1;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird,

1.8.3 It is also an offence to:

- deliberately capture, injure or kill a bat;
- damage or destroy any structure or place which any bat uses for shelter or protection;
- disturb any bat while it is occupying a structure or place which it uses for shelter or protection; or
- obstruct access to any structure or place which any bat uses for shelter or protection.

2. Site Analysis

2.1 Site Description

2.1.1 The site measures approximately 13,500m² and is situated two hundred metres to the north of junction 38 of the M4. The site is accessed via a gate onto the A48 to the east of the site.

2.1.2 The site is rough pasture with a derelict farmhouse and associated outbuildings in the south-west corner of the site.

2.1.3 A drive bordered with semi-mature maples and silver birch trees leads from the entrance gate to the farmhouse. The north and west boundaries have semi-mature and mature native species forming a shelter belt along the existing fencelines. The south and east boundaries consist of outgrown native species hedgerows with intermittent semi-mature and mature trees. The verge running alongside the A48 has some mature and semi-mature trees.

2.1.4 The original house garden behind the existing farmhouse is heavily overgrown and not accessible; only a few young trees are growing here.

2.2 Proposed Works

2.2.1 A Data Centre will be built to the south of the existing access road. The existing access and drive will be improved, and an additional road will be built to the north-west connecting with the road accessing Margam Green Energy Plant.

3. The Trees

3.1 Three hedgerows, two small groups and fifty-six individual trees were recorded during this survey; the tables of species, age class and retention category are below:

3.2

Common Name	Botanical Name	Number of Trees/ Groups
Hedgerow	Mixed	3
Group	Mixed	2
Sycamore	<i>Acer pseudoplatanus</i>	31
Common ash	<i>Fraxinus excelsior</i>	10
Common beech	<i>Fagus sylvatica</i>	4
Silver maple	<i>Acer saccharinum</i>	3
Norway maple	<i>Acer platanoides</i>	2
Silver birch	<i>Betula pendula</i>	1
Common hawthorn	<i>Crataegus monogyna</i>	1
Common lime	<i>Tilia europaea</i>	1
Austrian pine	<i>Pinus nigra</i> var. <i>nigra</i>	1
London plane	<i>Platanus x hispanica</i>	1
Unknown	<i>Dead</i>	1

3.3 Age Class

Age Class	Number of Trees/ Groups
Young	0
Semi-mature	52
Mature	6
Over Mature	1
Dead	2

3.4 Retention Category

Retention Category	Number of Trees/ Groups
A	1
B	11
C	36
U	13

3.5 January 2025 update: T245, sycamore, has snapped at 6m – this tree can be retained as standing deadwood, it is out of falling distance of any targets.

T273, ash and T295, Austrian pine, both have broken branches that need to be removed.

T284, silver maple, has uprooted completely and needs to be removed.

4. Arboricultural Impact Assessment

4.1 Tree Constraints Plan

4.1.1 All site plans are in Appendix II.

4.1.2 Above Ground Constraints - current crown spread is marked on the Tree Constraints Plan (TCP). This does not indicate the ultimate crown spread of the individual trees.

4.1.3 Below Ground Constraints – the root protection area (RPA) is a circle of radius 12 x the diameter of the stem of the tree measured at 1.5 metres above ground level. For a multi-stemmed tree, the RPA is calculated using the following formula:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

4.1.4 The RPA is usually depicted as a complete circle; however, this area can be altered in shape to reflect compromised growing conditions such as the presence of buildings, watercourses, etc. In this case, the RPAs of T230, T273, T274, T275, T276, T278, T279, T280, T281, T283, T285, T286, T288 and T295 have been amended to reflect the existing site layout.

4.1.5 The RPA is not the total rooting area of the tree but is the minimum rooting area considered viable for the long-term retention of the tree. The RPA should be protected as a priority; works should only be carried out within the RPA after all other options have been considered and found unsuitable and works should only be carried out after consultation with the project arborist and with the consent of the Local Planning Authority.

4.2 Arboricultural Impact Assessment

4.2.1 Twelve trees and one small group of sycamores have been classified as U category and need to be felled: T233, T235, T240, T241, T243, T245, T246, T248, T247, T262, T286, T298 and T299.

4.2.2 The site layout has not been finalised; both proposed layouts will probably entail the loss of the trees on the south side of the existing access road i.e. T283, and T285.

4.2.3 The proposed building needs to be located outside the RPA of T296 and if possible, T277 and T279 should be retained. Mitigative measures such as piled foundations or non-compressible geogrids such as Cellweb (Appendix III) can be used if site conditions permit.



19th January 2025

Tyn-y-caeau Margam

APPENDIX

I. Survey Data

Terms used in data tables

BS5837 Survey

Tag No – corresponds to numbered metal tag attached to tree.

Species – common and Latin names are given.

Height - measured with a Suunto PM5/360 clinometer to the nearest metre unless otherwise stated.

Stem diameter - measured at 1.5 metres above ground level with a dbh (diameter at breast height) tape.

Crown spread - measured at the cardinal points to 0.5 metres.

Clear - the lowest height of the crown above ground measured in metres.

Age - NP – newly planted; Y – young, a tree in the first third of life expectancy; SM – semi-mature, a tree in the second half of life expectancy; M – mature, tree in final third of life expectancy; OM – over-mature, tree in decline; V – veteran, tree with major physiological decline, surviving beyond the typical age range for the species.

RP – root protection area; radius and area of circle.

Phys. Condition - physiological condition; poor, fair, good, dead or dangerous.

Structural condition - crown, stem and basal area.

Preliminary recommendations - recommendations for remedial works.

Cat - retention category as defined in BS5837:2012 A, B, C and U.

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	• 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 <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>	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 significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
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 with material conservation or other cultural value
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 with no material conservation or other cultural value

BS5837:2012 Tree Survey

RTAC

Client: Mike Fox
 Project: Tyn-y-caeau 2024
 Survey Date: 05/08/2024 - 14/01/2025
 Surveyor: Liz Phillips



6 Courtyard Flats
 Stable Yard
 Stackpole
 Pembrokeshire
 SA71 5DE
 Phone: 07823332279

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
G1	no tag											Estimated Measurements		
Sycamore		11	1	200	N	3	SM	A: 18.1	Good	C: Good	No action :: No action			C.2
<i>Acer pseudoplatanus</i>					E	3		R: 2.4		S: Good				>40 yrs
					S	3				B: Good	Group of semi-mature sycamores; off-site trees.			
					W	3								
H1	no tag											Estimated Measurements		
A Hedgerow		5	1	30	N	0.5	SM	A: 0.4	Good	C: Good	No action :: No action			C.2
- <i>Spp.</i>					E	3		R: 0.35		S: Good				>40 yrs
					S	0.5				B: Good	Boundary hedgerow, predominantly hawthorn.			
					W	3								
H2	no tag											Estimated Measurements		
A Hedgerow		4	1	30	N	1	SM	A: 0.4	Good	C: Good	No action :: No action			C.2
- <i>Spp.</i>					E	1		R: 0.35		S: Good				>40 yrs
					S	1				B: Good	Boundary hedgerow comprised of hawthorn, elder, ash and sycamore.			
					W	1								
H3	no tag											Estimated Measurements		
A Hedgerow		8	1	140	N	1	SM	A: 8.9	Good	C: Good	No action :: No action			C.2
- <i>Spp.</i>					E	1		R: 1.68		S: Good				>40 yrs
					S	1				B: Good	Outgrown mixed hedgerow - semi-mature ash, sycamore and hawthorn.			
					W	1								
Age Classifications:		N	Newly planted	EM	Early Mature		Condition:		C	Crown	Stems:		Ø	Diameter
		Y	Young	M	Mature				S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition
		SM	Semi-mature	OM	Over Mature				B	Basal area	ERC:		Estimated Remaining Contribution	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment		
T230 230													
Sycamore <i>Acer pseudoplatanus</i>		14	1	450	N E S W	8 7 6 9	3 5 4 5	SM A: 91.6 R: 5.39	Good	C: Good S: Ivy B: Good	No action :: No action		C.2

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment		
T236	236	18	1	630	N	8	3	SM	A: 179.6 R: 7.56	Good	C: Good S: Good B: Good	No action :: No action	B.2 >40 yrs
Sycamore	E				7	4							
<i>Acer pseudoplatanus</i>	S				8	4							
	W				3	7							
T237	no tag	19	1	620	N	2	9	SM	A: 173.9 R: 7.44	Good	C: Fair S: Good B: Good	No action :: No action	B.2 >40 yrs
Sycamore	E				5	5							
<i>Acer pseudoplatanus</i>	S				6	3							
	W				6	4							
T238	238	17	1	850	N	7	2	SM	A: 326.9 R: 10.2	Good	C: Good S: Good B: Good	No action :: No action	B.2 >40 yrs
Common Lime	E				4	3							
<i>Tilia europaea</i>	S				7	3							
	W				7	4							
T239	239	13	1	570	N	7	3	SM	A: 147 R: 6.84	Fair	C: Fair S: Fair B: Good	No action :: No action	C.2 20 to 40 yrs
Common Ash	E				6	4							
<i>Fraxinus excelsior</i>	S				3	6							
	W				4	3							
T240	240	18	1	820	N	5	6	SM	A: 304.2 R: 9.84	Poor	C: Poor S: Poor B: Poor	Fell :: Fell to ground level	U
Sycamore	E				6	3							
<i>Acer pseudoplatanus</i>	S				8	3							
	W				1	6							
T241	241	16	1	690	N	8	3	SM	A: 215.4 R: 8.28	Poor	C: Poor S: Poor B: Poor	Fell :: Fell to ground level	U
Sycamore	E				7	7							
<i>Acer pseudoplatanus</i>	S				10	3							
	W				6	2							
Age Classifications:	N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:	Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition	ERC:	Estimated Remaining Contribution	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T242 no tag														
Common Ash <i>Fraxinus excelsior</i>		19	2	608 (Eq)	N	9	3	SM	A: 167.3 R: 7.29	Good	C: Fair S: Fair B: Good	No action :: No action		C.2
					E	6	5					Asymmetrical crown; weak union at base of stem.		20 to 40 yrs
					S	6	8							
					W	8	4							
T243 243														
Sycamore <i>Acer pseudoplatanus</i>		14	1	510	N	4	3	SM	A: 117.7 R: 6.12	Poor	C: Fair S: Poor B: Poor	Fell :: Fell to ground level		U
					E	5	3					Completely decayed at base; leader has split out.		
					S	6	3							
					W	3	5							
T244 244														
Sycamore <i>Acer pseudoplatanus</i>		6	1	300	N	5	2	SM	A: 40.7 R: 3.59	Fair	C: Fair S: Fair B: Good	No action :: No action		C.2
					E	3	3					Asymmetrical crown; leaning; suppressed.		20 to 40 yrs
					S	1								
					W	1	2							
T245 245														
Sycamore <i>Acer pseudoplatanus</i>		19	1	890	N	6	5	SM	A: 358.4 R: 10.68	Poor	C: Good S: Poor B: Good	No action :: No action		U
					E	6	4					Cavities at 3m east and south side of stem; Pleurotus ostreatus bracket present on east side; small cavity at base east side. Dec 2024 srorm damage - main stem snapped at 6m.		
					S	10	3							
					W	7	7							
T246 246														
Sycamore <i>Acer pseudoplatanus</i>		15	1	530	N	7	2	SM	A: 127.1 R: 6.36	Poor	C: Poor S: Poor B: Poor	Fell :: Fell to ground level		U
					E	7	6					Large cavity in base to 1m on north side; cavity in top third of south side of crown with exudates; asymmetrical crown.		
					S	6	8							
					W	2	2							
T247 no tag														
Common Beech <i>Fagus sylvatica</i>		19	1	590	N	2		SM	A: 157.5 R: 7.08	Fair	C: Poor S: Good B: Good	Reduce lateral limbs :: Unspecified		C.2
					E	3	6					Leader snapped out. 2 lowest limbs south side - severe bark congestion on underside of limb - reduce these limbs by 3m to reduce weight.		20 to 40 yrs
					S	12	1							
					W	4	4							
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature			Condition:	C S B	Crown Stem Basal area		Stems: Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition		
												ERC:	Estimated Remaining Contribution	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T248 no tag														
Sycamore <i>Acer pseudoplatanus</i>		17	1	530	N E S W	6 4 6 5	3 6 1 6	SM A: 127.1 R: 6.36	Poor	C: Poor S: Poor B: Poor	Fell :: Fell to ground level Base of stem completely decayed; decay extends to 4m on north side.			U
T249 249														
Common Hawthorn <i>Crataegus monogyna</i>		5	3	403 (Eq)	N E S W	4 6 3 4	1 1 3 2	SM A: 73.5 R: 4.83	Good	C: Good S: Good B: Good	No action :: No action Felled.			C.2 >40 yrs
T250 250														
Sycamore <i>Acer pseudoplatanus</i>		10	1	260	N E S W	1 4 2 1	4 3 3 3	SM A: 30.6 R: 3.12	Fair	C: Fair S: Good B: Good	No action :: No action Felled.			C.2 20 to 40 yrs
T251 no tag														
Common Ash <i>Fraxinus excelsior</i>		17	2	656 (Eq)	N E S W	6 8 11 4	6 6 4 5	M A: 194.7 R: 7.87	Poor	C: Fair S: Fair B: Good	Remove :: Faulted stems Probable Stage 1 ash dieback (1-24% of crown dead); trunk bifurcated at 1m; large closed cavity from 1.5-2.5m east side of largest stem - remove this stem.			C.2 10 to 20 yrs
T252 252														
Sycamore <i>Acer pseudoplatanus</i>		12	1	540	N E S W	5 6 4 4	3 6 3 2	SM A: 131.9 R: 6.47	Fair	C: Fair S: Ivy B: Good	No action :: No action Bifurcated at 1m; suppressed.			C.2 >40 yrs
T253 253														
Sycamore <i>Acer pseudoplatanus</i>		18	1	700	N E S W	6 7 7 3	4 6 3 8	SM A: 221.7 R: 8.4	Good	C: Fair S: Good B: Good	No action :: No action Leader snapped out.			C.2 >40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition	ERC: Estimated Remaining Contribution	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T254 254														
Sycamore <i>Acer pseudoplatanus</i>		21	1	860	N E S W	5 3 10 6	6 6 3 4	M A: 334.6 R: 10.32	Good	C: Good S: Good B: Good	No action :: No action			B.2 >40 yrs
T255 255														
Common Ash <i>Fraxinus excelsior</i>		13	2	424 (Eq)	N E S W	7 5 3 6	4 7 8 4	SM A: 81.4 R: 5.09	Fair	C: Fair S: Good B: Good	No action :: No action Outside boundary fence; probable Stage 1 ash dieback (1-24% of crown dead).			C.2 >40 yrs
T256 256														
Sycamore <i>Acer pseudoplatanus</i>		8	1	340	N E S W	4 6 3 4	2 5 1 2	SM A: 52.3 R: 4.08	Good	C: Fair S: Ivy B: Good	No action :: No action Suppressed.			C.2 >40 yrs
T257 257													Estimated Measurements	
Sycamore <i>Acer pseudoplatanus</i>		10	1	560	N E S W	3 4 4 7		SM A: 141.9 R: 6.72	Poor	C: Poor S: Poor B: Poor	Fell :: Fell to ground level Extensive decay with open cavity to 2m west side; ivy covered.			U
T258 258													Estimated Measurements	
Unknown - -		9	1	600				Dead A: 162.9 R: 7.2	Dead	C: Poor S: Ivy B: Poor	Fell :: Fell to ground level Felled.			U
T259 259														
Sycamore <i>Acer pseudoplatanus</i>		18	1	540	N E S W	9 3 9 7	6 7 3 7	SM A: 131.9 R: 6.47	Fair	C: Fair S: Ivy B: Good	No action :: No action Deadwood and ivy in crown; asymmetrical crown.			C.2 >40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø (Eq)	Diameter Equivalent stem diameter using BS5837:2012 definition	ERC: Estimated Remaining Contribution

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC	
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment				
T260 no tag												Estimated Measurements			
A Group	14	4	590	(Eq)	N	6	5	A: 157.3	Fair	C: Fair	No action :: No action			C.2	
- -					E	4	4	R: 7.07		S: Ivy	3 sycamore, 1 ash; ivy in crown; fence wire embedded in base, boundary trees.			20 to 40 yrs	
					S	6	3			B: Fair					
					W	6	2								
T261 261															
Common Beech	16	1	640		N	5	6	SM	A: 185.3	Good	C: Good	No action :: No action			B.2
Fagus sylvatica					E	6	4		R: 7.68		S: Fair	Minor stem cavities; fence embedded in stem.			>40 yrs
					S	6	4				B: Fair				
					W	5	3								
T262 no tag												Estimated Measurements			
A Group	7	1	150		N	2		Dead	A: 10.2	Dead	C: Poor	Fell :: Fell to ground level			U
- -					E	2			R: 1.8		S: Poor	Group of 4 dead sycamores.			
					S	2					B: Poor				
					W	2									
T265 no tag															
Common Beech	17	1	840		N	10	6	SM	A: 319.2	Good	C: Good	No action :: No action			B.2
Fagus sylvatica					E	8	4		R: 10.07		S: Fair	Fence embedded in stem.			>40 yrs
					S	4	5				B: Good				
					W	6	7								
T266 266															
Common Beech	19	1	900		N	6	5	SM	A: 366.5	Good	C: Good	No action :: No action			B.2
Fagus sylvatica					E	10	4		R: 10.8		S: Good	Fence embedded in stem.			>40 yrs
					S	7	3				B: Fair				
					W	9	7								
T267 267															
Sycamore	12	1	240		N	1	6	SM	A: 26.1	Good	C: Good	No action :: No action			C.2
Acer pseudoplatanus					E	1	7		R: 2.88		S: Ivy				>40 yrs
					S	2	6				B: Good				
					W	3	6								
Age Classifications: N Newly planted EM Early Mature Condition: C Crown Y Young M Mature S Stem SM Semi-mature OM Over Mature B Basal area Stems: Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition ERC: Estimated Remaining Contribution															

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment		
T271 no tag											Estimated Measurements		
Common Hawthorn <i>Crataegus monogyna</i>		4	1	120	N E S W	1 1 1 2	1 SM	A: 6.5 R: 1.43	Good	C: Good S: Good B: Good	No action :: No action		C.2 >40 yrs
T274 no tag													
Common Ash <i>Fraxinus excelsior</i>		15	1	800	N E S W	6 9 7 8	4 SM	A: 289.6 R: 9.6	Fair	C: Fair S: Ivy B: Fair	No action :: No action Tree growing on top of retaining wall; ivy covered; dieback in crown - possible Stage 1 ash dieback (1-24% of crown dead).		C.2
T275 no tag													
Sycamore <i>Acer pseudoplatanus</i>		9	1	340	N E S W	2 4 3 3	3 SM	A: 52.3 R: 4.08	Good	C: Good S: Good B: Good	Remove :: Epicormic growths Epicormic growth at base.		C.2 >40 yrs
T276 276													
Silver Maple <i>Acer saccharinum</i>		14	1	640	N E S W	7 8 6 8	4 SM	A: 185.3 R: 7.68	Good	C: Good S: Good B: Good	No action :: No action		B.2 >40 yrs
T277 no tag													
Sycamore <i>Acer pseudoplatanus</i>		10	1	260	N E S W	6 4 2 4	4 SM	A: 30.6 R: 3.12	Fair	C: Fair S: Good B: Good	No action :: No action Large bark wound at 2m east side.		C.2 20 to 40 yrs
T278 no tag													
Sycamore <i>Acer pseudoplatanus</i>		14	1	340	N E S W	4 4 6 2	4 SM	A: 52.3 R: 4.08	Good	C: Good S: Ivy B: Good	No action :: No action Bark wound across north side of stem - looks as if fence rail has been removed.		C.2 20 to 40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition ERC: Estimated Remaining Contribution	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T279 279														
Silver Birch <i>Betula pendula</i>		18	1	600	N E S W	5 6 7 7	3 4 6 4	M A: 162.9 R: 7.2	Good	C: Good S: Good B: Good	No action :: No action Wire embedded in stem.			B.2 >40 yrs
T280 280														
Norway Maple <i>Acer platanoides</i>		12	1	460	N E S W	5 4 4 4	4 6 6 5	SM A: 95.7 R: 5.51	Good	C: Good S: Good B: Good	No action :: No action Fence wire embedded in stem. Purple maple.			C.2 >40 yrs
T281 no tag														
Sycamore <i>Acer pseudoplatanus</i>		11	2	375 (Eq)	N E S W	4 3 3 3	3 3 3 3	SM A: 63.6 R: 4.49	Good	C: Good S: Fair B: Good	No action :: No action Bifurcated at 0.5m - weak union here.			C.2 20 to 40 yrs
T282 282														
Sycamore <i>Acer pseudoplatanus</i>		6	1	420	N E S W	3 4 3 3	3 4 3 3	SM A: 79.8 R: 5.03	Good	C: Fair S: Fair B: Good	No action :: No action Felled.			C.2 20 to 40 yrs
T283 no tag														
Norway Maple <i>Acer platanoides</i>		9	1	320	N E S W	4 4 4 4	3 3 3 5	SM A: 46.3 R: 3.83	Good	C: Fair S: Good B: Good	No action :: No action Weak fork at stem break.			C.2 20 to 40 yrs
T284 no tag														
Silver Maple <i>Acer saccharinum</i>		16	1	620	N E S W	6 8 9 9	7 4 3 7	SM A: 173.9 R: 7.44	Good	C: Good S: Good B: Good	No action :: No action Dec 2025 storm damage - fallen.			B.2 >40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø (Eq)	Diameter Equivalent stem diameter using BS5837:2012 definition	ERC: Estimated Remaining Contribution

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment		
T285 no tag												
Silver Maple <i>Acer saccharinum</i>	12	1	420	N	3	4	SM	A: 79.8 R: 5.03	Good	C: Good S: Fair B: Good	Remove :: Epicormic growths ----- Baling twine embedded in stem.	C.2 20 to 40 yrs
T286 286												
Common Ash <i>Fraxinus excelsior</i>	17	1	450	N	4	5	SM	A: 91.6 R: 5.39	Decline	C: Poor S: Good B: Good	Fell :: Fell to ground level ----- Stage 4 ash dieback (75-100% of crown dead).	U
T287 287												
Common Beech <i>Fagus sylvatica</i>	0	0					OM	A: 0 R: 0		C: S: B:	----- Felled.	
T288 288												
Common Ash <i>Fraxinus excelsior</i>	14	1	800	N	8	3	M	A: 289.6 R: 9.6	Fair	C: Fair S: Good B: Good	No action :: No action ----- Stage 2 ash dieback (25-49% of crown dead).	C.2 10 to 20 yrs
T290 no tag												
Common Ash <i>Fraxinus excelsior</i>	11	1	440	N	8	3	SM	A: 87.6 R: 5.28	Good	C: Good S: Good B: Good	No action :: No action -----	C.2 >40 yrs
T291 no tag												
Common Ash <i>Fraxinus excelsior</i>	14	1	210	N	4	6	SM	A: 20 R: 2.52	Good	C: Good S: Good B: Good	No action :: No action -----	C.2 >40 yrs
Age Classifications:	N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:	Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition	ERC:	Estimated Remaining Contribution

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T292 no tag														
Common Ash <i>Fraxinus excelsior</i>		14	1	340	N	6	2	SM	A: 52.3 R: 4.08	Poor	C: Poor S: Good B: Good	Fell :: Fell to ground level Stage 3 ash dieback (50%-74% of crown dead); fell to top of hedge.	C.2 10 to 20 yrs	
T294 294														
Sycamore <i>Acer pseudoplatanus</i>		10	2	339 (Eq)	N	4	3	SM	A: 52.1 R: 4.07	Good	C: Good S: Good B: Good	No action :: No action	C.2 >40 yrs	
T295 295														
Austrian Pine <i>Pinus nigra ssp. Nigra</i>		22	2	1247 (Eq)	N	9	5	M	A: 703 R: 14.95	Good	C: Good S: Good B: Good	Remove :: Suspended or broken branches Off-site tree. Bifurcated at 1m. Dec 2024 - storm damage broken branch suspended in lower crown west side.	A.2 >40 yrs	
T296 296														
Sycamore <i>Acer pseudoplatanus</i>		14	1	320	N	6	4	SM	A: 46.3 R: 3.83	Good	C: Good S: Good B: Good	No action :: No action	C.2 >40 yrs	
T297 297														
Sycamore <i>Acer pseudoplatanus</i>		9	1	520	N	6	3	SM	A: 122.3 R: 6.23	Good	C: Good S: Good B: Good	No action :: No action	C.2 >40 yrs	
T298 298														
London Plane <i>Platanus x hispanica</i>		13	1	800	N	5	0	OM	A: 289.6 R: 9.6	Poor	C: Poor S: Poor B: Poor	Fell :: Fell to ground level Decayed pollard; regrowth from crown.	Estimated Measurements U	
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:	Ø (Eq)	Diameter Equivalent stem diameter using BS5837:2012 definition	ERC:	Estimated Remaining Contribution

[illegible]

Report selection criteria.

Projects.

Tyn-y-caeau 2024

Date Range.

Any Date

Work types.

----> Fell :: Fell to ground level

----> No action :: No action

----> -No Selection made-

----> Pollard :: Pollard to 15 m

----> Reduce lateral limbs :: Unspecified

----> Remove :: Epicormic growths

----> Remove :: Faulted stems

----> Remove :: Suspended or broken branches

Latest Survey.

All surveys for the selected trees.

---> Last survey for each selected tree.

Work Completed.

---> Work Completed

---> Work Not Completed

Number of trees in selected Project(s)66

Number of trees in Report selection66

Age Classifications:	N	Newly planted	EM	Early Mature	Condition:	C	Crown	Stems:	Ø	Diameter
	Y	Young	M	Mature		S	Stem		(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature		B	Basal area		ERC:	Estimated Remaining Contribution

II. Site Plans

FELLED TREES REMOVED

RTAC

6 Courtyard Flats, Stable Yard, Stackpole, SA71 5DE
07823332279 info@rtactrees.co.uk

Tyn-y-caeau Existing Site Layout
Tree Constraints Plan

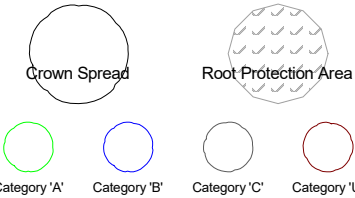
SCALE :
1 : 1250 @ A4

DATE :
19/01/2025



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[Filename]

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FELLED TREES REMOVED
U CATEGORY TREES REMOVED

RTAC

6 Courtyard Flats, Stable Yard, Stackpole, SA71 5DE
07823332279 info@rtactrees.co.uk

Tyn-y-caeau Existing Site Layout
Tree Constraints Plan

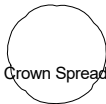
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1 : 1250 @ A4

DATE :
19/01/2025



MAP FILENAME :
[Filename]

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Crown Spread



Root Protection Area



Category 'A'



Category 'B'



Category 'C'



Category 'U'



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19th January 2025

Tyn-y-caeau Margam

III. Cellweb

Cellweb® TRP Installation Guide



Step 1: Prepare Surface



Step 2: Lay out Treetex™



Step 3: Lay out Cellweb® TRP

- Cellweb® TRP is a NO DIG tree root protection measure and it is recommended that no excavation be performed without prior approval and guidance from the Local Authority Arboricultural Officer.
- Soil compaction from vehicles, machinery and materials is to be strictly prohibited during construction within Root Protection Areas (RPAs).
- Approval must be obtained from the Local Authority that the design and the method of construction is acceptable.
- Further information is available from the following two documents;
 - British Standard BS5837: 'Trees in Relation to Design, Demolition and Construction' (2012).
 - Arboricultural Advisory and Information Service: Practice note 12 – 'Through the Trees to Development' (APN12).

Installation Method

1. Prepare the Surface

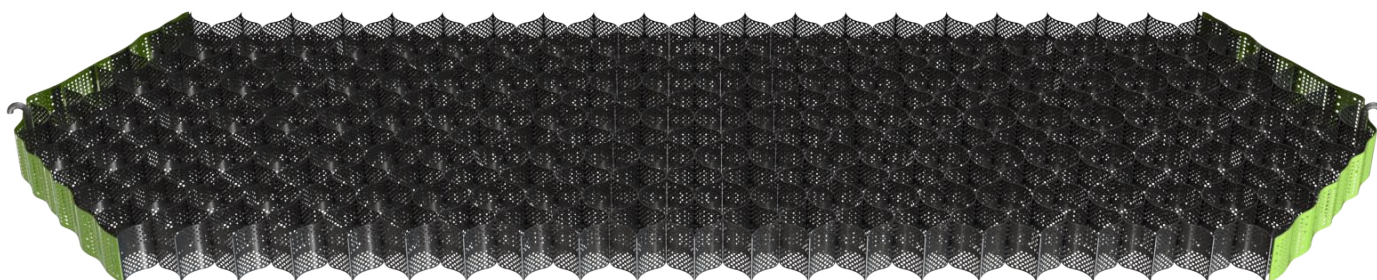
- Remove the surface vegetation using appropriate hand held tools or herbicide (see Note 1).
- Remove any surface rocks, debris and organic material.
- Create a level surface by filling any hollows with clean angular stone or sharp sand.
- Do not level off high spots or compact the soil through rolling.

2. Lay out the Treetex™ Non-Woven Geotextile

- Lay out the Treetex™ over the prepared area, overlaying the edges of the required area by 300mm.
- Overlap any joins by 300mm minimum or more, depending on soil structure (see Note 2).

3. Lay out the Cellweb® TRP Cellular Confinement System

- Lay out the collapsed Cellweb® TRP on-top of the Treetex™.
- Place one of the supplied J pins into the centre cell at the end of the panel and secure into the ground.



Cellweb® TRP - Installation Guide

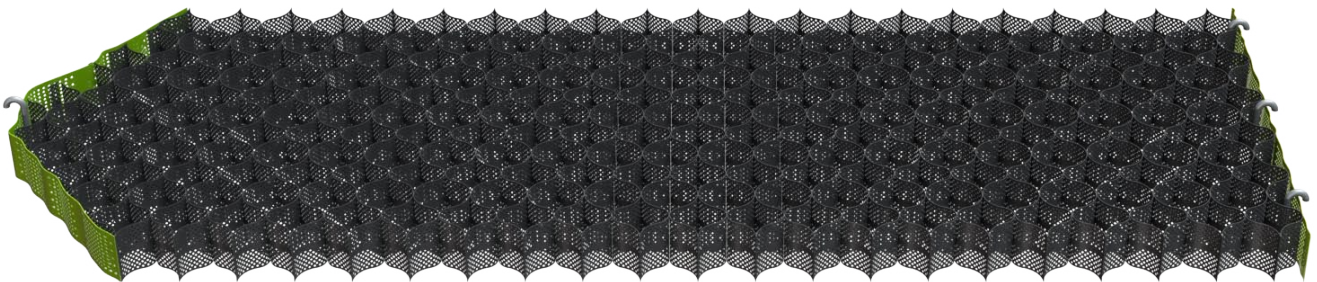


Step 3: Pinning Cellweb® TRP

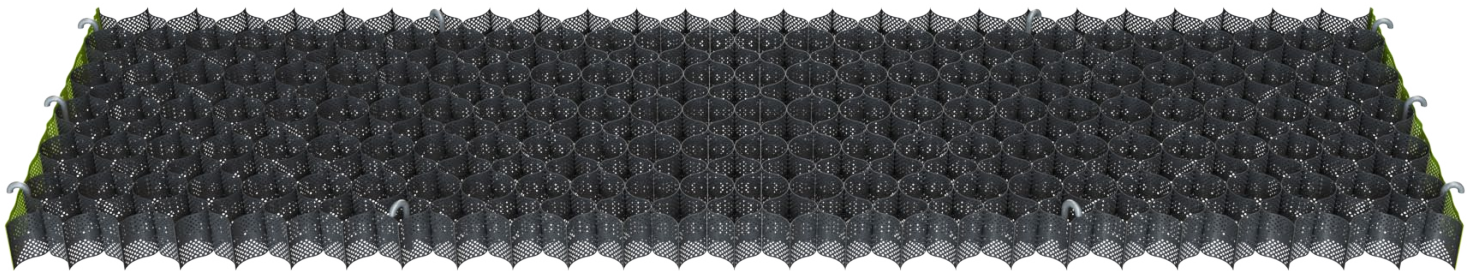


Step 3: Stapling Cellweb® TRP

- Pull out the Cellweb® TRP to its full 8.1m length and secure its length with another J pin.



- Now measure its width to 2.56m and secure in each of the corners with the J pins.
- Use 10 pins per panel to create a panel measuring 8.1m x 2.56m.



- This will produce a cell size of 259mm x 224mm which is the required cell diameter. Each cell must be fully extended and under tension.
- Staple adjacent panels together at each cell (see Note 3).
- If a curved path or shape is required, this should be cut when the Cellweb® TRP panel is pinned out to 8.1 x 2.56m, ensuring complete cells remain. Do not try to curve or bend the Cellweb® TRP panels into place.
- All cells must be fully opened to the required diameter.

Cellweb® TRP - Installation Guide



Step 4: Clean Angular Stone



Step 5: Edge Restraints



Step 6: Surface Options

4. Infill the Clean Angular Stone

- The infill material must be a clean angular stone, Type 4/20mm or Type 20/40mm (see Note 4).
- Do not use M.O.T type 1 or crushed stone with fines for tree root protection.
- Infill the Cellweb® TRP cells with the clean angular stone, working towards the tree and using the infilled panels as a platform.
- Minimum 25mm overfill of clean angular stone when used in conjunction with a hard surface.
- No compaction is required of the infill. Do not use a whacker plate or other means of compaction.
- Encourage settlement of the stone with the use of a light roller or with 2-3 passes of the construction plant used for installation.
- If the clean angular stone is being used as the final surface; regular maintenance will be required to ensure a minimum overfill of 50mm.

5. Edge restraints

- Excavations for kerbs and edgings should be avoided within the RPAs.
- Where edging is required for footpath and light structures, a peg and treated timber board edging is acceptable
- Other options include wooden sleepers, kerb edging constructed on-top of the Cellweb® TRP system, plastic and metal edging etc.

6. Surface options

- All surfaces in Root Protection Areas must be porous. Surfaces can include block paving, asphalt, loose gravel, grass and gravel retention systems (e.g Golpla), resin bound gravel, concrete etc.

NOTES

- 1. Herbicide:** According to BS5837:2012 "The use of herbicides in the vicinity of existing trees should be appropriate for the type of vegetation to be killed, and all instructions, warnings and other relevant information from the manufacturers should be strictly observed and followed. Care should be taken to avoid any damaging effects upon existing plants and trees to be retained, species to be introduced, and existing sensitive habitats, particularly those associated with aquatic or drainage features."
- 2. Geotextile:** We recommend the installation of a Treetex™ under the Cellweb® TRP, or under the sub-base, if installed. The overlapping between adjacent rolls of Geotextile should be: CBR > 3%: 300mm minimum, CBR between 1% and 3%: 500mm minimum. CBR ≤ 1%: 750mm minimum.
- 3. Staples:** Number of staples per join: 200mm: 5 staples. 150mm: 4 staples. 100mm: 3 staples. 75mm: 3 staples.
- 4. Granular Fill:** Open graded sub-base, clean angular stone Type 4/20 or Type 20/40. Please refer to BS7533-13:2009 and to the Design Manual for Roads and Bridges (DMRB), Volume 4 Geotechnics and Drainage, Section 1 Earthworks, HA44/91, Volume 7 – IAN 73/06 Design Guidance for road pavement foundations and Manual of Contract Documents for Highway Works (MCHW), Volume 1 Specification for Highway Works for the construction and maintenance of the fill material.

IV. Photographs



North boundary



Site looking south



T298 and T299



T253



T246



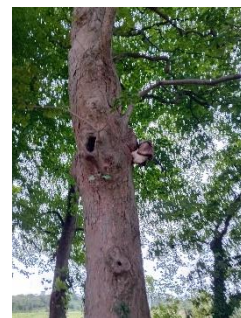
T248



T248



T243



T245



T247



T248



T251

Storm Damage 2025



T284



T245



T273



T295

V. Qualifications

Qualifications:

AA Technicians Certificate 2009
BSc. Heritage Conservation 2ii
Professional Tree Inspection 2024
Electrical Arboriculture Units 1 and 2a
NVQ Level 2 Environmental Conservation
NPTC CS 30, 31, 39, climb trees and perform aerial rescue

CPD:

Bats and Arboriculture: A Practitioner's guide
BS 5837:2012. Tree Surveying and Categorisation
Subsidence 1 day workshop
Assessment of Tree Forks: Assessment of Junctions for Risk Management
The Hollow Tree – Arboriculture
Introduction to Soils

VI. Bibliography

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Diagnosis of Ill-health in Trees (1994) Strouts and Winter; TSO.

British Standard 3998:2010 Recommendations for Tree Work UK; British Standards Institution.

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Principles of tree hazard assessment and management (1999) Lonsdale; Forestry Commission.

Complete field guide to the Trees of Britain & Europe (2004) Johnson & More; Collins.

Assessment of Tree Forks: Assessment of Junctions for Risk Management (2016) Slater in association with Myerscough College; The Arboricultural Association.

Arboricultural Practice Note 12: Through the Trees to Development (2007) Patch and Holding; Arboricultural Advisory and Information Service.

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Modern Arboriculture (2003) Shigo; Sherwin Dodge Printers, Littleton, New Hampshire.

Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning (September 2009) Welsh Government.

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